DIRECTORY

ADDRESS—University,
600 Forbes Avenue, Pittsburgh, Pa 15282
Telephone Call specific number (see following)
for other offices, call 434-6000

ADMISSION—Director of Admissions,
Administration Building, First Floor
Telephone (412) 434-6200/6221/6222
(800) 456-0590 (Outside of 412 Area Code)

UNIVERSITY ACADEMIC ADVISEMENT
AND REFERRAL CENTER
Administration Building, Ground Floor
Telephone (412) 434-6294/6395

ADVISORS
College of Liberal Arts and Sciences,
College Hall, Room 215
Telephone (412) 434-6394/6395/6396
School of Business and Administration,
Rockwell Hall, Room 801
Telephone (412) 434-6277/6278
School of Education, Canevin Hall, Room 214
Telephone (412) 434-6186/619
School of Music, Room 315
Telephone (412) 434-6083
School of Nursing, College Hall, Room 137A
Telephone (412) 434-6344/6347
School of Pharmacy,
Mellon Hall of Science, Room 421
Telephone (412) 434-6380/6385
ROTC—Intramural Gym
Telephone (412) 434-6614/6615

BOOKSTORE—Duquesne Union, Second Floor
Telephone (412) 434-6426

CAMPUS MINISTRY—
Administration Building, First Floor
Telephone (412) 434-6020

CAREER PLANNING AND PLACEMENT—
Rockwell Hall
Telephone (412) 434-6644/6645/6646/6647

CASHIER—Payment of Tuition and Fees,
Administration Building, Ground Floor
Telephone (412) 434-6585/6586/6587/6588

CHAPLAIN—Administration Building, First Floor
Telephone (412) 434-6020/6021

COMMUTER AFFAIRS—
Duquesne Union, Third Floor
Telephone (412) 434-6660

CONTINUING EDUCATION—
Rockwell Hall
Telephone (412) 434-3034

COUNSELING/TESTING CENTER—
Administration Building, Third Floor
Telephone (412) 434-6034

FINANCIAL AID—Loan, Scholarship,
Student Employment, Applications
Administration Building, Ground Floor
Telephone (412) 434-6607/6608/6609

GOVERNMENTAL AFFAIRS—
Administration Building, First Floor
Telephone (412) 434-5097

HEALTH SERVICE—
Duquesne Towers, Second Floor
Telephone (412) 434-630/652

IDENTIFICATION CARDS—
Public Safety Building
Telephone (412) 434-6191

INFORMATION CENTER—For University Events,
Duquesne Union, Third Floor
Telephone (412) 434-632/663

LEARNING SKILLS PROGRAM—
Assumption Hall
Telephone (412) 434-6601/6602/6603

PSYCHOLOGICAL COUNSELING—
Center for Testing and Research
Telephone (412) 434-6561/6562/6563

PUBLIC RELATIONS—
Administration Building, Fourth Floor
Telephone (412) 434-6050

PUBLIC SAFETY—Public Safety Building
Telephone (412) 434-6001/6002/6003

REGISTRAR—For Transcripts and Records,
Administration Building, Ground Floor
Telephone (412) 434-6214 (Transcripts)
343-6235 (Records)

RESIDENCE LIFE—Assumption Hall, First Floor
Telephone (412) 434-6655/652

STUDENT HEALTH INSURANCE—
Rockwell Hall, Tenth Floor
Telephone (412) 434-6677

TESTING BUREAU—
Administration Building, Third Floor
Telephone (412) 434-6304/6308

Undergraduate Catalog

1990-91
Published annually by Duquesne University, 600 Forbes Avenue, Pittsburgh, Pennsylvania 15282

NOTICE OF RIGHT TO PRIVACY

Under the Family Educational Rights and Privacy Act, access to student records by non-University personnel is restricted unless granted by the student, or dependency of the student is demonstrated by a parent or guardian.

Duquesne University admits students of any sex, race, color, national and ethnic origin to all rights, privileges, programs, and activities generally accorded or made available to students at the school. It does not discriminate on the basis of sex, race, color, national or ethnic origin, veteran's status or non-performance related handicap in the administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University-administered programs.
Academic Calendars
Fall 1990 — Summer 1991

FALL SEMESTER — 1990
Classes Begin August 27 (Monday)
Labor Day Holiday September 3 (Monday)
All Saints Day November 1 (Thursday)
Thanksgiving Holiday November 19-24
Immaculate Conception December 8 (Saturday)
Holiday Thursday Class Schedule December 11 (Tuesday) Followed
Reading Day December 12 (Wednesday)
Final Exams December 13-19

SPRING SEMESTER — 1991
Classes Begin January 10 (Thursday)
Martin Luther King January 21 (Monday)
Holiday
Spring Break February 18-23
Easter Holiday March 28 - April 1
Monday Class April 30 (Tuesday)
Schedule Followed
Final Exams May 2-8
Ascension Holiday May 9 (Thursday)
Commencement May 11 (Saturday)

SUMMER SEMESTER — 1991
Summer Term Begins May 13 (Monday)
Memorial Day Holiday May 27 (Monday)
Independence Day July 4 (Thursday)
Holiday
End of 12 week term August 2 (Friday)
Assumption Holiday August 15 (Thursday)

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The provisions of this catalog are to be considered directive in character. The University reserves the right to make any changes that seem necessary or desirable, including fees, tuition and room and board. Faculty listings contained in this catalog are current as of Spring 1990.

Please refer to the current schedule of classes booklet for detailed academic calendar dates and deadlines.
Part I: General Information

HISTORY
Duquesne University first opened its doors as the Pittsburgh Catholic College of the Holy Ghost in October, 1878 with an enrollment of 40 students and a faculty of seven. The school grew rapidly in its first years until it moved from its original location on Wylie Avenue in the city's Uptown section to its present site, a scenic 39-acre hilltop called "The Bluff", which overlooks downtown Pittsburgh.

By 1911, the school had achieved university status, at which time the name Duquesne University of the Holy Ghost was adopted in honor of the 18th century governor general of French Canada, the Marquis de Duquesne, who first brought Catholic services to Pittsburgh while it was under French dominion.

Duquesne's great period of student growth after World War II, along with the necessity of refurbishing a makeshift physical plant led the University to begin an ambitious program of planned physical expansion and modernization in 1950.

Now in the enviable position of having completed most of its physical development needs for the foreseeable future, the University is a modern, attractive, highly functional educational facility which has more than tripled from its early 12.5 acres to its present, self-enclosed 39-acre campus site.

Today, Duquesne University is not only one of the leading private institutions in Pennsylvania, but also is one of several major private, Catholic, urban universities in the United States.

The University has more than 6,000 students enrolled in its nine schools, College of Liberal Arts and Sciences (1878), Graduate School of Liberal Arts and Sciences (1911), and the Schools of Law (1911), Business and Administration (1913), Pharmacy (1925), Music (1926), Education (1929), Nursing (1937) and the School of Health Sciences (1990).

Duquesne's nine schools offer degree programs on the baccalaureate, professional, master's and doctoral levels.

SUMMARY STATEMENT OF MISSION AND GOALS
Duquesne University of the Holy Ghost is a Catholic university, founded by members of the Congregation of the Holy Ghost, and sustained through a partnership of laity and religious.

The motto of Duquesne University is Spiritus est qui vivificat, "It is the Spirit which giveth life." Enriching the life of the mind and the life of the spirit of every member of its community is the mission of Duquesne.

It is Duquesne University's special trust to seek truth and to disseminate knowledge within a moral and spiritual framework in order to prepare leaders distinguished not only by their academic and professional expertise but also by their ethics, and guided by consciences sensitive to the needs of society.

Therefore, Duquesne is a community of students, faculty, administrators, and others who are willing to make these commitments:

- To create undergraduate and graduate education of the highest quality in liberal and professional disciplines
- To examine the moral and ethical foundations of their thought and action, and to develop their personal values and ethical commitment
- To participate in an ecumenical dialogue open to all beliefs
- To extend educational opportunities to those with special financial, educational, and physical needs
- To promote world community through the development of an international and intercultural vision of the global needs and international responsibilities for peace, justice, and freedom

Duquesne serves God by serving students — through an academic community dedicated to excellence in liberal and professional education, through profound concern for moral and spiritual values, through the maintenance of an ecumenical atmosphere open to diversity, and through service to the Church, the community, the nation, and the world.

Duquesne offers a wide variety of programs and curricula from which students may select freely in accordance with their interests, capabilities and goals in life.

Complemented by a broad spectrum of nonacademic activities and programs, the curriculum at Duquesne University is designed to prepare young men and women who, upon entering their chosen careers, will possess a broad, well-balanced and fully integrated education and perspective of themselves and the world.

POLICY STATEMENTS ON INTERNATIONAL EDUCATION
The mission of Duquesne University's founders, the Holy Ghost Congregation, has always included service to peoples outside of the United States. Duquesne University also is committed to providing an educational environment which recognizes cultural and national pluralism.

Duquesne welcomes qualified students from throughout the world and encourages its students and faculty to take advantage of opportunities to study and teach abroad.

The University believes that the sharing of the multiple traditions and mores of societies is an invaluable element in the educational process.
In a world that is growing ever smaller, it is imperative that Duquesne reach out to peoples of different cultures to afford them the opportunity to acquire educational experiences not otherwise available to them. Interaction among international and American faculty and students will enrich all and enhance their ability to be better citizens of our shared world.

Duquesne University asserts its commitment to develop and maintain programs, services and practices which promote and express respect for persons of diverse cultures and backgrounds and which provide educational bridges linking the peoples of the world.

THE UNIVERSITY SETTING

Located adjacent to downtown Pittsburgh, Duquesne University's modern hilltop campus is readily accessible to the business, entertainment and shopping centers of the city, while still offering students the privacy and peace of its own self-enclosed 39-acre site. Considered as one of the world's greatest steel-producing centers, Pittsburgh combines the features of urban living with many of the charms and personal characteristics of a much smaller town. One of the largest corporate headquarters centers in the U.S., Pittsburgh was also shown, in a recent survey by Rand McNally to be America's most livable city.

Students from Duquesne and the other colleges and universities in the city can choose from a wide range of cultural activities, which feature as well as facilities, which feature distinguished performances of the Pittsburgh Symphony Orchestra, Pittsburgh Opera, and the Pittsburgh Ballet Theatre. Additionally, all perform regularly in the elegant Heinz Hall for the Performing Arts and the Benedum Center. The theatregoer can choose from productions of the Pittsburgh Public Theatre, local college drama departments and programs, and a wide variety of summer and after-dinner club theatres.

The world-renowned Pittsburgh Symphony Orchestra, Pittsburgh Opera, and Pittsburgh Ballet Theatre all perform regularly in the elegant Heinz Hall for the Performing Arts and the Benedum Center. The theatregoer can choose from productions of the Pittsburgh Public Theatre, local college drama departments and programs, and a wide variety of summer and after-dinner club theatres.

Seasonal events include the Three Rivers and Shadyside art festivals, and the International Folk Festival, three prestigious events which draw national attention.

Duquesne students can visit such points of interest as the Phipps Conservatory, the Natural History, Science Center, the Carnegie Museum of Art and Natural History, the Carnegie Library, the Museum of Art and Natural History, and the Phipps Conservatory.

Directly across the river from campus is Mount Washington, Pittsburgh's highest point, which offers a spectacular view of the city and its surroundings, particularly at night.

Market Square, a redeveloped area in the heart of downtown Pittsburgh, is famous for the Jake Sisko and Shadyside area, the eastern end of the city are two of the major entertainment and nightlife centers.

The success of the various professional and major college sports teams has won for Pittsburgh the title of "City of Champions." The 1971 and 1979 World Champion Pirates and four-time Super Bowl Champion Steelers play at Three Rivers Stadium. The Penguins (National Hockey League) perform in the nearby Civic Arena, one of the largest indoor sports arenas in the United States and the only one in the world with a retractable dome. The Duquesne Dukes play their season in the new on-campus facility, the Palumbo Center. Facilities for selected sporting events as tennis, golf, running, hiking, skiing, skating, and many others are available throughout the Pittsburgh area.

PHYSICAL FACILITIES

The Administration Building, "Old Main," was dedicated in 1885. Recently renovated, it houses the Executive Offices of the University, Office of Admissions, Registrar's Office, Campus Ministry, Business Office, Computing Center, University Academic Advisement and Referral Center, Financial Aid Office, and the offices of University Events, Development, and Public Relations. Adjacent to the building is the University Chapel, which also features daily Mass.

A J Palumbo Center dedicated in 1998, is the home of the Duquesne Dukes basketball team. In addition to the Duke's home court, the center serves as a recreational facility for students, faculty and staff. The 6,200-seat arena houses intramural activities, as well as three waist-level and squash courts, a weight room, exercise room, sauna, and locker facilities. The arena is also a convocation facility that allows the entire University to come together for major events.

Assumption Hall, the oldest residence hall on campus, was dedicated in 1936. A four-story structure with a 280-student capacity, the facility has its own recreation area, and offers both single and double occupancy rooms. The Learning Skills Center is also located there.

Canevin Hall, the oldest classroom building on campus, was dedicated in 1922 and completely renovated in 1968. A four-story building, it houses the School of Education, Curriculum Library, Reading Clinic and Guidance and Counseling Clinic as well as the Department of Theology.

College Hall, a six-story classroom and office building dedicated in 1930, is the seat of the College of Liberal Arts and Sciences and the Graduate School of Liberal Arts and Sciences, housing the majority of their individual departments and faculties. The School of Nursing is located on the sixth floor. Special instructional facilities include a Writing/Computer Laboratory, an interactive Language Laboratory, nursing laboratories and two lecture halls.

The Psychology Counseling Center houses the University's Center for Training and Research in Phenomenological Psychology, a facility operated by Duquesne's renowned Department of Psychology.

Deas Places Communications Center, dedicated in 1988, houses the Department of Communication and the production and broadcasting studios of WDUQ-FM, an affiliate of National Public Radio (NPR). Named in honor of the founder of the Holy Cross Congregation and Jesuits intellectual and religious thought, the Silverman Center collection of world literature in phenomenology, and the Justice Michael A. Musmanno Center.

With seating capacity for approximately 1,000 patrons, including graduate study carrels and conferencerooms, the new Library constitutes a highly functional facility that should remain responsive to the needs of the Duquesne community for many years to come. Architects for the Library Resource Center, Gerard Associates, were cited by the Pittsburgh Chapter of the American Institute of Architects for creative design in their renovation and expansion of the old University Library building. The new structure, an old garage and warehouse constructed in the 1920s into the present facility, The Music School, the Edward Hanley Hall and College Hall also resulted from conversions of older structures.

In 1996, the library became the installation of a CD-ROM center which will contain 15 networked workstations. This configuration is designed to permit users to access the Library's data files that are available on CD-ROMs from any one of the 15 points. It is located on the Library's first floor and will be operational by September 1990.

The Parking Garage, dedicated in the fall of 1987, is located on Forbes Avenue at Hooper Street and provides the University with 775 parking spaces. The eight-story garage is equipped with an elevator and walkway connected to the north entrance of the Duquesne Union building allowing easy access to Duquesne's hilltop campus.

The Public Safety Building is headquarters for the University's Public Safety Office and is located on the University's main campus.

The Library Resource Center, dedicated in 1978, is a modern, attractive five-story structure that signaled the crowning achievement of the University's expansion and redevelopment program. Houses in over 100,000 square feet of space is a collection of over 453,500 volumes, more than 3,900 periodicals, and an extensive microform and audiovisual collection.

The facility also contains a number of special collections, including the African Collection on African culture, society and politics, the Rabbi Herman H. Harkavy Library for the study of Jewish intellectual and religious thought, the Silverman Center collection of world literature in phenomenology, and the Justice Michael A. Musmanno Center.

The Music School, dedicated in 1988, is the center of campus activities and student life. Dedicated in 1967, it houses the offices of the Student Life, International Education and various student organizations and interest groups. Facilities include administrative and student organization offices, meeting rooms, information center, bookstore, cafeteria, art gallery, and a recreation center which features an indoor swimming pool and an ice rink.

The Duquesne Union, a modern architectural facility with an innovative concrete and glass design, is the center of campus activities and student life. Dedicated in 1967, it houses the offices of the Student Life, International Education and various student organizations and interest groups. Facilities include administrative and student organization offices, meeting rooms, information center, bookstore, cafeteria, art gallery, and a recreation center which features an indoor swimming pool and an ice rink.

The Duquesne Towers, a 17-story, air-conditioned double-tower residence for 1,200 men and women (featuring separate housing wings, was dedicated in 1970. The facility features a full-size air-conditioned swimming pool with a sundeck, offices of the Residence Life, Housing, Student Affairs, parking, a fitness center, and a little theatre performance room.

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The G & G Building, in addition to housing various administrative offices of the University, also houses the University's Vocations Office.

The Gymnasium is used as a practice facility. The ROTC offices are also housed there.

McCloskey Field, dedicated in the mid-1970s, and recently expanded, is the center for outdoor intramural activity. The field now is made up of artificial turf and is surrounded by a practice track used by the University track team. Other athletic facilities include three self-enclosed tennis courts and two outdoor basketball courts, one of which is converted for street hockey in the winter months.

The Edward J. Hanley Hall, dedicated in 1982, resulted from the renovation and expansion of the old University Library building. The new facility houses the School of Law, law and administrative offices, research and study rooms, two large amphitheatre lecture halls, interview rooms, seminar and classroom areas, and a moot courtroom. The greatly expanded law library is the most accessible one of its kind in the city, with its central location and convenient hours. The law library is open to members of the law schools and, as law students

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including 56 Steinways, five organs, and over 300 orchestral and band instruments available for student use. Individual and group practice areas are available in the building, along with acoustically equipped classrooms. Performances are given throughout the year in the recital hall which is equipped with two Steinway concert grands. The Center for Music Technology, which houses a Music Learning Resource Center, an Electronic Piano Lab, and a Synthesizer and Recording Studio, features state-of-the-art synthesizers, sequencers, samplers, and audio equipment.

Rockwell Hall, dedicated in 1958, is a 10-story structure which houses the School of Business and Administration. Its Business Simulation Laboratory contains 12 conference rooms equipped with television cameras and microphones for observation and recording of activity in the individual rooms. Rockwell Hall also houses a vending machine center, the Business School's student lounge, two modern computer laboratories of the School of Business and Administration, Center for Communications and Information Technology, the Division of Continuing Education, Career Planning and Placement, Printing and Graphics Department, the Mailing Center, Peter Malls Auditorium, Institute of Ventricular Spirituality, and the University Archives.

St. Ann's Hall, dedicated in 1964, is a two-wing, three-story coed dormitory with its own laundry area, several lounges and television rooms, a recreation area, snack area, and attractive grounds. Double and single rooms are available.

St. Martin's Hall, a 14-story residence, provides housing for graduate and law students, as well as non-Duquesne students from other Pittsburgh academic and vocational institutions.

Trinity Hall, dedicated in 1952, serves as the residence of the Holy Ghost Fathers who serve the University as administrators and teachers. The grounds of the hall include an attractive mall and grove.

ACCREDITATION AND AFFILIATION

University Accreditation Commission on Higher Education Middle States Association of Colleges and Schools State Board of Education of the Pennsylvania Department of Education Membership American Association of Collegiate Registrars and Admissions Officers American Council on Education Association of Catholic Colleges and Universities Catholic College Coordinating Council


School of Education Accreditation Middle States Association of Colleges and Schools Pennsylvania Department of Education Membership American Association of Colleges for Teacher Education Association of Independent Liberal Arts Colleges for Teacher Education International Council on Education for Teaching The Pennsylvania Association of Colleges and Teacher Educators School of Music Accreditation National Association of Schools of Music National Association for Music Therapy Membership American Symphony Orchestra League National Catholic Music Educators Association School of Nursing Accreditation National League for Nursing Approval Pennsylvania State Board of Nursing Membership American Association of Colleges of Nursing National League for Nursing (Council of Baccalaureate and Higher Degree Programs) Pennsylvania Higher Education Nursing Schools, Inc. School of Pharmacy Accreditation American Council on Pharmaceutical Education Pennsylvania State Board of Pharmacy Membership American Association of Colleges of Pharmacy EVENING STUDY Duquesne University offers evening classes for full and part-time students each semester and during the summer session. The following undergraduate degrees are able to be completed through evening study.

College of Arts & Sciences Bachelor of Science in Business Administration Bachelor of Science in Education Bachelor of Science in Education Certification Elementary Education Division of Continuing Education Bachelor of Professional Studies The Bachelor of Professional Studies is designed for adult students who seek flexibility in a bachelor's degree program. Students are provided the opportunity to customize plans of study to meet personal and professional goals. A strong foundation in both business and the liberal arts allows students to individually design two major areas of study, designated as personal focus areas. Focus areas are designed in conjunction with an academic advisor and are available in a wide range of business and/or liberal arts subjects.

For additional information regarding evening study, please contact the Office of Evening & Summer Programs, 701 Rockwell Hall, at 434-6232.

SUMMER SESSIONS

Many undergraduate and graduate courses are offered each summer in most areas. They are open to qualified Duquesne students and to those from other colleges and universities. The sessions, of varying length, begin in May and run through mid-August. For additional information regarding Summer Sessions, or to request a Summer Schedule of Classes, please contact the Office of Evening & Summer Programs, 701 Rockwell Hall, at 434-6232.

CENTER FOR COMMUNICATIONS AND INFORMATION TECHNOLOGY

The Center for Communications and Information Technology provides facilties and guidance in the use of computing and communications equipment for the instruction, research, and administrative programs. The Center reports administratively to the Vice President for Academic Affairs.

The current facilities include a Digital Equipment Corporation VAX 8200 and a Sperry 1100/72 mainframe computer with state-of-the-art education and administrative applications. The systems provide support for the BASIC, FORTRAN, COBOL, C, LISPF and FORTRAN programming languages, as well as Statistical Package for the Social Sciences. Interactive Financial Planning System, and MINITAB Labs distributed throughout the campus provide students with access to more than 200 microcomputers and terminals. Additional microcomputers have been added to the labs in 1988/90. In addition to this equipment, an IBM System 36 computer and a number of terminals and microcomputers are used for Administrative functions such as registration, grade reporting, admissions, and financial record keeping.

The Center provides a professional staff to serve Duquesne faculty, staff and students. Included in these services are state-of-the-art seminars, consulting, and data entry. Student aides in the computer...
Part II: Admission and Financial Aid

Admission

OFFICE OF ADMISSIONS
The Office of Admissions is located in the basement of the Administration Building.

Office hours Monday through Friday from 8:30 A.M. to 4:30 P.M.

POLICY
It is the policy of Duquesne University to admit applicants who are best qualified to profit from opportunities which the University offers for intellectual, spiritual, and social growth. In general, admission is based upon past academic performance, scholastic ability, and personal characteristics. Information about religious preference, sex, racial characteristics, and ethnic origin is not taken into consideration by the Committee on Admissions.

ADMISSION REQUIREMENTS

1. A candidate should have been graduated from an approved secondary school in the upper three-fifths of the class, and demonstrated exemplary personal conduct in that institution. Applicants who have not completed four years of high school must submit a High School Equivalent Diploma issued by their state department of education.

2. High School curriculum must include 16 units distributed as follows: four units in English; eight units in any combination from the area of social studies, language, mathematics, and science; and four elective units for which the secondary school offers credit toward graduation. In specific instances, and at the discretion of the Committee on Admissions, the genuine equivalent of these requirements may be accepted in lieu of the precise requirements specified. (Note: Candidates planning to enroll in pharmacy or pre-health programs, or as science or mathematics majors, should have completed a minimum of seven units in mathematics and sciences.)

3. Scores in accordance with the standards adhered to by the University must be presented for the required College Entrance Examination Board Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). (Note for admission to the School of Music, an audition is required.)

EARLY DECISION

Students who desire Duquesne University as their first choice for college should consider the Early Decision plan. This plan requires that the student apply by November 15 of his/her senior year. The student is notified of the decision by December 15, and is required to send his/her non-refundable deposit within two weeks. To secure the candidate the advantage of knowledge of the admissions decision early in his/her senior year.

APPLICATION—NEW FIRST-YEAR STUDENTS

Applications should be addressed to the Director of Admissions, Duquesne University, Pittsburgh, Pennsylvania 15292. It may be submitted at any time during the candidate’s senior year up to July 1 of the fall semester.

The application procedure is as follows:

1. Obtain, complete, and file the Application for Admission with the Office of Admissions.

2. Include the $20 non-refundable application fee with the application form. International students must pay a $30 non-refundable application fee.

3. The application fee will be processed for consideration by the Committee on Admissions unless accompanied by the required fee.

4. Request the secondary school principal or guidance counselor to submit a transcript of the candidate’s academic record. A recommendation is requested.

5. Complete the required SAT or ACT examination during the spring of junior year and fall of senior year or as indicated by the personal responsibility of each candidate to have test scores forwarded to the University.

6. An interview is highly recommended for prospective students. Auditions are required for School of Music applicants.

ADMISSION OF UNDERGRADUATE INTERNATIONAL STUDENTS

Application Criteria

Duquesne University welcomes applications from qualified international students interested in entry as either freshmen or transfer applicants.

Eligibility criteria for application as a first-year freshman student include:

a) Graduation from a secondary school recognized as an acceptable equivalent to a U.S. high school, and

b) A demonstrated record of acceptable academic success.

Eligibility criteria for application as a transfer student include the above criteria for freshmen-level applicants plus successful completion of some post-secondary study at a recognized institution of higher education either in the applicant’s home country or in another country, including the U.S.A. Duquesne University processes requests for transfer credit evaluation according to guidelines established by the academic unit to which an application is submitted.

English Language Proficiency Requirements

English is the language of instruction at Duquesne University, and demonstrated language proficiency is required of all international applicants.

Students are required to take the Duolingo English Test (DfE) as part of the admission process. Duquesne University maintains an on-campus Intensive and Semi-intensive English as a Second Language Program (ESLP), qualified undergraduate applicants may be accepted to academic degree programs conditionally upon completion of English language requirements.

All accepted international students, whose native language is other than English, are administered an English Language Placement Test upon arrival. Additional assistance is available with English language proficiency development.

Up to six units of academic credit, applicable towards elective credit requirements, may be awarded for ESL coursework successfully completed by eligible international students accepted into academic degree programs at Duquesne University.

Students who have completed one year or more of successful postsecondary study in the United States or who submit acceptable scores (current to within one year) on the TOEFL (Test of English as a Foreign Language) may qualify for conditional enrollment directly into full-time academic coursework. Therefore, while TOEFL scores are not required in order to receive an undergraduate admissions decision, submission of TOEFL scores is strongly recommended. The Duquesne University TOEFL Institution Code is 2196.

Application Procedures

Interested students should submit the following:

a) Duquesne University Undergraduate International Application Form.

b) Completed Duquesne University Affidavit of Support Form along with required accompanying financial resource documentation.

NOTE: Limited scholarships are available to undergraduate international students.

c) Certified copies of all academic records of secondary and any post-secondary study.

d) One letter of recommendation.

e) Application fee as specified on the application form.

Duquesne University is authorized under federal law to enroll nonimmigrant students. Have all immigration documents been issued until all
ADMISSION AND FINANCIAL AID

The Credit Hour Bank program is designed for high school students and adults who would like to sample college courses prior to official enrollment. The maximum number of credits that may be taken is 15. Credits completed in the Credit Hour Bank are held in escrow until the applicant applies and fulfills all regular admission requirements. Upon regular admittance, all credits are then evaluated toward a degree.

To apply to the Credit Hour Bank Program, submit the $20 non-refundable application fee, and attach a letter indicating full comprehension and acceptance of the conditions of the Credit Hour Bank Program. A form is available for this purpose and can be obtained by contacting the Office of Admissions.

Generally, all first year courses in the College of Liberal Arts and Sciences and the School of Education are open to Credit Hour Bank students. The School of Music also participates in the Credit Hour Bank program providing the applicant passes a music audition.

APPENDIX

application materials, including financial resource certification, have been received. In order to complete on-campus admission, language proficiency testing, and registration, accepted international students should plan to arrive approximately one week before semester classes begin.

Applicants To English as a Second Language Program

The same application procedures detailed above may also be used by international students interested in applying only for English language study in the Duquesne University English as a Second Language Program (ESLP). The ESLP is open to qualified international students interested in studying only English on either a short- or long-term, non-degree, certificate of enrollment basis. A fuller description of the English as a Second Language Program is found on page 38.

Additional Information on International Student Applications

Please direct all inquiries and requests for additional information and application materials to Director Office of International Education Duquesne University Pittsburgh, Pennsylvania 15282 U.S.A.

Telephone 412-343-6113 FAX 412-343-5178

POST-GRADUATES

Post-graduates are students who already have a Bachelor's degree, and desire to take undergraduate courses at Duquesne, but are not interested in pursuing another undergraduate degree. A Post-Graduate student must submit a Postgraduate application to the Division of Continuing Education if the Bachelor's degree was received from an institution other than Duquesne. Proof of degree is required either by an official transcript or a certificate of graduation.

READEMISSION

Any student who withdraws from the University must apply for readmission through the Office of Admissions regardless of the time interval involved since withdrawal. A student who is dismissed for academic reasons must appeal to the Committee on Student Standing of the school to which application of admission or readmission is being made; once the application has been submitted to the Admissions Office.

TRANSFERS

A student who wishes to transfer from another college or university must have the complete transcripts of high school and college records forwarded to the Office of Admissions and must submit an application for admission. When accepted, the student must supply to the dean of his school a description of the courses which appear on the transcript. The student should contact the Advisement Office of his school for placement and curriculum planning, following a reasonable period for evaluation of transcript.

Students transferring from a regionally accredited institution must present academic records which show an overall average of C (2.0 on a 4.0 quality point system).

Persons seeking admission to the University as transfer students from a state approved college which does not have regional accreditation must, have attained a cumulative average of 50 based on a 4.0 quality point system. In addition, such prospective students must take the College Entrance Examination Board tests and attain the appropriate scores.

An interview is highly recommended for all transfer students and will be required of those students whose the Admissions Office notifies personally.

TEMPORARY TRANSFERS

Temporary Transfers are students who are enrolled in another college or university but who desire to take a course or courses at Duquesne for one semester. No Temporary Transfer Student will be granted admission without formal application and an official transcript or permission from an official at the University at which the student is enrolled. A Temporary Transfer Student must reapply if he/she should desire to take a course or courses at Duquesne University beyond one semester.

No Temporary Transfer shall be permitted to register for more than two semesters without making arrangements to become a permanent transfer.

SUMMER SESSION DUEQUESNE STUDENTS

Any Duquesne University undergraduate student who was granted continuance at the close of the preceding Spring Semester is authorized to register in the Summer Session. Students who were dismissed by their school at the close of the preceding Spring Semester for academic reasons may register for summer classes by permission of the Committee on Student Standing of their school. All students must have their course selections approved by their academic advisor.

Graduates and other former students, including any who withdrew from the University, must obtain readmission before they may register for summer classes.

STUDENTS FROM OTHER INSTITUTIONS

A student of another college or university who wishes to enroll for the summer session, and who intends thereafter to return to the original institution and is eligible to continue there may be admitted to the Summer Session. A tear-out admissions application and registration form for the summer study is provided in the announcement of summer offerings, which may be obtained from the Summer School Office at mid-March. These students are considered to be Temporary Transfer Students.

ADVANCED PLACEMENT

Students who have followed the College Entrance Examination Board college level program in secondary schools and have performed satisfactorily in the advanced placement examinations are eligible for credit at Duquesne University. Duquesne University grants credit, as well as placement, for achievement that merits such consideration. Subjects included in the program are English composition, history, (American and European), history of art, modern foreign languages (French, German, Spanish), Latin, mathematics AB, mathematics BC, physics B and C, chemistry, biology and computer science. Credit will be given on a minimum advanced placement score determined yearly by the College of Liberal Arts and Sciences.

Information about the time and place that examinations may be taken may be obtained from the University Testing Bureau, or the College Level Examination program, Box 977, Princeton, New Jersey 08540 Information about equivalent University courses for which qualifying students may receive credit may be obtained from the University's College of Liberal and Sciences.

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The Credit Hour Bank program is designed for high school students and adults who would like to sample college courses prior to official enrollment. The maximum number of credits that may be taken is 15. Credits completed in the Credit Hour Bank are held in escrow until the applicant applies and fulfills all regular admission requirements. Upon regular admittance, all credits are then evaluated toward a degree.

To apply to the Credit Hour Bank Program, submit the $20 non-refundable application fee, and a letter indicating full comprehension and acceptance of the conditions of the Credit Hour Bank Program. A form is available for this purpose and can be obtained by contacting the Office of Admissions.

Generally, all first year courses in the College of Liberal Arts and Sciences and the School of Education are open to Credit Hour Bank students. The School of Music also participates in the Credit Hour Bank program providing the applicant passes a music audition.
FINANCIAL AID

Duquesne University subscribes to the philosophy that “no student should be denied the education of his/her choice for lack of sufficient financial resources.” The Office of Student Financial Aid has been established to help students locate the financial support they require. Students and parents should not be overwhelmed by the variety and apparent complexities of modern student financial aid. Rather, a patient thorough examination of aid opportunities should be undertaken to locate the most advantageous forms of assistance available to the individual student.

PRINCIPLES OF AID

FINANCIAL NEED

The major criterion of most aid programs is the student’s need for funds. In general, parents and the student are expected to pay the expenses of education. However, to the extent they cannot reasonably be expected to meet this expense, there is a demonstrated financial need or eligibility for aid.

Methods of determining need may vary slightly among aid sources, but all have the common objective of identifying the difference between educational costs and the individual family’s ability to contribute to these costs. The costs considered include tuition, fees, room and board or an allowance for maintenance at home, travel or commuting expenses, books, and necessary personal expenditures.

Need analysis presumes the family’s ability to contribute to these costs will approximate that of families of similar size and financial strength, with consideration given for individual circumstances. It is extremely important that all financial information reported by the family be complete, accurate, and up-to-date for any major changes. Such information is considered and treated confidentially by aid administrators.

AWARD CONDITIONS

All financial aid awards are subject to terms and conditions set forth in applications and award notifications. It is important that the student carefully read all information provided by aid sources and promptly notify them of changes pertinent to their applications or awards.

STUDENT SELF-HELP

As the primary beneficiary of higher education, the student is expected to accept at least partial financial responsibility for the cost. This principle is reflected in both the determination of need and the types of aid available. In determining need, consideration is given for at least a minimum contribution to cost from the student’s summer earnings, savings, and resources.

Two types of self-help programs of aid are available: loans and work. Student loan programs provide rates, terms, and conditions superior to those offered by commercial lenders, and offer the student the opportunity to help himself/herself by accepting future repayment responsibility. Student employment programs provide the opportunity to help earn a portion of the educational costs.

GIFT ASSISTANCE

Non-repayable scholarships or grants are available in accordance with one or a combination of the following criteria:

1. Financial Need
2. Superior Academic Potential or Achievement
3. Special Ability, which reflects proficiency in a specialized field or activity, such as music, debate, athletics, etc.

It should be noted that many sources of gift aid expect the student to accept some form of self-help assistance.

MEETING STUDENT NEED

The Financial Aid Office attempts to provide aid equal to need for all student applicants. Normally, this requires an “aid package” consisting of funds from multiple aid sources and programs. Those programs which are under the direct control of the Aid Office are usually used to meet full need, or provide an aid package of the most beneficial composition. It is expected that students who apply for assistance to the University will also apply to federal, state, and other available sources.

PROGRAM FUNDING

All programs of financial aid are subject to limitations of available funds. Therefore, in addition to the eligibility requirements of a particular program, assistance depends upon the level of funding in the program. First consideration always goes to applicants who apply within deadline dates and who provide complete and accurate information. All programs are subject to change, elimination, or replacement. Changes in government programs are routine, since these require periodic legislative review.

CURRENT INFORMATION

Because programs of aid and conditions of eligibility do change from time to time, the student should attempt to keep abreast of new developments. The high school guidance office, the University Financial Aid Office, and the office of education in the student’s home state are major sources of information. Students should avoid the error of disqualifying themselves for specific forms of aid because of hearsay or dated information. A decision not to apply to particular aid sources should be made only upon the advice of an aid officer.

UNIVERSITY AID

APPLICATION PROCEDURE

1. Applicants must be currently enrolled in the University or be in the process of applying for admission. Incoming students should not wait for official acceptance to the University before applying for financial assistance.

2. Obtain the formal application for financial assistance. Freshmen and transfer students may obtain the form through Admissions Office publications or through the Financial Aid Office. Currently enrolled students may obtain the form only through the Financial Aid Office. Complete this application and return it to the Financial Aid Office, Duquesne University, Pittsburgh, Pennsylvania 15282 PRIOR to these deadline dates. For the Fall Semester or the academic year, no later than May 1, for the Spring Semester, no later than December 1. Late applications will not be considered.

3. Obtain from the high school guidance office or the Financial Aid Office a Financial Need Document Complete and submit it according to instructions. Students are encouraged to seek help in completing this document. Replies should be anticipated in June or July.

4. A reply to this application, if filed by deadline dates, should be anticipated as follows: Freshmen and new transfers between mid-February and late March (providing student has been accepted for admission) Upperclassman Replies should be anticipated in June or July.

5. Applications must be filed annually.

PROGRAMS

The following programs for which the foregoing application procedures apply are administered directly by the Financial Aid Office. All awards are based on available funds.

Chancellor’s Awards The University awards scholarships annually to exceptional high school seniors. These awards are not based on a demonstrated need, and are renewable yearly provided the student maintains a minimum cumulative Quality Point Average of 3.50.

Founders Awards The University awards scholarships annually to outstanding high school seniors. These awards are not based on a demonstrated need, and are renewable yearly provided the student maintains a minimum cumulative Quality Point Average of 3.00.

President’s Scholarships These awards are given to students of outstanding ability and achievement who also demonstrate financial need. They are renewable based on demonstrated need and are awarded the University Scholars Award. Amounts vary relative to need. First time applicants who enrolled as freshmen in Fall of 1989 or later are considered based on demonstrated need and are awarded the University Scholars Award. Amounts vary relative to need. First time upperclassman applicants must also have completed at least 30 credits at Duquesne.

University Scholar Awards These awards are available only to current recipients. They are need-based and are renewable provided the student has maintained a minimum cumulative Quality Point Average of 3.00.

Parish Grant-In-Aid Program Available to incoming freshmen from the parishes in the Roman Catholic Diocese of Pittsburgh. Students are recommended by their pastor to the University’s Admissions Office.

AWARD CONDITIONS

All financial aid awards are subject to terms and conditions set forth in applications and award notifications. It is important that the student carefully read all information provided by aid sources and promptly notify them of changes pertinent to their applications or awards.
ing, these grants are normally awarded only to full-time students. Recipients are selected in accordance with guidelines published by the Federal Government.

**Perkins Loan Fund**

Perkins Loans are available to both full-time and half-time students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal Government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study, and is scheduled over a 10-year period at an interest rate of five percent a year.

**Federal Nursing Loans**

These loans are available to full-time undergraduate nursing students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study in nursing, and is scheduled over a 10-year period at an interest rate of five percent a year.

**Health Professions Loans**

Health Profession Student Loans are available to full-time undergraduate students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study in nursing, and is scheduled over a 10-year period at an interest rate of five percent a year.

**Power Loan**

Loan fund established through the Stanley K. Power Trust of the Pittsburgh Foundation. Awarded to needy full-time students who are residents of Allegheny County. Repayment begins within ten years of graduation or termination of studies at 0% interest.

**Student Employment Two**

Two programs of employment, available to financial aid applicants who demonstrate need. The first is the College Work-Study Program which is financed principally by Federal appropriations and awarded in accordance with guidelines published by the Federal government. The second program is referred to as the General Program which is funded by the University. In addition to considerations of financial need, placement in a part-time position depends upon the student's qualifications for performing successfully in the job.

**Clearance**

Clearance is determined based on financial guidelines. Placement in available positions is handled by the Office of Human Resource Management.

**OTHER SOURCES OF AID**

**PELL GRANT PROGRAM**

Direct grant assistance through the Federal government is available to undergraduates based on an eligibility determination reviewed and adjusted each year by Congress. All undergraduates are advised to apply for this form of aid. Student receiving aid through the University are required to apply for a Pell Grant. Necessary forms may be obtained through the Financial Aid Office or the High School Guidance Office.

**STATE GRANT ASSISTANCE**

**General**

Depending upon the student's legal state of residence, direct grant assistance from the state may be available for study at Duquesne University. Non-Pennsylvania residents should contact their high school guidance counselor or state Department of Education to determine if grants are available, and to determine application procedures.

**Pennsylvania residents**

should obtain the State Grant Application from high school guidance offices or the University. Application forms are available from the Pennsylvania Higher Education Assistance Agency (PHEAA). At current levels, grants ranging from $100 to $2100 a year are available to full-time undergraduate students, based on considerations of financial need. Filings deadline is normally May 1.

**STAFFORD LOANS (FORMERLY GUARANTEED STUDENT LOANS)**

This program provides long-term, low interest student loans available through the cooperative efforts of federal and state government agencies and participating private lending institutions. These loans are available to financial aid applicants who demonstrate need, according to the student's financial need. Repayment begins six months after graduation or termination of studies, at an interest rate of six percent.

**ADMISSION AND FINANCIAL AID**

This award was established to honor, in perpetuity, the memory of Andrew Kozora. Full-time third or fourth year students enrolled at Duquesne University and having declared a major field of study to be either Physics or Mathematics, are eligible for such scholarship. The primary considerations will be financial need with academic achievement as secondary. Recipients are selected by the University's Director of Financial Aid upon nominations by the Chairperson of the Physics or Mathematics Departments after they have previously consulted with the Dean of the College of Arts and Sciences.
of the School of Business and Administration. Completed applications must be received in the Dean's Office by October 1 of each academic year. Recipients are selected by the School on the basis of academic achievement. Need is also a factor.

**SCHOOL OF EDUCATION**

School of Education Scholarships are available to freshmen and transfer students who were among the top fifth of their high school class or who maintained a 3.0 high school average. Transfer students applying for these scholarships must have a "B" average from colleges attended. Applicants are required to submit three recommendations representing the areas of academic performance and personal achievement. An interview is also required to discuss individual perceptions and ideals, as well as a statement of career goals. Freshmen applicants must have an SAT score of at least 900, with a minimum of 400 on any one test. Transfer applicants must have new students to Duquesne. To apply, contact the Office of Financial Aid.

**Lawrence Roche Memorial Scholarship** The award will be made to a student who, as a junior in the School of Education, has, in the judgment of the Awards Committee, demonstrated those qualities of scholarship, character, and professionalism which merit special recognition. The awardee must have a minimum Quality Point Average of 3.0 at the time of application. The student must be officially registered as a senior in the School of Education of the University at the time of receiving the award. Applications must be submitted to the Dean's office no later than March 1.

**SCHOOL OF MUSIC**

Women's Advisory Board Scholarships. This fund provides scholarships in varying amounts each year to outstanding performers. These scholarships are awarded on the basis of an annual competition. Polish Arts League Scholarship. This award is made annually by the Polish Arts League of Pittsburgh to an outstanding performer in the School of Music. Music School Scholarships. These awards are made possible by donations from individuals and organizations in appreciation of the School of Music. All will be given with leadership contributions by School of Music students. Robert Minardi Memorial Scholarship Fund. Awarded to needy undergraduate Music students, with academic considerations a secondary criterion. Recipients are selected by the School of Music, but must also file application through the Financial Aid Office.

**SCHOOL OF NURSING**

 Behan Scholarship. The R. J. Behan Annual Nursing Scholarship is a $500 scholarship awarded annually to a nursing student who is in good academic standing. The award is based on need, professional involvement and future aspirations. Students may apply in the School of Nursing in early fall.

 Miller Scholarship. A scholarship established in memory of Constance Miller, R. N., M S N. The fund provides a scholarship in varying amounts annually to a needy and deserving R. N. student who is in good academic standing.

 Schreiber Scholarship. The fund provides a scholarship in varying amounts annually to a junior or senior undergraduate nursing student who has excelled in clinical performance.

**SCHOOL OF PHARMACY**

Unless stated otherwise, apply through the School of Pharmacy for the following awards:

Women of Galen. The Women's Auxiliary of the Galen Pharmaceutical Society of Pittsburgh annually provides scholarship funds to be awarded to deserving pharmacy students in their last years of attendance in the School of Pharmacy.

 Beaver County Pharmaceutical Association Grant and Aid Fund. This revolving loan fund provides financial assistance to two students in the School of Pharmacy who are residents of Beaver County, Pennsylvania.

 Samuel W. Curtis Loan Fund. This fund is intended to provide financial assistance for students in the School of Pharmacy.

 Chilton Loan Fund. A revolving loan fund established in 1946 through the generosity of Francis P. Chilton and expanded by the contributions of Pharmacy alumni provides financial assistance to worthy students in the School of Pharmacy.

 Joel P. Laughlin Scholarship. In honor of Joel P. Laughlin, a fraternity brother whose life was terminated early in his professional program, the Graduate Chapter of Phi Delta Chi annually awards three $200 scholarships to one fraternity brother in each of the three professional years. The recipients must have demonstrated academic achievement and active participation in the function of the fraternity.

James Hunter Memorial Award was established in memory of one of the school's most distinguished faculty members. The award is based upon musical and scholarly excellence.

Other Awards Recently Established Are:

- The Presser Scholar Award, Loyal Christian Benefit Association Award, Henrietta Vengrods Memorial Scholarship Fund, Matty and Ed Shiner Scholarship Fund, Alfred d' Auberge Award and Paul Sladek Memorial Fund

**PHARMACY SCHOLARSHIPS**

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**ADMISSION AND FINANCIAL AID**

Peter and Dorothy Manzoni Memorial Fund: A revolving fund, donated by Rosseta and Geraldine Manzoni and friends of the family, is available to all students in the School of Pharmacy.

Clinton Eddy Goodwin Memorial Scholarship: This scholarship was established to honor the memory of Clinton Eddy Goodwin by making annual awards to deserving Pharmacy students. Candidates must be a declared Pharmacy major, attained a minimum quality point average and have an interest in and demonstrated support of the University's Athletic Program. Apply through the Dean of Students Office.

Mary McPartland Beck Scholarship Award: Scholarship fund is available from earnings on a fund started by a bequest to the School of Pharmacy in 1970. NARD Foundation. Established by the National Association of Retail Druggists. This foundation provides loans to students of pharmacy in their last five semesters for payment of tuition, fees, and books.

Galen Pharmaceutical Society Loan Fund: This revolving fund was established in 1963 for the purpose of providing financial assistance to worthy students of pharmacy during times of urgent financial distress.

Fred Schiller Loan Fund: This loan fund was founded by Mr. Fred Schiller, Pittsburgh pharmacist, in memory of the late Emanuel Spector, for worthy and qualified students in the School of Pharmacy. This revolving fund makes available tuition loans of varying amounts depending on the applicant's need and general ability.

John C. Clothier Sims Memorial Fund: This revolving fund, established in 1954, was made possible through the generosity of the friends of the late Mr. Sims, executive of Sun Drug (now Brooks) Company, Pittsburgh. Partial tuition loans are made available to students under the conditions that apply to the Fred Schiller Loan Fund.

Pittsburgh Graduate Chapter of Kappa Psi Pharmaceutical Fraternity, Inc.: A revolving loan fund for members of the undergraduate chapters. Details are available from the School of Pharmacy.

Rite Aid Scholarship: Scholarships from the Rite Aid Corporation available to students entering the final year of the pharmacy program. Selection is based on financial need, academic standing of normal progression, and good standing in the pharmacy program.

Tau Alumnus Chapter of Lambda Kappa Sigma: This professional Pharmacy fraternity for women has established financial awards for members in their last three years of the pharmacy program. Awards are based on financial need and participation in the organization.

Dr. B. Olive Cole Graduate Educational Grant: A $300 grant is offered by Lambda Kappa Sigma to financially assist an alumna member who is enrolled in a program of graduate study and research in the pharmaceutical sciences. Applications must be received by the chairmen of the grant committee by November 15. Applications are available in the School of Pharmacy Office.

Burroughs Wellcome Loan Fund: A revolving loan fund established by donations of Pharmacy alumni who are awarded Burroughs Wellcome Educational Grants. Interest-free loans are available to qualified Pharmacy students.

Gray Drug Fun, Inc. Scholarship Fund: Educational grants are available to qualified Pharmacy students, based on good academic standing and normal progress in the pharmacy program and demonstrated financial need.

WONARD Scholarship: The Women's Organization of the National Association of Retail Druggists offers annual scholarships for pharmacy study in accredited colleges within the United States. The award amount is determined by the established need and the academic standing of the applicant. Apply directly to WONARD by June 1.

Donald Bell Memorial Scholarship Fund of Thrift Drug Company: Scholarships are awarded annually to deserving Pharmacy students who are entering the third or fourth year in the B.S. in Pharmacy curriculum. Selection is based on a combination of scholarship need and a demonstrated interest in community pharmacy practice.

Geraldine (Minu) Fagugue Memorial Scholarship Fund: A memorial scholarship fund to honor Geraldine (Minu) Fagugue, P'50. The fund will provide scholarships for needy and deserving female students in the School of Pharmacy.

Rosemarie Bevacqua Scholarship Fund: A memorial scholarship fund to honor Rosemarie Bevacqua, P'55, which will provide financial assistance to needy and deserving Pharmacy students.

School of Pharmacy Alumni Scholarship Fund: Scholarships are made available to needy and academically deserving Pharmacy students through the generous support of the alumni of the School of Pharmacy. Requests for financial assistance should be directed to the School of Pharmacy Alumni Scholarship Committee, Office of the Dean of Students.

School of Pharmacy Class of 1959 Scholarship Fund: A scholarship established on the 25th anniversary of the graduation of the Class of 1959, to be awarded annually to a deserving and needy final-year Pharmacy student.

National Association of Chain Drug Stores Pharmacy Education Foundation Scholarship: One scholarship is awarded annually to a Pharmacy student in the fourth or fifth year of the B.S. in pharmacy curriculum, who has expressed an interest in community pharmacy practice.
**American Pharmaceutical Association Auxiliary Irene Powers-Schering Scholarship** awarded annually to members in good standing of Lambda Kappa Sigma, enrolled in B.S. in Pharmacy or Pharm D programs (The Mary Connolly Livingston Grant is awarded to a Pharm D student). An applicant must rank in the upper half of her class and present evidence of financial need. Application forms are available in the Office of the Dean.

**Powers-Schering Scholarship** A scholarship provided by John O. Powers, Jr. of Exton, PA, from an award made to the School of Pharmacy in his name by the Schering Corporation. A scholarship award will be granted to a student entering the final year of the B.S. in Pharmacy program. Applicants must have a minimum 2.5 QPA in the professional program and be in need of financial assistance.

**Alfred J. Pfannenschlag, Jr Memorial Scholarship Fund** A fund was established by the family and friends of Alfred J. Pfannenschlag, Jr., a 1982 School of Pharmacy graduate. An annual award will be presented to a fourth-year pharmacy student, to be applied toward tuition expenses in the fifth year of study. Selection of a pharmacy student recipient will be based on demonstrated financial need and service to the Duquesne University campus community.

**Phar-Mor, Inc Scholarship Fund** A scholarship will be awarded annually to a deserving Pharmacy student entering the fourth or fifth year in the B.S. in Pharmacy program. Selection is based on a combination of scholarship and need and a demonstrated interest on the part of the student in a career in retail pharmacy practice.

**Don Bell Memorial Scholarship Fund** An endowed scholarship fund in memory of Don Bell, P'57, was established by the Bell family in 1989. Contributions were made by the Thrift Drug Company, the National Association of Chain Drug Stores, and his many friends in the pharmacy profession. An annual award will be made to a pharmacy student in years three, four, or five based on scholarship and need.

**GENERAL**

Awards listed below are not restricted to specific areas of study. However not all are awarded by the Financial Aid Office. Therefore, note should be taken regarding specific application requirements and source of application materials.

**The Pittsburgh/ Centennial Scholarship** was created at the close of Duquesne University's Centennial year (1978) in the spirit of the University's founding mission to provide ready access to higher education for all. The scholarship will be provided to deserving students who have demonstrated high academic performance, and need, and are residents of Allegheny County. The amount of the award varies. Recipients are selected by the Financial Aid Office and the Human Family Foundation. Interested students should apply through the Financial Aid Office.

**Lama H. and Margaret Lavelle Ferry Memorial Scholarship** This award was established to honor, in perpetuity, the memory of James H. and Margaret Lavelle Ferry by awarding annually a prize to a deserving student in their name. Recipients are selected by the University, with the primary consideration being financial need and academic achievement as a secondary consideration. Interested students must be enrolled as undergraduate students in pharmacy practice, and be in need of financial assistance.

**Stella and Charles Guttman Scholarship Foundation Awards** are based on need with academic considerations secondary. Interested students should apply through the Financial Aid Office.

**Vita I. Heinz Travel Award** This fund was established to provide an educational and cultural opportunity for promising young women students. Recipients are selected on the basis of academic achievement and evidence of interest in cultural or international relations. Inquiries should be directed to the Office of the Dean of Students.

**Warren J. Heinz Travel Award** This is an annual award that is to be made to "such deserving person or persons from Allegheny County, Pennsylvania attending Duquesne University." Selection is made by a committee upon the recommendation of the University's Financial Aid Office. Candidates are considered for academic achievement and financial need. Interested students should apply through the Financial Aid Office.

**A. Elise McDowough Scholarship** This award was established to assist needy students from Allegheny County to continue their educational endeavors at Duquesne University. Recipients are selected by the University and awards are based on both academic achievement and financial need. Interested students should apply through the Financial Aid Office.

**Marie Locher in Memory of her brother J. McDonough Scholarship** is awarded on the basis of need, preference is given to students from Allegheny County, Pennsylvania. Interested students may be selected by the University or a Financial Aid Office/PNB Scholarship Committee.

**Merle E Gilliand Scholarship** Fund established by Merle E. Gilliand is primarily to assist students from Fayette County. Secondary consideration is given to students from Greene, Washington and Westmoreland Counties in Pennsylvania and then to students from Allegheny County who have demonstrated academic achievement, good moral character and financial need. Interested students should apply through the Financial Aid Office.

**Wright Family Endowed Scholarship Fund** established by The Wright Family Trust primarily to assist students from Fayette County. Secondary consideration is given to students of Wayne County. Interested students should apply through the Financial Aid Office.

**Louis H. and Ada Amundsen Memorial Scholarship Fund** This fund was established to assist Jewish students who are residents of Allegheny County. Recipients are selected by the University, with the primary consideration being financial need and evidence of interest in academic achievement.

**Vira I. Heinz Travel Award** This fund was established to provide an educational and cultural opportunity for promising young women students. Recipients are selected on the basis of academic achievement and evidence of interest in international relations. Inquiries should be directed to the Office of the Dean of Students.

**First-Year Award** This award is to be made to students who are residents of Allegheny County and plan on entering the University.

**Family Foundation Awards** are based on academic achievement. Interested students should apply through the Financial Aid Office.

**Rev Joseph A. Young Endowed Scholarship Fund** Awarded to needy and worthy students. Preference is given to members of St. Aloysius Parish. Applications available from the Financial Aid Office.

**Allan Reynolds Memorial Scholarship Fund** Awarded to needy and deserving students. Applications available from the Financial Aid Office.

**Eberly Family Endowed Scholarship Fund** established by the Eberly Family Trust primarily to assist students from Allegheny County. Secondary consideration is given to students from Wayne County. Interested students should apply through the Financial Aid Office.

**Eberhard Fund Established by the Eberhard Family Trust** primarily to assist students from Allegheny County. Secondary consideration is given to students from Wayne County. Interested students should apply through the Financial Aid Office.

**Saint Vincent National Bank Scholarship Fund** available from the Saint Vincent National Bank, is primarily to assist students from Allegheny County. Secondary consideration is given to students from Butler County, Pennsylvania. Interested students should apply through the Financial Aid Office.

**Rev Joseph A. Young Endowed Scholarship Fund** Awarded to needy and worthy students. Preference is given to members of St. Aloysius Parish. Applications available from the Financial Aid Office.
ment, financial need and activities. Selection is made by outside committee upon recommendation of Financial Aid Office. Applications available from Financial Aid Office.

**Pacini Memorial Scholarship Fund** Fund established to honor Florence M. Pacini. Awards are based on financial need. Order of selection will be (1) marital status: single parent, child of single parent, married, other (2) Sex: female, male (3) Race: black, other US government designated minority, other (4) Other (2) Sex: female, male (3) Race: black, other US government designated minority, other. Betty V. Beaman Endowed Scholarship Fund Award to be given to an upper class (junior or senior) undergraduate student, based upon financial need and a minimum Quality Point Average of 3.00.

**Award to receive a discount of one-half tuition for undergraduate or graduate studies** Catholic School Lay Teacher Discount Current full-time teachers in Catholic schools in Pittsburgh, Greensburg, or Altoona-Johnstown Dioceses or teachers from other dioceses, who have completed a minimum of two years teaching at an approved diocesan school, may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

**Senior Citizen Discount** Men and women who are 60 years of age or older may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

**RESERVE OFFICER TRAINING CORPS (ROTC) SCHOLARSHIPS**

Army ROTC offers a number of four-year scholarships for qualified students on a very competitive basis. These scholarships pay for most of the tuition, fees, required textbooks, and other purely academic expenses as well as providing a $100 per month subsistence allowance. Interested high school students may apply by writing Army ROTC, Duquesne University, Pittsburgh, Pennsylvania, 15282. The application period begins in April of the student's junior year and ends in December of their senior year. For students already enrolled at Duquesne University, three-year and two-year scholarships are available. Individuals need not be participating in the ROTC program to apply. For additional information, contact the Military Science Department at 434-6664.

**Clergy/Religious Discount** Members of University-recognized Christian and Jewish Religious groups who have been ordained or professed, may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

**Catholic School Lay Teacher Discount** Current full-time teachers in Catholic schools in Pittsburgh, Greensburg, or Altoona-Johnstown Dioceses or teachers from other dioceses, who have completed a minimum of two years teaching at an approved diocesan school, may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

**Senior Citizen Discount** Men and women who are 60 years of age or older may be eligible to receive a discount of one-half tuition for undergraduate or graduate studies.

**UNIVERSITY DISCOUNTS**

**Restrictions**

1. University fees, laboratory costs, room and board, and other non-tuition related expenses will be charged at full rate. Discount is one-half tuition only.

2. Only one Duquesne degree may be obtained utilizing the discount and no other form of discount or remission may be received simultaneously.

3. Discount is not extended for studies in the Institute of Formative Spirituality, Law School, Master of Liberal Studies, doctoral degree programs, or any designated special programs with differential rates.

**FINANCIAL AID REGISTRATION AND SCHOLASTIC POLICIES**

**Part III: Registration and Scholastic Policies**

**REGISTRATION**

Students who attend the Fall Semester, which begins in late August, receive academic advisement and register for classes during the preceding months of April, May, June, and July. Spring Semester students register in the Fall Semester during November. Orientation programs for new students are conducted by the schools in late spring and summer in conjunction with academic advisement and registration.

A comprehensive invoice that comports the class schedule of courses for which the student is registered and lists fees, tuition, dormitory charges, deposits, financial aid awards, and balance due is mailed to the student at his or her permanent address a month before classes begin, thus enabling the student or parent to make payment by mail. Final registration for students who have received a discount for classes for which it is required to be made by a student who has been granted an academic scholarship and who has not yet obtained registration for classes for which it is required. Final registration is held just before the opening of classes.

The financial obligation for class places reserved in a school or department has been given by an authorized officer of the University. The admitting authority for undergraduate students resides in the Office of Admissions.

2. Authorization to continue in the program selected has been given and registration for classes has been accomplished in compliance with all academic requirements and procedures.

3. Arrangements have been made to the satisfaction of the University for payment in full of all financial charges, including fees, tuition, and housing charges, all of which are due and payable in full before the beginning of classes.

**CHANGE OF SCHEDULE**

Students requiring a change of class schedule, to change class times or to add or to drop a class, are permitted to do so during the Pre-registration period, the Final Registration period, and the Late Registration period. Change of class schedule is not permitted after the Latest Date for Change of Schedule as published in the Academic Calendar (published in the Schedule of Classes Booklet).

All schedule changes must be approved by the academic adviser and processed with the Registrar. Schedule change requests processed with the Registrar during the late registration must also have the signatures of the instructors whose classes are being added or dropped.

Students who process change forms late are not entitled to refund for the course credits dropped. Courses dropped after the deadline for making schedule changes are classified as course withdrawals (See 'Withdrawal from a Course' and 'Withdrawal from the University' mentioned elsewhere in this catalog.)

Except for changes requested by the dean or adviser, a fee of $50 is charged for each change form processed after the close of pre-registration.

**CROSS-REGISTRATION**

**Guidelines**

The purpose of cross registration is to provide opportunities for enriched educational programs by permitting students at any of the ten Pittsburgh Council of Higher Education (PCHE) institutions to take courses at any other PCHE institution. Member institutions of PCHE are Carnegie Mellon University, Chatham College, Point Park College, Robert Morris College, University of Pittsburgh.

The opportunity to cross-register is open to each full-time student enrolled in a PCHE college or university.
Each college or university accepts registration from the other institutions, however, first priority in registration is given to students of the host college, and not departments or schools in all institutions are able to participate in this program.

In each case of student cross-registration, the approval of the dean or designated individual from the home college or university must be obtained prior to registration.

The student's advisor or dean is responsible for assuring the student's eligibility for the course in which he/she intends to enroll.

Full credit and grade will be transferred, the academic regulations of the host institution will prevail.

The academic honesty code and other rules of conduct of the institution providing the instruction apply with respect to its courses and behavior on its campus. That institution also determines whether its rules have or have not been violated.

The student's own institution will impose such penalties as it considers proper when violations are reported to it.

Cross registrants do not thereby acquire the status of students in the institutions in which they are receiving instruction (e.g., for purposes of participation in student activities, insurance programs, etc.) They do receive library privileges at the host institution and may purchase course texts at the host bookstore.

Each qualified student normally may enroll in no more than one course off campus in any one term or semester under this program.

Duquesne University students who are participating in this program are charged tuition and university fees in accordance with the current rates of Duquesne University, however students are responsible for paying any additional course or laboratory fees to the host institution.

This cross registration program does not apply to the Summer Sessions at any of the institutions including the Spring Term at the University of Pittsburgh. However, taking courses at other institutions during those terms is facilitated by “temporary transfer student” procedures separately agreed to by the PCHE colleges and universities.

Students are encouraged to submit cross registration forms during preregistration in order to provide adequate time to receive proper notification of the approval or disapproval.

PROCEDURES

Pick up a cross registration form at your advisor's office or the Registrar's Office.

Select the courses you wish to enroll in from the schedule of classes of the respective host college. These schedules are in the Registrar's Offices of all PCHE schools.

Submit the completed cross registration form to your academic advisor for approval.

Bring all copies to the Registrar’s Office.

The host registrar will notify you by mail whether your cross registration has been approved or not.

LATE REGISTRATION

With approval of the appropriate dean and upon payment of the penalty fee, late registration may be permitted for a serious reason, however, no student may be registered and begin attending classes after the latest date for registration and change of schedule as announced in the Academic Calendar (published in the Schedule of Classes booklet).

RECORDS AND REPORTS

SEMMESTER GRADE REPORTS

Every registered student who is free of financial obligations to the University is sent a report of grades to the permanent address on record soon after the close of each semester.

TRANSCRIPTS

Each student who is free of financial obligations to the University is sent a summary transcript of his or her complete academic record at the close of each academic year. Students should carefully examine their records for accuracy and immediately report errors to the Registrar.

To obtain additional copies of their academic records students must write to the Registrar for transcripts for themselves or for mailing to the other institutions and agencies. All official transcripts issued by the Office of the Registrar bear the signature of the Registrar and the embossed seal of the Office of the Registrar. Whenever an official transcript is released directly to the student it will also bear the stamped designation, Issued to Student.

No transcript will be issued unless all financial obligations owed by the student to the University have been fulfilled. A fee of $3.00 is charged for the issuance of each transcript and 24-hour processing time is required for pick-up service from the Registrar's Office.

CONFIDENTIALITY OF STUDENT RECORDS

The University regards the student's personal information and academic record as a matter of confidentiality between the student and the University. The contents of either may be revealed only in accordance with the Family Educational Rights and Privacy Act of 1974 (Public Law 93-380, Section 438, as amended). Students are advised to consult with the Offices of the individual colleges and schools of the University for the most current listings.

All courses are available for audits, 1) No courses in the School of Medicine, 2) No courses in clinical courses in the School of Nursing and pharmacy can be audited, 3) In the College of Liberal Arts and Sciences, courses in humanities and social sciences can be audited, but communications and science laboratory courses may not be audited.

Students enrolling for audit may attend lectures, complete course readings and, at the discretion of the professor in charge of the course, may participate in classroom discussion and examinations.

Academic Policies

POLICIES

ACADEMIC ADVISEMENT

Every student attending the University is assigned or selects an academic advisor. It is the student's responsibility to ascertain the advisor's name.

The student must consult with the academic advisor about any questions of an academic nature.

No student may register without the academic advisor's approval and signature.

Advising for freshman and sophomore students is handled through the Advisement and Counseling Center. Juniors and seniors are advised through their respective schools.

ACADEMIC SUPERVISOR OF INTERCOLLEGIATE ATHLETICS

The academic progress of student athletes engaged in intercollegiate competition is monitored by the University. The Academic Supervisor of Intercollegiate Athletics is also responsible for academic support services for student-athletes.

AUDITING COURSES

Regularly enrolled Duquesne students are permitted to audit courses. In addition, non-degree students from the general community who would like to audit courses for personal enrichment and who are not matriculated nor pursuing a degree program are also eligible to audit. Regular students should consult their academic advisor for details on auditing. Non-degree students should contact Duquesne's Division of Continuing Education to complete a brief application form. Admission is granted on a space-available basis by consulting the Office of the Registrar and the individual schools. Fees for auditing are uniform for all students. Registration in a course as an auditor must be declared at registration and is irrevocable after the last date for change of schedule each semester, as indicated in the Academic Calendar (published in the Schedule of Classes booklet).

Records will show "Audit" in the grade space on the transcript of a regularly matriculated student. A "Certificate of Attendance" for non-degree students will be awarded by the Division of Continuing Education. Audited courses are not eligible to be converted to matriculated credits. Courses audited may not be challenged later or completed via CLEP or other advanced standing tests.

Courses eligible for auditing are determined by the individual colleges and schools of the University. A partial list of school policies follows, but students are advised to consult with the Offices of the Deans for the most current listings.

1) No courses in the School of Medicine.

2) No courses in clinical courses in the School of Nursing and pharmacy can be audited.

3) In the College of Liberal Arts and Sciences, courses in humanities and social sciences can be audited, but communications and science laboratory courses may not be audited.

CLASS ATTENDANCE

Regular class attendance is normally essential for success. Prior attendance is strongly encouraged. The responsibility for all course material rests wholly with the student. Schools may require attendance at every class.

It is the prerogative of each school to establish policy for attendance at classes, laboratories, tests, examinations, deadlines for reports, and specific school requirements. It is the instructor's responsibility to make the school's policy known at the first class meeting or to make provisions for any make-up course or school requirements.

The student who is unable to attend class because of serious illness, hospitalization, a serious accident or other extremating circumstances is responsible for notifying the office of his academic dean. He should supply the necessary written verification as soon as possible.

The student must submit the work assigned and take the examination in the course at the specified time. If the work is not submitted or an examination is not taken at the scheduled time, the policy is to assign a zero for that part of the course. An accumulation of zero grades could result in a final grade of "F." If a student has for significant reasons missed a part of the course or an examination, the grade may be submitted as an "I." If the temporary "I" grade is to be replaced by a passing grade, the work must be completed by the time stated in the
ACADEMIC POLICIES

CLASSIFICATION OF STUDENTS

Freshman: less than 30 credits completed
Sophomore: 30 to 59 credits completed
Junior: 60 to 89 credits completed
Senior: 90 or more credits completed

Full-time Student: A student with an academic schedule of at least 12 credits is considered a full-time student.
Part-time Student: Anyone who carries under 12 credits is regarded as a part-time student.
Graduate Student: A person who has completed a baccalaureate degree and is seeking additional undergraduate credits.

COURSE EXAMINATIONS

Unit examinations are given on the dates announced by the instructor at the beginning of each semester. Grades for these are obtained from the instructor. Final examinations are given at the end of each semester and summer session. No student is excused from taking the final examination.

CREDIT BY EXAMINATION

Examinations for recognition of proficiency in a subject, or for course credit, as authorized by the College or a particular School of the University, are available to currently enrolled students who have previous experience or exposure and have acquired mastery of the knowledge in certain courses. An application fee of $30 is charged for each course credit. Application forms may be obtained from the Office of the Registrar.

Since credits are not given for experience, application forms or exam information about courses open to this examination procedure are not available to them. Credit can be earned for courses for which credit has not been earned. Credit received is independent of the Quality Point System.

The decision to elect the pass/fail option must be made no later than the close of the period provided for making schedule changes. An authorized pass/fail election declaration form must be obtained from the advisor.

STUDENT STANDING

Progress toward a degree is measured by the cumulative quality point average. The scholastic records of students who fail to meet the minimum requirements as established by the faculty of each college or school will be submitted to the College or School Committee on Student Standing for review and appropriate action. Normally, academic records will be reviewed annually at the conclusion of each academic year.

All students in the University are academically dismissed if they fail three courses in one semester. Students can be readmitted by the student standing committee of the college or school to which the student is returning. If a student transfers to another school within the University, the student can be admitted only by the Dean of that school.

For students who have attempted 15-30 credits, or more than 30 credits in one year, the guidelines are:

Academic Warning: 175 to 199 QPA (Letter of warning may be sent by appropriate Dean)
Probation: 175 to 199 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)
Dismissal: Less than 1.50 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

For the students who have attempted 31-60 credits or who have attempted up to 61 credits in each semester, these guidelines prevail:

Academic Warnings: 185 to 199 (Letter of warning may be sent by appropriate Dean)
Probation: 175 to 184 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)
Dismissal: Less than 1.50 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

For students who have attempted 61+ credits or who have attempted 61 credits in one semester, these guidelines prevail:

Academic Warnings: 175 to 199 (Letter of warning may be sent by appropriate Dean)
Probation: 175 to 184 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)
Dismissal: Less than 1.50 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

Students who have attempted 15-30 credits and who have a QPA of between 1.85 and 1.99 may continue on probation for one semester. However, students who have earned 90 credits or more are subject to dismissal unless they have a QPA of 2.0 or better. Students who accumulated three F grades in one semester are subject to dismissal. Appeals of academic dismissal must be directed to the appropriate College or School Committee on Student Standing.

COMPUTATION OF THE QUALITY POINT AVERAGE

Quality Point Average is the ratio expressed to the decimal thousandths of the sum of course credits for which the grades of A, A-, B+, B, B-, C+, C, C-, and F were received to the sum of quality points earned.

The Quality Point value of each grade is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Grades S, P, U, N, I, and W are independent of the Quality Point System. Courses credits graded E, U, N, and W do not earn credit, and if required for graduation, must be repeated and passed.

REPEATING COURSES AND COURSE RETROGRADATION

Students ordinarily are permitted to repeat courses in which D and F grades were received. The request for permission to repeat a course as to be submitted in letter form to the academic advisor. An authorized request to repeat a course form must be obtained from the advisor before registering in the repeat course. All grades are retained on the permanent academic record. The result of the final attempt in a repeated course is, however, the student's status in the course with regard to attempted credits, earned credits, and the completion of requirements.

Retrogradation, a corollary of the repeat credit rule under which a student may earn credit once only for a course, prescribes that a student may not move backward from an advanced course to a lower level course and receive credit for both. Any doubtful situation must be decided by the department chairperson or dean involved.

PASS/FAIL ELECTIVES

One course a semester, elected by a junior or senior and approved by the academic advisor as providing an opportunity to expand and enrich the student's experience, may be taken on a pass/fail (S/U) basis. If passed, the credits will count for graduation, but neither grade nor credits will be calculated in the Quality point average.

Once a course has been identified as a pass/fail elective, the course must be completed as such, and the grade submitted must be an S or a U. No required course may be passed under this elective pass/fail basis.

The grading system for graduate students is published in the catalog of the particular graduate school.

The grading course work and rating academic performance of undergraduate students at the University, effective for the 1988 Spring Semester.

Grade Description:
A: Superior
A+: Excellent
B+: Very Good
B: Good
Standing. Students subject to the jurisdiction of the appropriate Committee on Student Standing in accordance with the established guidelines who are permitted to re-enroll on a full-time basis but continue participation in noncurricular and extra-curricular activities shall be without appeal if they are subsequently dismissed from the University for poor scholarship.

ACADEMIC ADVISEMENT FOR STUDENT ATHLETES

The policy of the Council of Academic Deans on Student Athletics vis-a-vis academic standards reads as follows:

a) "To participate in the formal athletic programs at the University, a student must be currently enrolled as a full-time student. Full-time status is defined by University catalog as enrollment of 12 credits minimum per semester. Such a program would allow a student to graduate within five years.

b) A student athlete must be making satisfactory academic progress. This means that a student must have successfully completed 24 credits during the previous academic year. This would allow a student the fall, spring, and summer semesters in which to earn these 24 credits. In addition the student athlete must satisfy the student standing policy as outlined in the Student Handbook and University catalogs.

c) Student-athletes must maintain a 2.0 cumulative GPA at all times in order to be academically eligible to compete in inter-collegiate competition. GPA's for student athletes are calculated at the end of each semester.

DEAN'S LIST

To achieve distinction of being named to the Dean's List, a student must have a record for a semester that shows completion of a full-time schedule, a quality point average of at least 3.25, and no grade lower than a C. The full-time schedule must include at least 12 credits exclusive of pass/fail credits.

GRADUATE COURSES FOR UNDERGRADUATE CREDIT

Qualified seniors may be permitted to register in certain graduate classes at the 500 level for undergraduate credit on the recommendation of the advisor and with the approval of the dean of the graduate school involved. All 500 courses are described in the graduate school catalogs.

GRADUATION REQUIREMENTS

The candidate for a University degree must be a person of good moral character who has satisfactorily completed all academic requirements for the degree program and in addition has the recommendation of the appropriate Academic Dean, filed the Application for the University Degree with the Office of the Registrar on or before the latest date to apply for graduation as announced in the Academic Calendar, and paid all indebtedness to the University.

It is the student's responsibility to determine that courses taken in each semester are sequentially correct and necessary for the degree program.

The student, in consultation with an advisor, must periodically review progress toward graduation, and resolve any question about fulfillment of graduation requirements.

Each school and each department sets forth in this catalog requirements for graduation which the student is expected to know, as well as the above noted general requirements, and the following:

1. The bachelor's degree requires a minimum of 120 semester hours of course credits in all except Pharmacy which requires 163 credits, and Nursing which requires 124 credits.

2. All bachelor's degrees require an overall minimum quality point average of 2.0, which is a C grade average in a 4.0 system (Students should further determine the need for minimum GPA requirements in their major, science course, etc.).

3. The final year's work (a minimum of 30 semester hours of credit) must be completed in residence at the University.

4. Not less than three credits (or one course) in theology are required for all undergraduate Catholic students in every program at the University.

5. Students on academic probation may be candidates for graduation only with permission of the Committee on Student Standing of their school. The candidate who has satisfied graduation requirements by a Challenge Examination (credit by examination), within the last 30 semester hours of study for the degree, will fulfill the residence requirement provided a minimum of 30 semester hours of credit has been earned in course work at the University in the final year's study.

HONORS

Degrees are awarded with special mention cum laude, magna cum laude, or summa cum laude to students who have completed the regular course with unusual distinction and who have completed a minimum of 60 credits in residence. Honors are based on these standards:

Cum Laude—Quality Point Average 3.50 to 3.74

Magna Cum Laude—Quality Point Average 3.75 and above

Summa Cum Laude—Upon recommendation of the faculty and a 3.90 GPA, the Magna Cum Laude citation may be raised to Summa Cum Laude

UNIT OF CREDIT

The unit of credit is the semester hour. One credit equals one semester hour. One semester hour of credit is granted for the successful completion of
Part IV:
Tuition and Fees

Tuition and Fees
The University reserves the right to change tuition and fee charges if exigencies require such action. The figures shown apply to the 1990-91 term only, unless otherwise indicated.

TUITION
Undergraduate Tuition $278.00
Graduate Tuition $293.00
Auditors pay the same as students taking courses for credits

FEES
Application (non-refundable) $20
Matriculation Deposit (non-refundable) 100
Residence Hall Pre-Payment (non-refundable) 150
Change of Schedule for processing each form 5
Credit by Examination for each semester hour for recognition of proficiency of course credit (See policy in Section VI, page 144) 20
Orientation (New Students) 25
Late Registration 25
Removal of I Grade 5
Registration Correction Fee 15
Continuing Registration Fee 50
*Undergraduate Business and Administration Student when carrying 12 or more credits 5
*Undergraduate Business and Administration Student when carrying less than 12 credits 3
*Undergraduate Music Student when carrying 12 or more credits 100
*School of Pharmacy Undergraduate Fee 200
*Undergraduate Pharmacy Student Activities (for Third, Fourth, and Fifth Year Students) 35
*University Fee $17 per credit

LABORATORY FEES
All amounts are for one semester, where applicable, the yearly charge is double. In addition to the laboratory fee, some programs also require a breakage charge of $15.00 a semester, this is proportionately refundable, depending upon the losses incurred.

Laboratory fees apply to the 1990-1991 academic year:
Biology (each laboratory) $60
Business 491 (Simulation) 5
Chemistry (each laboratory) 60
Education 232, 315, 317 10
English 459, 379 10
*English Language Placement Testing (ESL) 30
Journals 307 15
Mathematics 307, 308 10
Music-Applied 2 or 3 credits 300
Music-Applied 1 credit 150
Music-Class Piano 50
Music-Class Methods 50
Music-Ensemble 50
Music-Seminar 50
Personal Computer Writing 40
Pharmacy 301, 302, 306, 309, 317, 319 40
Physics (each laboratory) 60
Speech 101, 204, 206, 208, 220, 251, 263, 264, 302, 311, 351 10
Graduate Biology With Laboratory 60
Graduate Chemistry 520, 561 60
Graduate Classics 551 293
Graduate Communications 512 25
Graduate Modern Languages 531 & 552 200
Graduate Psychology 571 20
Graduate Pharmacy (each laboratory) 501, 502, 502, 521, 522, 539, 540, 541, 542, 565, 671 30
Graduate Education 652, 692, 693 20
Graduate Education 515, 516, 517, 518 10
*English Language Placement Testing (ESL) fee is a one-time fee
**Laboratory Breakage Fee 15
One breakage card per semester will cover laboratory breakage in Chemistry

SUMMER AND SPECIAL SESSION TUITION AND FEE CHARGES
Undergraduate Tuition $278.00
Graduate Tuition $293.00
University Fee $17 per credit

GRADUATION FEES
Bachelor Degree $30.00
Master Degree 40.00
Doctor of Pharmacy Degree 40.00
Juris Doctor Degree 85.00
Doctor of Philosophy Degree 55.00
Thesis Binding Fee—Doctoral Dissertation 93.50
Thesis Binding Fee—Master Thesis 83.50
WITHDRAWAL AND TERMINATION OF ATTENDANCE

Upon officially withdrawing from the University, a student receives remission of part of the tuition charged for the semester or session in accordance with the Tuition Remission Schedule. The amount of the remission is added to payments, and a refund is made upon request where a credit balance is created on the student’s total account.

The Effective Date of Withdrawal for determining the percent of remission is that on which the appropriate Academic Dean was notified by letter of the student’s decision to terminate attendance and requested official withdrawal. It is also the recorded date of the student’s separation from the University and regarded as the last day of attendance. A student is considered enrolled and “in attendance” until he or she meets with the Academic Dean, then the Vice President for Academic Affairs, and finally, the Vice President for Business and Management.

TUITION REMISSION SCHEDULE

This schedule applies to tuition only, and it does not apply to other charges, such as the University Fee, course fee, and laboratory fees, nor to the reduction of credits resulting from course withdrawals made after the Charge of Schedule period.

Within the Semester

Percent of Remission

<table>
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<th>Period</th>
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<th>60%</th>
<th>40%</th>
<th>20%</th>
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<tr>
<td>Second Week</td>
<td>80</td>
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<tr>
<td>Third Week</td>
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<td>40</td>
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</tr>
<tr>
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<td>20</td>
<td>20</td>
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<tr>
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<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>None</td>
</tr>
</tbody>
</table>

Within the Summer Session—Based on a Six-Week Session Standard

<table>
<thead>
<tr>
<th>Period</th>
<th>80%</th>
<th>60%</th>
<th>40%</th>
<th>20%</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Second Week</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<td>20</td>
</tr>
<tr>
<td>After Second Week</td>
<td>20</td>
<td>20</td>
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<td>20</td>
<td>None</td>
</tr>
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ROOM AND BOARD

The request for on-campus residence is made on the same form used for application for admission to the University. After the student has completed the admission procedure and has paid the matriculation deposit, the residency request is referred automatically to the Assistant Director of Residence Life. The request is processed and necessary application forms are forwarded to the student.
PART V: STUDENT LIFE, PROGRAMS, SERVICES AND ORGANIZATIONS

A. DIVISION OF STUDENT LIFE MISSION

The mission of the Division of Student Life is to establish and maintain a total living, learning and developmental environment that will enhance students' growth for the individual self-actualization and positive involvement in the world community.

PHILOSOPHY

Consistent with the educational philosophy of the University and the above-stated mission, the Student Life Division provides the student with opportunities to participate in a variety of experiences with fellow students, faculty members and administrators. The Student Life Staff encourages students to initiate new programs, implement change and participate in the essential processes of University governance on many levels.

ORGANIZATION

The Vice president for Student Life coordinates the Departments of Athletics, Student Development Office, Duquesne Union, Residence Life, Commuter Affairs, Health Service, Judicial Affairs and Programs and Activities. These Departments are briefly described below. Additional information may be obtained directly from each Department and through the Student Handbook and Code of Student Rights, Responsibilities and Conduct.

ATHLETICS

Duquesne University is a member of the National Collegiate Athletic Association (Division I) and the Atlantic 10 Conference. All rules of these organizations, including those pertaining to a student's eligibility for a varsity sport, are followed. Duquesne University believes in and promotes the concept of the student athlete. Athletic grants-in-aid are available for all varsity sports with the exception of football. The Athletic Department fields men's varsity teams in baseball, basketball, cross-country, football (Division III), swimming, tennis, women's varsity teams in basketball, cross-country, swimming, tennis, track and volleyball, coed varsity teams in golf and rifle, and club teams in bowling, hockey, and crew.

Duquesne sponsors a very active intramural program in such fields as archery, touch football, volleyball, street hockey, basketball, softball, indoor/outdoor soccer, coed wiffle ball, and aerobics.

OFFICE OF COMMUTER AFFAIRS

Whether living with relatives or commuting from their own apartment, the Office of Commuter Affairs offers valuable services and programs for commuter students. If commuter students have a question, suggestion, complaint, concern or simply need information, check with this Office. Assistance is available in many areas, including Parking and Transportation. The Office of Commuter Affairs can assist students with University parking information and in forming carpools. Pat bus schedules and the bus passes are sold in the Information Center of the Union.

Off-Campus Housing: Up-to-date listings are maintained of rooms, apartments, houses and "roommate needed" situations. Area maps, apartment directories and housing search assistance are also available.

Commuter Message Center. If someone needs to get a message to a student on campus, they may call 434-6660. The message is posted outside the Office for the student to pick up.

Adult Learner Services. Services are provided for adult learners including newsletters, family programs, assistance with tutoring for a monthly Brown Bag Enrichment Series. Duquesne Adult Learners Organization (DALO) is an adult organization specifically designed for adult learners. Its officers can be contacted through the Office.

Commuter Assistance Program. This program is a support network of upperclassmen students who serve as advisors and provide resources for new commuters. A C A's plan activities, provide information and supply encouragement. Students should be contacted by their C A prior to entering their first semester.

Other Services include: Suggestions/Complaints in Action, Commuter Update. Student Handbook distribution to commuter students and distribution of commuter I.D. cards (after validation by the ID center).

The Office is located in the Duquesne Union, Room 315 and is open throughout the year to serve students. Office hours are extended during the Fall and Spring semesters when the Office is open Monday through Thursday, 8:30 a.m. - 6:00 p.m. and Friday, 8:30 a.m. - 4:00 p.m. Additional evening and weekend hours are available by appointment. For further information call 434-6660.

STUDENT DEVELOPMENT OFFICE

This office is directly responsible for implementing several programs and services for students, including those programs and services which provide opportunities for personal, intellectual and social growth. Chief among these programs and services is the University Judicial System, Orientation, Greek Affairs, Special Scholarships and Awards, Disabled Student Services, Presidential Ambassadors, National Honor Societies, and Leadership Development.

The University Judicial Board plays an important role in developing responsible student conduct, serving to protect the rights and freedoms of all students while insuring that these rights and freedoms are not misused within the context of students' responsibilities to the University. The Board, composed of administrators, faculty, students and a student chairperson, minimizes legal technicalities and instead focuses on the developmental process.

DUQUESNE UNION

The Duquesne Union is more than a unique building. It is a unique partnership of professional staff, faculty and students working together to provide a service delivery system to develop students, effective members of society. The Union staff provides advice and assistance for all phases of campus programming and establishes goals for, as well as participating in, a balanced scale of cultural, educational, social and service programs. With the goal of community, all aspects of the Union are open to the entire campus. It is not the "Student" Union but the Duquesne Union.

The Union works most closely with the Student Program Board, which is the student organization exercising primary coordination and implementation of University-wide programming through a series of special committees. The UPB offers students opportunities to develop effective skills in leadership, communication, organization and group process.

Facilities within the Union include administrative and student organization offices, meeting rooms, information center, game area, bookstore, cafeteria, video arcade, Barroom, Allegro snack bar and television lounge.

RESIDENCE LIFE

The Office of Residence Life is committed to creating an environment in each of the four (4) Living Learning Centers in which the student may grow and develop as a total person. Its philosophy and programs are based on the belief that the Living Learning Center experience is an important part of the total University education. Therefore, it is the purpose of the Office of Residence Life to facilitate the personal and academic growth of the resident student. To this end, the professional and resident assistant staff will provide the means to foster such development.

All freshmen students, except those residing with their parents or relatives, are required to live in one of Duquesne's Living Learning Centers. All students living on campus are further required to take their meals at the Residence Cafeteria. Housing Agreement terms are effective for the entire academic year, with room and board rates being determined on an annual basis. Additional information regarding programs, policies and regulations for the Living Learning Centers is included in the Residence Life Handbook.

UNIVERSITY ACADEMIC ADVISEMENT AND REFERRAL CENTER

The U A A R C., located on the ground level of the Administration Building, offers academic advising, career counseling, personal counseling and referral. Additional information may be obtained from the Academic Advisement Center.

CAREER PLANNING AND PLACEMENT

Students and graduates of Duquesne University have available to them the full services and programs of the Career Planning and Placement Center. Persons with uncertain or changing vocational goals may seek career planning through personal contact with the professional staff and use of the career resources. Early use of this service is encouraged.

The individual with well-defined career goals may seek employment advice including resume preparation, job application and interview techniques, job references, and other related materials. The graduating student may also be interested in campus interviews with visiting employers.

Undergraduate/graduate students may earn academic credit for approved preprofessional work under the University's Internship Program which is administered by the Career Planning and Placement Center.

The part-time and summer employment program is important to students in financing their education and to those seeking practical experience to augment college training. Part-time and summer jobs...
The Counseling and Testing Center provides academic, personal and vocational counseling. The student experiencing academic difficulties may request evaluation of math, reading and study skills. Professional assistance is available in dealing with test anxiety or stress management on an individual basis or in group format.

Personal counseling for aid in adjustment to college life (homesickness, roommates, personal relations), anxiety, depression, eating problems, drug and alcohol abuse and sexual victimization. Short and long-term confidential counseling are provided with psychiatric consultation and referral as warranted. Workshops and support groups are held throughout the academic year for Time and Stress Management, Test Anxiety, College Survival Skills, Eating Disorders, Adult Children of Alcoholics, Sexual Victimization, and others upon request.

Testing and counseling are provided for choosing a major, choosing a career, investigating career aptitudes, investigating academic strengths or difficulties. A counselor assists the student seeking vocational guidance in systematically exploring and discovering his/her interests and abilities through testing and individual counseling. Students learn how their interests and abilities relate to the world of work and education. They receive help in clarifying occupational goals and in choosing an academic program suitable to those goals.

Information about the applications for national qualification examinations (CLEP, MAT, GRE, NTE, LSAT, GMAT, SAT, etc.) are also available.

The Counseling and Testing Center staff provides 24-hour emergency psychological services. In addition, the Student Assistance Program and the Academic Intervention Program provide special assistance for students who are having atypical problems.

**HEALTH SERVICE**

**Medical/Nursing**

The Health Service provides for the evaluation and treatment of illness and injury:

- Allergy injections are given when ordered by a physician.
- Students must provide serum and instructions.
- Starter doses of medication are given when in stock. However, students must pay to have prescriptions filled off campus.
- Health counseling and referrals to medical, social, welfare agencies as needed.
- Routine screening physicals are provided for driver's license, teacher certification, premarital, and pre-employment Nominal fee.

**Routine gynecological assessment and treatment**

**Health Education**

The Health Service provides numerous quality health education programs for the University community. These programs promote good health, safety and the early detection of illnesses, thereby preventing consequences of disease, injury and accidents.

**Staff**

- The medical/nursing professional staff consists of all Registered Nurses, Certified Nurse Practitioners, and Board Certified Physicians affiliated with Mercy Hospital.
- In-Hospital Care: Students are transported to nearby medical centers when in-patient care is needed.
- Insurance: It is strongly recommended that each student obtain some form of health insurance. The University provides a Student Health Insurance Plan designed to meet the needs of students and is priced lower than individual health insurance policies. Inquiries about health insurance should be directed to the Risk Manager (434-6677).
- Location: The Health Service is located on the second floor, Towers Living Learning Center 434-1650/1652.
- Eligibility: All resident and full-time undergraduate students are Prepaid.
- Graduates and part-time students: First aid and referral services without charge. All the benefits of on-going primary care such as physician visits, allergy injections, starter doses of medicines, by electing to join the Health Service program. A nominal fee of $25 per semester is required.

All health records are confidential and will not be released without the student's permission.

- Treatment or diagnostic procedures by non-University physicians, clinics or hospitals must be paid by students, their family, or their medical insurance. This includes laboratory work performed in the Health Service and gynecological laboratory services, such as, PAP Smears.
- EMERGENCY:
  - A Crisis Coordinator is available 24 hours a day to assist in any type of emergency resulting from Illness, Injury, Psychological Problems.
  - Call Campus Security 434-6002. They will provide assistance and will contact Paramedics, Health Service and the Crisis Coordinator as needed.

**RETENTION OFFICE**

The Retention Office, under the direction of the Vice President for Academic Affairs, coordinates the efforts of the entire University community to ensure that the personal and educational experience for all students is the best possible. Policies, programs, services and opportunities are constantly reviewed, revised and improved in an effort to meet the legitimate needs of students consistent with the mission and goals of the University.

**C. OTHER DEVELOPMENTAL SERVICES**

**OFFICE OF INTERNATIONAL EDUCATION**

The Office of International Education (OIE) provides services to international students and scholars pursuing undergraduate and graduate degree programs at the University. These specialized services include furnishing pre-arrival information to accepted students, facilitating compliance with U.S. Immigration and Naturalization Service (INS) requirements, assisting in academic and crosscultural adjustment through initial arrival and extended orientation programs, promoting and supporting events, programs, and activities which foster deeper communication, awareness, and understanding among U.S. and international students at Duquesne, and providing ongoing direct service and appropriate referral services to international students and scholars on campus in a personalized and professional manner.

The OIE supports the University's strong commitment to international education as a valued component of the overall mission of the institution.

**LEARNING SKILLS CENTER**

The Learning Skills Center is an ancillary academic service whose primary charge is the intellectual development of students. Services are provided in coordination with academic offices of the University.

As part of its academic assistance efforts, the Learning Skills Center delivers diagnostic and prescriptive services individualized development programs in reading, writing, mathematics and science are offered to students who seek to upgrade their academic skills and advance their intellectual growth.

A free tutorial service provides students with competent tutors in numerous subject areas. In addition, a comprehensive study skills program is available to enhance learning capabilities as well as to assist students experiencing academic difficulties.

**THE PSYCHOLOGY COUNSELING CENTER**

The Psychology Counseling Center is staffed by the clinical faculty and staff of the Psychology Department and is available to students for personal counseling. The center provides the student with an opportunity for personal growth through the development of the individual's ability, working together with a trained counselor, to find one's own compatible solutions for difficulties of a personal nature. Single or multi-seared sessions of in-depth counseling views in individual or group counseling can be arranged at the Center's office.

**D. STUDENT GOVERNANCE STUDENT GOVERNMENT ASSOCIATION**

The Student Government Association is designed to provide a forum for the expression of student views and interests, to maintain academic freedom and student rights, and to provide effective representation in the policy making and operations of the University. Two major functions of the S.G.A. are to serve as student representatives on crucial University committees and to recognize and fund student organizations.

**COMMUTER COUNCIL**

The Commuter Council is an officially recognized, funded student governmental organization open to all students at the University. The purpose of the Council is to identify commuter concerns and to provide educational, social and service-oriented programs for the University's large commuter population. To involve the entire community in its programs, the Council works closely with the Student Government Association, Residence Council, Union Program Board and the administration.

**RESIDENCE HALL ASSOCIATION**

The Residence Hall Association supports Living Learning Center activities and is involved with the Office of Residence Life in developing and implementing Living Learning Center policies and procedures. All resident students are automatically members of the Residence Hall Association and are encouraged to attend meetings, functions, etc. sponsored by the group.

As the arm of the Residence Hall Association to serve as a link between the resident students and the administration, the council acts in its capacity to represent the views of the Residence Hall Association and to work with the Office of Residence Life in developing and implementing Living Learning Center policies and procedures.

**INTER-FRATERNITY COUNCIL**

The Inter-Fraternity Council serves as a clearing house for general fraternity social information and as a forum for airing constructive proposals for the improvement of the fraternity system. Membership in the Council is composed of appointed representatives from each of the nine member fraternities. The IFC establishes all rules governing interfraternity sports and regulates pledging.
STUDENT ORGANIZATIONS

PROGRAMS AND ACTIVITIES
The Union Program Board (UPB) is the major student programming organization of the University. It provides social, recreational, educational and cultural activities for the entire University. The UPB is directed by students and is comprised of several committees which present such events as concerts, dances, art exhibits, lectures and ski trips. Membership is open to all students.

SERVICE ORGANIZATIONS
The purpose of these nationally-affiliated organizations is to provide a high standard of service to the campus and local communities while, at the same time, developing the leadership qualities of each member of the organization. Service organizations sponsor a wide variety of professional, service, charitable, and cultural programs.

SOCIAL ORGANIZATIONS
Social organizations are composed of college men and women who have joined together for friendship, companionship and activities. They sponsor and promote social, athletic, cultural, and academic events. Many of these organizations belong to Interfraternity Council or Panhellenic Council.

PERFORMANCE GROUPS
Tamburitzans
The Duquesne University Tamburitzans were founded in 1937 at the University and were the first university-based performing folk ensemble in the United States. The group takes its name from the Tamburitza family of stringed instruments, indigenous to the folk cultures of Southeastern Europe. The group is dedicated to the promotion and perpetuation of the Eastern European cultural heritage in the United States and offering scholar-ship opportunities to deserving students in music, voice and dance. The Ensemble performs 80 shows each year and travels extensively throughout the United States and Canada. Inquiries concerning auditions should be made in the fall prior to auditions which are held in February.

THEATRE
The Red Masquers Provide an extracurricular outlet for students who wish to participate in theatre. The organization's aim is to provide the University and its students with educational and cultural benefits that accrue from a dramatic program. In line with these objectives, the Masquers' program offers a variety of stage entertainment—one-act plays, musicals, comedies, and tragedies. Any Duquesne student is eligible for membership.

MEDIA ORGANIZATIONS
WDUQ RADIO
WDUQ 90.5 FM, a public radio station affiliated with the National Public Radio and American Public Radio networks, has been broadcasting from the campus of Duquesne University since 1949. The station specializes in news, public affairs and jazz. In addition, WDUQ carries live coverage of special Congressional hearings, National Public Club luncheons and other newsworthy events.

WQED 90.3 FM, a public radio station broadcasts 24 hours a day, 365 days a year to over 70,000 listeners in Southwestern Pennsylvania and parts of Ohio, West Virginia and Maryland within a seventy mile radius of Pittsburgh. The signal is also carried by a number of cable companies beyond that area. The station depends on listener donations, solicited through on-air fundraising campaigns, for over half of its yearly operating budget. A small full-time staff oversees the daily operations of the station and supervises the activities of University students (in both volunteer and paid positions), community volunteers and high school interns working in various departments: Programming, Engineering, Operations, Special Projects, News and Public Affairs. Administration, Production and Development.

WDUQ is located on the fourth and fifth floors of the Experimental Communication Center on the Duquesne campus. Regular business hours are Monday through Friday, 9 AM to 5 PM. Tours are available upon request.

WDRC
This radio station, purchased by Residence Council and operated by students, provides music and announcements in the Duquesne Tower's Cafeteria during the lunch and dinner hours. Students interested in being disc jockeys and/or announcers on WDRC should contact Residence Council.

PANHELLENIC COUNCIL
The Panhellenic Council was established for the purpose of strengthening women's fraternities as organizations and for promoting cooperation among the groups through scholastic, athletic and social activities. Membership in the Panhellenic Council is composed of the present leaders and elected representatives of each of the seven women's social fraternities. Panhellenic Council establishes all rules concerning the rushing and pledging of new fraternity members.

E STUDENT ORGANIZATIONS
OFFICE OF PROGRAMS AND ACTIVITIES
The Office of Programs and Activities provides administrative and programming support for all recognized student organizations and advises all major student activities to include Carnival, Dance Marathon, Christmas Ball, Spring Fling and all Union Program Board events.

"Any student group wishing to apply for official University recognition must initiate this process through the Office of Programs and Activities. Recognized organizations must also annually update their registration.

The Fall and Spring Semester Activities Calendars are compiled and published by the Office of Programs and Activities. All University departments and recognized organizations are invited to submit listings for the Activities Calendar each semester.

GENERAL
There are more than 90 student organizations at Duquesne. Some serve the needs of specific interest groups, others relate directly to major areas of study. Some honor academic achievement. Many are formed to meet social, service or religious needs and interests. Whatever their purpose, these organizations and their activities comprise a major part of campus life.

HONOR SOCIETIES
These societies have as their primary purpose recognition of academic excellence and leadership achievement, and are members of the Association of College Honor Societies.

PROFESSIONAL AND DEPARTMENTAL ORGANIZATIONS
These professional organizations exist to provide opportunities for career development and the exchange of ideas pertinent to students academic pursuits. With this purpose in mind, these organizations sponsor numerous programs including debates, symposiums and lectures.

CAMPUS MINISTRY

MEDIA ORGANIZATIONS

PUBLICATIONS

THE DUQUESNE DUKES The Student Code is the definitive statement of standards, policies and procedures regarding student rights and responsibilities, campus organizations, student governance, student records, student conduct and the University Judicial System. Copies are available at the Duquesne Union Information Center.

The Duquesne Duke, the University campus newspaper, is written and edited by the students for the students. It appears every Thursday during the academic year except during examination periods and holidays, and provides an array of campus news, student opinions, editorials and advertisements. The paper is open to all members of the University administrators, faculty members, employees, and most of all students. Membership in the Duquesne Duke is open to all students.

The Duquesne Magazine is a literary publication, published each semester which affords students the opportunity to submit writing, artwork and photographs.

L'Esprit du Duc, the University yearbook, highlights the events of each year for students, faculty and staff. It is published in the fall of each year, and mailed to those students who pre-registered for the book to receive a copy of their alma mater. This yearbook covers student life on campus, groups and organizations, varsity, club and intramural sports, events on campus, and the year in review. Membership on the Yearbook Staff is open to all students.

The Student Handbook contains information about the University which concerns the students. Copies are available at the Duquesne Union Information Center.

Part VI: Campus Ministry

The Campus Ministry is deeply concerned with the religious life and growth of Duquesne students and all campus residents. Its policies and programs are oriented to furthering that growth as personal as well as the community level. For Catholic students, Eucharistic liturgies are celebrated daily, and the Sacrament of Reconciliation is available by appointment. For all students, whatever their faith, the Campus Ministers are available to help with spiritual direction, counseling, advice, or sympathetic listening. The Campus Ministry provides a listing of Sunday services in nearby churches or synagogues and referrals can be made to introduce the student to the various minsters or rabbis in the area. The University Chapel is open each day for private prayer and quiet meditation. It is available too, to groups for specific services of a religious nature.

The Campus Ministry sees itself at the service of all in an open, unstructured, nonthreatening relationship and invites the entire Duquesne Community to make use of its services.

Campus Ministry's religious, social, and community outreach activities are announced by posters in residence halls, and almost all off-campus buildings. Its main office is Room 102 on the first floor of the Administration Building, with additional offices in Duquesne Towers, St Ann's, and Assumption.
Part VII: University Programs and Courses

CORE CURRICULUM
Effective for Freshmen Entering Fall 1990

STATEMENT OF PURPOSE
The University Core Curriculum is a set of courses that provide Duquesne undergraduates with a common intellectual experience as the foundation for their college careers. Because this curriculum is seen not merely as a preparation for the students’ professional or pre-professional majors but also for lifelong learning, the Core courses focus on issues and values central to the liberal tradition and to the mission of the University. By developing some mastery of the fundamental skills and fundamental subjects taught in the Core courses, students will be better able to adapt to a changing world.

Among the fundamental skills the Core courses emphasize are critical thinking and effective communication. The abilities to make informed judgments and to speak and write clearly and persuasively are commonly regarded as the marks of an educated person. Students practice these skills not only in specific courses but across the entire curriculum.

The fundamental subjects which the Core courses integrate are those that contain themes of enduring importance: the history and cultural heritage of the West, the diversity and richness of all human cultures, the structures by which societies organize themselves, the role of science in the modern world, the relation of the arts to human experience, the process of defining personal identity and personal values, the dimensions and significance of faith and religion.

CORE COURSES

There are seven courses and two course-areas in the Core Curriculum, totaling 27 credits.
101 Thinking and Writing Across the Curriculum 3 cr
Practice in analysis and expression in many disciplines as preparation for other work in the university-wide integrated Core Curriculum and for later courses throughout the university

102 Imaginative Literature and Critical Writing 3 cr
A college-level introduction to imaginative literature and to a variety of critical techniques for interpreting imaginative literature. Thinking and Writing Across the Curriculum is a prerequisite

121 Problem Solving with Creative Mathematics 3 cr
An exploration of mathematics as a science and an art with an emphasis on problem solving. Students may also satisfy this requirement with one of the following courses: Calculus I (111 or 115), or Fundamentals of Statistics 125.

131 Bases of Human Thought and Action 3 cr
This course examines some fundamental theories and findings regarding the way people feel, think, and act from the perspectives of psychology and philosophy. The outcome of this course will be an understanding of the disciplines of philosophy and psychology, and their relationships to each other.

141 Social, Political, and Economic Systems 3 cr
The disciplines of Economics, Political Science, and Sociology collaborate to explore questions about equality and inequality in various societies. The course specifically addresses economic, political, and legal issues as they relate to gender, age, race, and ethnicity.

151 Shaping of the Modern World 3 cr
An understanding of change through time is essential to the comprehension of the world in which we live. "The Shaping of the Modern World" studies the contemporary world through the examination of three significant phenomena: revolution, industrialism, and war.

161 The Arts and the Human Experience 3 cr
The visual and musical arts are explored in light of the major themes, movements, and styles of Western culture. Emphasis is placed on the points of convergence and divergence among the arts. The course draws upon the rich cultural resources of the Pittsburgh community, such as the Carnegie Institute, the Pittsburgh Symphony, the Pittsburgh Ballet, and the Pittsburgh Opera.

Core Science 3 cr
Students may choose one of the courses described below. (71, 172, or 173) Each course presents a body of fundamental knowledge to provide the student with an awareness and understanding of the discipline. As this body of knowledge is explored, examples of scientific inquiry will be presented to explain the scientific method as the foundation of modern scientific thought. Each course will lead students to some understanding of the scientific bases of selected problems facing humankind. (Students may also satisfy the Core Science requirement by one of the following courses: Biology 111 or 112, General Chemistry 121 or 122, General Physics 201 or 202.)

171 Biology 3 cr
Evolution, inheritance, and the interrelation of energy, life, and the physical environment provide the unifying themes of this course. Each of these is examined from multiple levels of organization—from the molecular to the biosphere—demonstrating the diversity of life within which the commonality of life is found. Issues to be considered include those critical to effective citizenship in our changing world, such as disease, reproduction, genetics, genetic engineering, and ecology.

172 Chemistry 3 cr
The fundamental concepts of structure, bonding, properties, and chemical reactivity are presented through lecture and classroom experimentation. A consideration of consumer chemicals and the role of the chemical industry emphasizes the importance of chemistry and related technologies in our everyday lives. The chemical dimensions of selected social issues of current importance in the areas of environmental chemistry, energy technology, and food production are examined.

173 Physics 3 cr
Through the study of a particular topic such as space habitats, students are introduced to physical concepts which serve as the basis for understanding technological developments that have important implications for society. Among these developments are, for example, artificial gravity, solar energy, and the space defense initiative. Where applicable, principles from other disciplines such as economics, psychology, chemistry, and biology will be introduced.

Core Theology 3 cr
The Core Theology courses expose students to the major religious traditions of humankind. The courses examine the moral, intellectual, and cultural dimensions of these traditions. This requirement may be fulfilled by any one of the following courses: 152, 183, 184, 185, 186, 187.

Human Morality 3 cr
An introduction to the basic questions and approaches of Christian ethics, emphasizing the formulation and formation of moral values, the sources and context of Christian ethics, in its biblical and historical development, and including applications to some contemporary issues.

383 The Judeo-Christian Religious Tradition 3 cr
A study of the fundamental beliefs, values and spirit of the Judeo-Christian tradition as expressed in its religious texts, worship, spirituality, moral codes, and intellectual tradition. The course includes an examination of the Judeo-Christian faith in a historical and theological context. The course explores the relationship of the human person to self, others, the world, and the Divine as the basis for humanness, a study of the issues involved in these four relationships, e.g., freedom, grace, contemplation.

Note: Approved alternate courses for Core 131, 161, and 171 are available to students in the College and the School of Business and Administration. In general, students will complete the Core requirements according to guidelines established by their respective schools and in consultation with the Admissions and Referral Center.

THE INTEGRATED HONORS PROGRAM

The Integrated Honors Program (IHP) is the honors track of the University Core Curriculum. It is intended for qualified students who wish to accept the challenge of an accelerated learning experience in the Core program. Acceptance is based on a review of credentials, including high school grades, SAT or ACT scores, high school class rank, and a letter of recommendation from the high school principal, counselor, or teacher. All students with exceptional high school records are encouraged to apply. Further information is available at the Advising and Referral Center.

IHP COURSES

The IHP curriculum consists of the following courses:

101 Logic and Rhetoric 3 cr
Clear and disciplined thinking, reading, speaking and writing.
to the two languages, and to understand Latinate influences on English
Core 121 Problem Solving with Creative Mathematics

3 cr
An exploration of mathematics as a science and an art with an emphasis on problem solving
Core or College Requirements

6 cr
The balance of the student's schedule may be drawn from the University Core Curriculum. Students in Concentrated Studies are admitted into Duquesne University's College of Arts and Sciences. However, after completing a year to the required Concentrated Studies curriculum, achieving satisfactory academic performance, and meeting any admissions standards, qualified Concentrated Studies students may matriculate to a major in any of the schools of the university. Courses in the Concentrated Studies curriculum carry full college credit, will not normally delay graduation, and serve to meet a number of university and school requirements

ENGLISH AS A SECOND LANGUAGE PROGRAM

Duquesne University offers a comprehensive English as a Second Language Program (ESLP) open to international students admitted to academic degree programs as well as students admitted to the ESLP on a non-degree, certificate of completion basis. The ESLP offers intensive, semi-intensive, and specialized instruction on basic, intermediate, and advanced levels. Intensive levels meet for twenty hours of instruction per week. Semi-intensive levels meet for sixteen hours per week. Specialized levels offer instruction for between four and sixteen hours per week, depending upon students' proficiency as determined by English Language Placement Tests

The ESLP focuses primarily on English for Academic Purposes (EAP). Qualified students at intermediate and advanced levels may combine coursework in their academic degree major with ESL study. Eligible international students accepted to undergraduate degree programs may be awarded academic credit for their ESL coursework

The ESLP offers instruction throughout the academic year during three semesters: Fall (Late August to December), Spring (January to April), and Summer (May to July). ESL faculty advisors assist each student in the selection of appropriate ESL courses in five major areas: grammar, reading, listening comprehension, note-taking, pronunciation, and writing. A full semester orientation program is also available to assist new international students in adjusting to academic and cultural life in the university

111 and 112 Civilizations
Great Issues I and II

3 cr each
An intensive study of key ideas and significant people and events of the great civilizations of West and East

114 The American Experience

3 cr
The rise and significance of the U.S. as a democratic, industrial, affluent, and open society

203 Societal Structures

3 cr
The objective and subjective societal framework within which the individual functions. This course will be offered by one or more faculty from Economics, Political Science, Psychology, and Sociology, and content will vary

211 Cultural Perspectives

3 cr
An inquiry into patterns of beliefs, values, ideologies, and norms of human society through studies of languages, literature, art, and history. This course will be offered by one or more faculty from Art History, Classics, Communication, English, History, Modern Languages and Literatures, Philosophy, and Theology, and content will vary. In addition to the above-listed courses, all IHP students must complete the following general requirements:

natural sciences

3 cr
mathematics (Problem Solving with Creative Mathematics, Calculus, Statistics)

3 cr
social sciences

3 cr
philosophy

3 cr
technology

3 cr
humanities

3 cr

CONCENTRATED STUDIES

Concentrated Studies is a highly structured one-year curriculum designed to help students improve their basic skills and realize their full potential for college work. Students in the program take a prescribed block of college level courses during their freshman year and thereafter complete their education at Duquesne in the traditional manner.

Emphasis in Concentrated Studies is on critical thinking and reading, and the development of ability in the use of language skills. The program features an integrated and mutually reinforcing set of required and demanding courses, including:

Core 101, 102 Thinking and Writing Across the Curriculum and Imaginative Literature and Critical Writing

4 cr ea
Practice in effective writing. Review of principles of grammar and rhetoric, introduction to literary types and forms. 101 is prerequisite to 102

Classes 101, 102 Basic Latin

5 cr ea
Study of the grammar and syntax of Latin, both as a discipline, and as a basis for learning how languages work. The courses maintain a constant comparative tension between Latin and English, in an effort to uncover basic language structures common

ENGLISH AS A SECOND LANGUAGE PROGRAM

COURSE DESCRIPTIONS

Basic-Level Courses 0-3 cr

Hrs /Week

120 Basic ESL Grammar

4

121 Basic ESL Pronunciation/Oral Skills

4

122 Basic ESL Reading

4

123 Basic ESL Writing

4

124 Basic ESL Aural Comprehension

4

A group of basic-level courses for students whose native language is other than English. Includes up to sixteen hours of classroom instruction and four hours of language laboratory instruction per week. Level and course assignment determined by placement testing

Intermediate-Level Courses 0-3 cr

Hrs /Week

125 Intermediate ESL Grammar

4

126 Intermediate ESL Pronunciation/Oral Skills

4

127 Intermediate ESL Reading

4

128 Intermediate ESL Writing

4

129 Intermediate ESL Aural Comprehension

4

A group of intermediate-level courses for students whose native language is other than English. Includes up to sixteen hours of classroom instruction and four hours of language laboratory instruction per week. Prerequisite: Basic-level Courses (120 through 124) or Placement Testing

Advanced-Level Courses 0-3 cr

Hrs /Week

130 Advanced ESL Grammar

4

131 Advanced Oral Proficiency

4

132 Advanced ESL Reading

4

133 Advanced ESL Writing

4

134 Advanced Aural Comprehension

4

An advanced reading skills course including intensive vocabulary development, scanning, reading comprehension, and reports on outside reading. Prerequisite: Intermediate-level Courses (125 through 129) or Placement Testing

EXTRA-DEPARTMENTAL COURSES

008 Study Skills

1 cr
An examination of the academic problems most frequently encountered by college students. Practical exercises on a variety of topics, including time management, stress management, note-taking techniques and test preparation strategies

015 New Student Seminar

1 cr
An exploration of the college adjustment process as it occurs. Study and discussion center on the exploration of college expectations, academic skills, self-esteem, major and career choices, values, time management, social skills and activities and university helping resources
College of Liberal Arts and Sciences

Administration
Dean
John J. McDonald, Ph.D.

HISTORY
In 1878 the Fathers of the Congregation of the Holy Ghost and the Immaculate Heart of Mary established a College of Arts and Letters which was incorporated in 1882 as Pittsburgh Catholic College of the Holy Ghost with authority to grant degrees in the arts and sciences. In 1911 the College and University Council of the Commonwealth of Pennsylvania extended the charter to university status and approved the amendment in favor of the corporate title, Duquesne University.

PHILOSOPHY AND OBJECTIVES
Duquesne University believes that education is concerned with the human person as a whole—mind, body, and soul. It believes that each individual has the obligation to self, society, and God to develop potential to the fullest. In this commitment, the College of Liberal Arts and Sciences sets its objectives and forms its curriculum.

The objectives of the College are:
1. To provide a solid foundation for lifelong learning.
2. To develop an awareness of the methodologies and epistemologies of the major areas of knowledge so that evaluations and judgments may be valid.
3. To assist in both the growth of self-knowledge and the development of a philosophy of life.
4. To assist in the understanding of one's relation to God, to society, and to nature.
5. To perfect that skill in the use of standard English necessary to clear, coherent expression of one's thoughts, hopes, and ideals.
6. To cultivate a background for the learned professions and for scholarly pursuits.

DEGREES
The College confers three undergraduate degrees: Bachelor of Science, Bachelor of Arts, and Bachelor of Perfusion Technology. Students who complete the major in classics, communication, economics, English, history, modern languages and literatures, philosophy, political science, psychology, sociology, and theology receive the B.A. degree. Students majoring in mathematics can follow a curriculum leading to either a B.A. or B.S. degree. Students seeking the degree in Perfusion Technology follow the special curriculum described on pages 75-76.

GRADUATION REQUIREMENTS
To receive the degrees of Bachelor of Arts or Bachelor of Science in the College of Liberal Arts and Sciences, a student must complete the following requirements:

- A minimum of 120 semester hours of course credits. The last 30 hours must be taken at the University.
- University Core Curriculum
- College General Requirements, as described below.

Major Program (minimum of 24 credits, see departmental listings)
Minor program (minimum of 12 credits, see departmental listings)

An overall minimum cumulative quality point average of 2.0.
A minimum cumulative quality point average of 2.0 both in the major and in the minor.
Removal of I and F grades both in the major department and in required courses.
Submission of Pre-Graduation Review Form (available in College Office) to the Dean's Office no later than two weeks before pre-registration for the final semester.
Pre-registration (on form SRI) for B.A. or B.S. degree in major field.
Submission of application for the degree on form provided by the Registrar before the deadline published in the current University calendar. No student is considered a degree candidate prior to submission of this form and official registration for the degree.

To receive the degree of Bachelor of Perfusion Technology, students complete the University Core and the program of pre-professional and professional courses described on pages 75-76.

COLLEGE GENERAL REQUIREMENTS
Students enrolled in the College of Liberal Arts and Sciences for the B.A. or B.S. degree are required to complete the University Core Curriculum, consisting of 27 credits, for graduation.

In addition to the University Core, students in the College are required to fulfill the following area requirements for graduation:

Modern or Classical Language proficiency at the 202 level
Math/Science (mathematics, computer science, biology, chemistry, physics) 3 credits
Social Sciences (Political Science, Psychology, Sociology) 6 credits (two disciplines must be represented).

History/Literature 6 credits (must include literature)
Philosophy/Theology 6 credits (must include philosophy)
Communication 3 credits

Courses taken in major or minor programs may also be used to satisfy the College General Requirements.

COLLEGE ACADEMIC POLICIES

Effective catalog
Degree requirements are those stipulated in the catalog of the year in which a student matriculates. The student is responsible for knowing the requirements in effect at the time the student enters. Degree requirements may be changed without notice or obligation. This catalog has been prepared on the best information available as of Spring 1990. Major requirements are those stipulated in the catalog of the year in which a student declares the major.

Academic Load
While a 12-credit schedule in a regular semester is considered full-time study, students may normally carry five courses (15-17 credits) in one semester. A schedule of more than five courses or 17 credits must be approved by the Dean's Office. Students on academic probation may not take more than 15 credits. Students who wish to carry more than 12 credits of courses in the summer sessions must consult with the Dean.

Residence Requirement
The last 30 credits must be taken in residence at the University.

Limits on Inter-School Electives
A maximum of 12 credits in Duquesne University courses outside the College of Liberal Arts and Sciences may be applied to the B.A. or B.S. degree. However, if the student chooses the Certificate in Business Program (24 credits) or an inter-school minor (Education, 15, Music, 15), the maximum credits required will be applied to the degree, but all other courses must be selected from College offerings.

Major/Minor in Same Department
A student may not major and minor in the same department, with the exception of language majors, who may minor in a second language, and majors in computer science or mathematics, who may major in the companion discipline.

Sequential Courses
Sequential courses must be taken in proper sequence. Credit will not be given for a prerequisite course if courses for which it is prerequisite already have been taken.

Temporary Transfers
No course taken by a student in the College as a Temporary Transfer at another institution may count toward a College degree unless approved by the Dean.

CLEP and Advanced Placement
See page (9).

University-Level Courses Taken While in High School
University-level courses taken by entering freshmen while in high school will be evaluated for credit if the following criteria have been met:

The courses are recorded on an official transcript from an accredited institution of higher learning.
The grades are C or better.
The student has completed one semester at Duquesne with a C+ average, or better.

SPECIAL PROGRAMS

PROGRAM IN WORLD LITERATURE

The Departments of Classics, English, and Modern Languages jointly offer a World Literature program, with both major and minor sequences. The program is designed to give the student an awareness of the historical and cultural framework in which Classical, British, American, Continental, Asian and African literatures have evolved, their influence upon each other, and an in-depth study of selected major literary works in these areas.

REQUIREMENTS OF THE PROGRAM

Major
24 credits (6 in the core and the remaining 18 credits distributed equally among Classics, English, and Modern Languages)

Minor
15 credits (6 in the core and the remaining 9 credits distributed equally among Classics, English, and Modern Languages)

Core Course Readings in World Literature I and II (English)

DEPARTMENTAL COURSE OFFERINGS

Classics Any of the current offerings in Classical Literature, either in translation or in the original language, at the 200 level or above

English Any of the current course offerings in Literature at the 300-400 level, as approved by the department chairman.

Modern Languages Any of the current offerings in Modern Languages, either in translation or in the original language, above the 302 level.

PRE-LAW

Students who intend to prepare for a career in law may select any subject area for the undergraduate major. In consultation with the Pre-Law advisor, the
students will be expected to meet degree requirements in the major department, as well as admission requirements of the law school of their choice.

PRE-HEALTH PROFESSIONS
Students who intend to prepare for a career in medicine, dentistry, veterinary medicine, or related fields may major in the subject area of their choice and should select a major as soon as possible. They must meet degree requirements of the major department, as well as admission requirements of the professional school of their choice. The Pre-Health Professions advisor assists the medically-oriented student.

LIBERAL ARTS ENGINEERING
Students who intend to prepare for a career in engineering may enter a 3-2 binary program that Duquesne University maintains with Case Western Reserve University in Cleveland, Ohio, and Florida Institute of Technology. Students are expected to meet the curricular requirements of the College of Liberal Arts and Sciences except for the completion of a major program. Under the guidance of a liaison officer, they will normally complete the program at Duquesne University in three years, then enter an engineering program at Case or Florida Institute of Technology. Upon completion of the program at CWRU or FIT, students will be awarded the B.A. degree from Duquesne University and the B.S. degree from the School of Engineering. For complete details consult with the Liaison Officer for the Binary program in Engineering in the Physics Department.

CERTIFICATE IN BUSINESS
This program enables students to preserve the benefits of a liberal education while also acquiring business skills. The program consists of 4 prerequisite courses (12-14 credits) in the College of Liberal Arts and Sciences and 8 courses (24 credits) in the School of Business and Administration. Specific requirements are as follows:

- Liberal Arts and Sciences:
  - 109 College Algebra (3 cr)
  - or
  - 105 College Algebra and Trigonometry (4 cr)
  - 111 Calculus for Non-science Students (3 cr)
  - 115 Calculus I (4 cr)
  - 221 Principles of Economics I (3 cr)
  - 222 Principles of Economics II (3 cr)

- Business and Administration:
  - 181 Introduction to Computers (3 cr)
  - Substitution of College computer courses may be allowed in consultation with the program advisor.
  - 281-282 Probability and Statistics (6 cr)

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(Student may substitute 301-302 Introduction to Probability and Statistics (Prerequisite: 116 Calculus) 211-212 Introductory Accounting (6 cr))

BUSINESS EMPHASIS — One of the following areas of concentration may be chosen. All courses listed are in the School of Business and Administration.

A General Business Sequence
- Bus 361 Principles of Management 3 cr
- Bus 371 Principles of Marketing 3 cr
- Bus 331 Business Finance 3 cr

B Management Information Systems Sequence
- Business 381 Intro to Decision Sciences 3 cr
- Two advanced management courses 6 cr
- Two advanced marketing courses 6 cr

C Finance Sequence
- Bus 331 Business Finance 3 cr
- Two advanced finance courses 6 cr

D Accounting Sequence
- Bus 371 Principles of Marketing 3 cr
- Two advanced marketing courses 6 cr

E Marketing Sequence
- Bus 351 Intermediate Accounting I 3 cr
- Bus 312 Intermediate Accounting II 3 cr

F Accounting Sequence
- Bus 311 Intermediate Accounting I 3 cr
- One advanced accounting course 3 cr

G Lispsequence
- Prerequisite - Substitute 251 Legal Process for 282 Probability and Statistics II) Plus 9 credits from
  - Bus 353 Contracts 3 cr
  - Bus 354 Commercial Transactions 3 cr
  - Bus 355 Law of Business Organizations 3 cr
  - Bus 356 Legal Aspects of Human Resources Management 3 cr
  - Int'l Bus Law Sequence
  - Bus 341 International Business 3 cr
  - Two advanced international business courses 6 cr

I Appropriate Modern Language "for business at the 300 level" 3 cr

Suggested Additional College Electives
383 Writing for Business and Industry (3 cr)
385 Prof and Tech Writing Workshop (3 cr)
102 Techniques of Oral Communication (3 cr)
401 Cooperative Education Program (3 cr)

The student must complete the business emphasis as it is set up. There are no substitutions.

- The student must achieve a minimum grade of C in each course.
- Students with waivers for prerequisite courses (Introduction to Computers and Economics I and II), especially math and computer science majors, will be permitted to take an additional 9 credits in Business and Administration.

COFFEE OF LIBERAL ARTS AND SCIENCES
Because in most cases it will take three years to complete the certificate, students are strongly urged to register for the program by the end of their freshman year. To register, students should file a completed application form in the College Office. This, along with a copy of the most recent transcript will be sent to the adviser office in the School of Business and Administration. A School of Business advisor will assist the candidate in planning the program.

OTHER CERTIFICATE PROGRAMS
Certificate programs are also available in Computer Science (Department of Mathematics and Computer Science), Corporate Communication and Professional Communication Skills (Department of Communication) and Gerontology (Department of Sociology). Several of these are offered in conjunction with the Center for Continuing Education. Further information may be obtained from the appropriate department or from the Center.

INTER-SCHOOL MINORS
Inter-school minors are available in Education and Medicine. For complete details students should consult the advisor or the Dean of the College. If a student has an inter-school minor, all elective credits must be chosen from the Liberal Arts and Sciences courses.

COOPERATIVE EDUCATION PROGRAM
The Cooperative Education program is a service to students seeking expanded education through work experience and to employers seeking temporary professional staff with the ultimate objective of establishing the best available college educated talent for permanent assignment. Under this plan, students may be employed in business, government, and other institutional settings. The program design provides for short-term work assignments, and it requires the regular rotation of students in each job and competitive referrals for each work period. Employment may be either full- or part-time for one academic term or its equivalent.

It is expected that the cooperative education student will be paid a salary commensurate with the work assigned. The actual job must be professional, well-defined and fully supervised. Sixty (60) or more earned credits and a cumulative grade point average of 2.5 or better are basic requirements for student qualification for the Program. Clearance from academic advisors is required of those studying in departments with other internship options.

When employed, and before starting work, a cooperative student must enroll in the course, "Cooperative Education," which carries a minimum maximum of three to nine credits depending on the number of hours of work.

For further information about the Cooperative Education Program, interested parties should contact the Director, Career Planning and Placement.

BACHELOR OF ARTS—LIBERAL ARTS AND GENERAL SCIENCES
This program is designed for those students who prefer not to choose a formal major or minor offered in a traditional discipline. All requirements other than the major and minor must be completed. Students must select one area of concentration: Humanities, Social Sciences, Natural Sciences. A concentration requires a minimum of 30 credit hours and a maximum of 39 hours. Courses must be chosen from courses 200 and above. Further information is available in the Dean's Office.

BACHELOR-MASTER'S PROGRAM
A student who has completed 90 credits with a 3.5 average may apply for the bachelor/master's program. After successful completion of 120 credits or more, the student will receive the bachelor's degree from the College of Liberal Arts and Sciences. Further information is available from the Graduate School of Liberal Arts and Sciences.

BACHELOR-PROFESSIONAL SCHOOL
A student who has completed 90 credits with a 3.5 overall average and satisfied all undergraduate curricular requirements may apply for the bachelor's degree after the successful completion of the first year of professional work in an accredited medical or law school. Further information is available from the Dean's Office.

SECOND BACHELOR'S DEGREE
A student who has received a bachelor's degree from another school may become eligible for a second bachelor's degree by earning an additional 30 semester hours in residence in the College of Liberal Arts and Sciences and by meeting all departmental and College requirements if not already satisfied. The additional 30 credits must be completed after admission to the University and may not be taken through cross-registration. Further information is available from the Dean's Office.

THREE-YEAR BACHELOR'S DEGREE
For more information contact the Office of Admissions or the Dean's Office.
Course Descriptions

MAJORS
Advising
Biochemistry
Biography
Broadcasting
Classics
Classical Civilization
Communication
Corporate
Communication
Computer Science
Economics
English
French
German
Greek
History
Latin
Mathematics
Media Management/Operation
Media Performance
MINORS
Advertising
American Literature
Biochemistry
Biology — Professional Minor
Biology — Academic Minor
Broadcasting
Chemistry
Classical Civilization
Classical Languages
Latin
Greek
Communication
Corporate
Communication
Computer Science
Criminal Justice
Economics
English Literature
French
German
Gerontology/Human Services
History

Course Descriptions

ART HISTORY
Director Madeline C. Archer, Ph D
Survey and period courses in the history of western art are offered by the Art History program of the History Department to introduce the concepts of art history to those who wish to extend their visual peronter and to understand the role of the visual arts in Western culture. Qualified students may take additional upper division art history courses offered at member colleges of the Pittsburgh Council on Higher Education. In addition to personal enrichment and heightened awareness of man’s will to create visual forms, the study of art history can lead to careers in teaching, publishing, museology, historic preservation, and urban redevelopment.

REQUIREMENTS FOR THE MAJOR
A History major with a concentration in Art History is available. Consult the History Department listing for requirements.

REQUIREMENTS FOR THE MINOR
The minor consists of 15 credits, nine of which must be above the 100-level.

111 History of Art Ancient to Medieval World
3 cr.
A chronologically oriented, detailed presentation of the history of Western art. This survey deals with Near Eastern, Greek, Roman, Early Christian and Medieval art (Can be elected to fulfill the history/literature requirement.)

112 History of Art Renaissance to Modern World
3 cr.
A continuation of 111. Surveys Renaissance, Baroque and Modern art in Western Europe (Can be elected to fulfill the history/literature requirement.)

206 Chemistry of Art
3 cr.
A study of the architecture, sculpture, vase painting, and minor arts of the Greek world from Minoan to Hellenistic times. The student is introduced to the extensive vocabulary of Greek art which has been a continuing formative force in Western art.

207 Roman Art
3 cr.
An introduction to Roman innovations in architecture, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in formulating Christian art. Renaissance Art and Neo-Classicism is analyzed.

208 French Art
3 cr.
A survey which discusses ideas, schools, and styles in the history of French art from the Roman occupation to the present. Highlights are Medieval, Renaissance, Rococo, and Modern art.

210 American Art
3 cr.
An overview of American architecture, painting, sculpture and decorative arts intended to acquaint the student with the major trends and contributions of American art from colonial to modern times.

220 History of Photography
3 cr.
A survey of photographic developments from the early 19th C. to the present. Emphasis is upon the United States and upon the interaction of art and photography.

250 Classical Archaeology
3 cr.
An examination of the contribution made by archaeological investigation to our understanding of Greek and Roman civilization. Lectures and slide presentations explore the major sites and archaeological features of the Greek-Roman world beginning with the rediscovery of the treasures of Mycenae and ending with the expansion of Roman influence into Britain, Asia, and Africa. An introduction to the goals and techniques of archaeological research is included. (Does not meet History or Core requirements.)

312 Late Medieval Art
3 cr.
Western European Art from the 11th to the 14th century. Focus is upon the development of stone vaulting systems, monumental architectural sculpture, stained glass, fresco and panel painting, and illuminated manuscripts in England, France, Italy, and Germany.

321 15th Century Renaissance Art
3 cr.
An investigation of the Renaissance spirit of the 15th century. Concentration is upon comparisons of Northern and Southern attitudes of man, nature, and social structure, and to materials, techniques, pictorial representation, and iconography.

331 Art of the 19th Century
3 cr.
A survey of the visual arts in the 19th century. The visual arts not only reflect the dramatic changes in the areas of form, color, line, texture and light, but also emphasize the changing political, religious, and social values in society.

332 Art of the 20th Century
3 cr.
A chronological study of 20th century painting and sculpture which “looks beyond visual perception” and tries to find the essence and meaning of reality. From cubism to conceptual art, from Picasso to Pollock and Pop, this course offers a thorough exploration of the visual arts of the 20th century.

350, 371, 372, 373, 375, 376, 398 Special Studies in Art History
3 cr.
An occasional course in this series is offered when special interests of students and faculty can be served. Courses offered include The Image of Women in Art, Picasso, Impressionsism, Egyptian Art, Michelangelo, Post Impressionsm, Contemporary Art, and Society

431 Directed Readings
1-3 cr.
Permission of Department

441 American Painting and Sculpture
3 cr.
An examination of the forms created by American painters and sculptors from the early 17th through the late 20th century. A special class interest involves arriving at a clear understanding of America’s concept of reality during these years, particularly in the 20th century. (Offered in alternate years)

COLLEGE OF LIBERAL ARTS AND SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES
Chairperson: 11 Bernard Hartman, Ph.D.
Professors: Frank Baron, Ph. D
Peter Castric, Ph.D.
Howard Ehrlich, Ph.D.
John Kuchta, Ph.D.
John F. Stolze, Ph.D.
John F. Stolze, Ph.D.
Assistant Professor: Kenneth Boyd, Ph. D
Associate Professor: Kenneth Boyd, Ph. D
Assistant Professor: John F. Stolze, Ph.D.
Research Assistant Professor: Olushola Adeyeye, Ph.D.
Adjunct Faculty: Jagdish Bhatnagar, Sc.D.
Spyros D. Komninos, DSc.
John Kuchta, Ph.D.

Biology is the study of mechanisms and principles governing living systems. Based upon chemistry, physics and mathematics, knowledge of biology is an essential element in a liberal education. Through lectures, seminars, laboratories, and participation in research projects, the Department of Biological Sciences at Duquesne University provides not only insight into this vast and exciting area, but intellectual enrichment, as well as preparation for professional careers.

Students majoring in biology develop a course of study suited to their long terms goals. For example, the Health Professions Program advisor in our Department counsels students as they progress through their curriculum and apply for admission to health-related professional schools. Course selections of students wishing to pursue graduate training, or the many and diverse bio-technological research career opportunities in industry, government or universities, are guided by the Microbiology Major and Biology Major advisors.
The Department offers two Majors. Both require a minimum of 31 credits within the department (including General Biology 111, 112) and the following extradepartmental requirements: Calculus II, General Chemistry II, Organic Chemistry II, Physics II. The Microbiology Major also requires Biochemistry 401 and three credits in Computer Science. Credit earned in courses 201, 206, 207, 208, 209, 210, and 220 cannot be credited for either major. Majors must take a minimum of 15 credits in biology at Duquesne University.

### THE BIOLOGY MAJOR

1. **Biology Major** consists of a balanced program of courses selected from the Majors Courses listed below. While this major has an animal biology focus, the selection of courses available permits other specialties within the program. The program also offers undergraduates a variety of research opportunities in different important biological problems. This major requires 203, 332, 334, 405, and 428 in addition to the requirements listed above and completion of 11 credits from the following microbiology electives: 398, 399, 400, 403, 407, 410, 424, 426, and 431.

### REQUIREMENTS FOR THE MINOR

The department offers two minor programs:

1. **Professional Minor** which consists of 111, 112 and a minimum of 12 credits selected from the department's majors or minors. Courses numbered 200 or above are open to non-majors, providing that individual course prerequisites must be met.

2. **Academic Minor** which consists of 111, 112 and a minimum of 12 credits selected from the department's courses numbered 200-395. Courses which are open to either majors or non-majors may be selected. Individual course prerequisites must be met.

### NON-MAJOR COURSES (not for Biology Major credit)

1. **Biology of Microbes** 3 cr

   Examination of microbes as to what they are, how they grow, how they may be controlled, what their relationships to other living things are, and why and how some of them cause disease

2. **Biology of Microbes Laboratory** 1 cr

   Illustrates methods of observation, growth, and identification of microbes as well as methods of control of infections, disinfectants and antibiotics. Prerequisites: Biology 201 (or concurrent registration)

### MAJOR COURSES

Except for 398 and 399, all courses for majors also are open to non-majors, providing that individual course prerequisites/background expectations are satisfied.

1. **General Biology** 4 cr each

   Introduction to the scientific study of life at the molecular, cellular, and organismal level. It involves consideration of relevant structure, function, development, reproduction, inheritance, evolution and ecology. This course provides the basic information and concepts necessary to understanding living systems, their activity and interrelationships. Mathematics 111 is prerequisite to 112. Lecture and laboratory.

2. **Microbiology** 4 cr

   Introduction to microorganisms, their morphology, metabolism, ecology, and cultural characteristics, with emphasis on their interaction with other organisms, including man. Principles of medical and health related aspects of microbiology, chemotherapy, industrial, agricultural, and marine microbiology are presented. Prerequisites: Biology 111, 112 and Organic Chemistry (or concurrent registration).

3. **Genetics** 4 cr

   A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including variations in the life of man. Principles and details, methods and applications are illustrated with examples drawn from a wide range of species, from microorganisms to man. Prerequisites: 107, 108, or 111, 112.

4. **Vertebrate Anatomy** 4 cr

   A comparative study of the gross structure of vertebrates and the relationship of that structure to function and evolution. Prerequisites: 111, 112, or 221.

5. **Vertebrate Microstructure** 4 cr

   A study of tissue and organ structure and the relationship that structure has to function. Prerequisites: 111, 112 and 222 or permission of instructor.

6. **Animal Development** 4 cr

   A comparative study of the morphological and physiological aspects of animal development emphasizing current experimental approaches.

7. **Plant Development** 4 cr

   Examines the unique features of representative types of plants, as revealed by interrelationship of form, function and morphogenesis. Prerequisites Biology 111, 112 and laboratory.

8. **Stress and Adaptation** 3 cr

   A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

9. **Plant Physiology** 2 cr

   Continuation of 207.

10. **Anatomy and Physiology II** 2 cr

    Continuation of 208.

11. **Sex and Sexuality** 3 cr

    Examination of sex and reproduction as universal biological functions and special emphasis on physiological and psychological basis of human sexuality. This course also aims to examine sexual functioning, sexual behavior, and sex therapy.

12. **Stress and Adaptation** 3 cr

    A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

13. **Plant Physiology** 2 cr

    Continuation of 208.

14. **Genetics** 4 cr

    A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including variations in the life of man. Principles and details, methods and applications are illustrated with examples drawn from a wide range of species, from microorganisms to man. Prerequisites: 107, 108, or 111, 112.

15. **Vertebrate Anatomy** 4 cr

    A comparative study of the gross structure of vertebrates and the relationship of that structure to function and evolution. Prerequisites: 111, 112, or 221.

16. **Vertebrate Microstructure** 4 cr

    A study of tissue and organ structure and the relationship that structure has to function. Prerequisites: 111, 112 and 222 or permission of instructor.

17. **Animal Development** 4 cr

    A comparative study of the morphological and physiological aspects of animal development emphasizing current experimental approaches.

18. **Plant Development** 4 cr

    Examines the unique features of representative types of plants, as revealed by interrelationship of form, function and morphogenesis. Prerequisites Biology 111, 112 and laboratory.

19. **Stress and Adaptation** 3 cr

    A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

20. **Plant Physiology** 2 cr

    Continuation of 207.

21. **Anatomy and Physiology II** 2 cr

    Continuation of 208.

22. **Sex and Sexuality** 3 cr

    Examination of sex and reproduction as universal biological functions and special emphasis on physiological and psychological basis of human sexuality. This course also aims to examine sexual functioning, sexual behavior, and sex therapy.

23. **Stress and Adaptation** 3 cr

    A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

24. **Plant Physiology** 2 cr

    Continuation of 208.

25. **Genetics** 4 cr

    A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including variations in the life of man. Principles and details, methods and applications are illustrated with examples drawn from a wide range of species, from microorganisms to man. Prerequisites: 107, 108, or 111, 112.

26. **Vertebrate Anatomy** 4 cr

    A comparative study of the gross structure of vertebrates and the relationship of that structure to function and evolution. Prerequisites: 111, 112, or 221.

27. **Vertebrate Microstructure** 4 cr

    A study of tissue and organ structure and the relationship that structure has to function. Prerequisites: 111, 112 and 222 or permission of instructor.

28. **Animal Development** 4 cr

    A comparative study of the morphological and physiological aspects of animal development emphasizing current experimental approaches.

29. **Plant Development** 4 cr

    Examines the unique features of representative types of plants, as revealed by interrelationship of form, function and morphogenesis. Prerequisites Biology 111, 112 and laboratory.

30. **Stress and Adaptation** 3 cr

    A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

31. **Plant Physiology** 2 cr

    Continuation of 207.

32. **Anatomy and Physiology II** 2 cr

    Continuation of 208.

33. **Sex and Sexuality** 3 cr

    Examination of sex and reproduction as universal biological functions and special emphasis on physiological and psychological basis of human sexuality. This course also aims to examine sexual functioning, sexual behavior, and sex therapy.

34. **Stress and Adaptation** 3 cr

    A study of the biological effects of acute and chronic stress upon the full of varying organs, and the neuro and hormonal regulations associated with the adaptation of stress.

35. **Plant Physiology** 2 cr

    Continuation of 208.
407 Recombinant DNA Techniques 3 cr
Molecular cloning using Lambda phage, plasmids, and cosmid will be examined, as well as subcloning using plasmids. Restriction site analysis and transposon mutagenesis of cloned DNA will be done. The student will carry out nucleic acid hybridization analysis using Southern and Northern blots. Nucleotide sequencing of cloned DNA using the Dideoxy method will be done followed by sequence analysis. Prerequisite: Biology 400/500 or permission of the instructor. Lecture and laboratory.

410 Cell Physiology 3 cr
A study of cells with regard to means of obtaining energy, including respiration, fermentation, and photosynthesis, done by the cell including biosynthesis, active transport, and cell movement, cell growth and differentiation, relationships of cell structure to these processes. Prerequisite: Permission of the department. Not open to students with previous similar course. Lecture and laboratory.

424 Immunology 3 cr
A course in the fundamentals of the rapidly expanding field of immunology with reference to applications in basic research, medicine, and public health. Topics covered include the mechanisms of induction and expression of the cellular and humoral responses, tolerance, immunoglobulins, antigen-antibody reaction, cell communication, immunogenetics, hypersensitivity, and immunologic disease. Laboratory exercises are designed to familiarize the student with a variety of basic immunologic techniques. Lecture and laboratory.

426 Pathogenic Microbiology 3 cr
Study of the infectious agents of human disease with emphasis on host-parasite relationships, unique aspects of bacterial activities and organization, metabolism, regulation and genetics which contribute to pathogenicity, including identification of bacteria and principles of prevention, treatment, and laboratory diagnosis. Prerequisite: A course in microbiology or permission of the instructor. Lecture and laboratory.

427 Microbial Ecology 3 cr
In this course the interaction of the microbe, primarily bacteria and blue-green algae, with each other, higher organisms and their abiotic environments at the molecular level will be explored. Topics such as photosynthesis, nutrient cycling, energy metabolism, and the role of microorganisms will be examined. Prerequisites: Organismal Biology and a course in microbiology or permission of the instructor. Lecture and laboratory.

428 Microbial Physiology 3 cr
A course examining microbial energy metabolism including photosynthesis (aerobic and anaerobic respiration, fermentation), chemolithotrophy, and phototrophy. Selected topics of microbial biosynthesis, including cell envelope biosynthesis and structure, will be covered. Regulation of energy metabolism and biosynthesis at the levels of gene expression and enzyme activity will be a major topic in this course. Prerequisites: Organic Chemistry and a course in microbiology or permission of the instructor. Lecture.

431 Biology of Fungi 3 cr
Comparative structure, development and ultrastructural cyto genetics of fungi, including plant host-parasite interactions resulting in disease. Lecture and laboratory.

450 Comparative Vertebrate Physiology 3 cr
Different phylogenetic groups of vertebrates living in diverse environments have evolved a wide variety of physiological and biochemical mechanisms to satisfy their similar basic biological needs. This course focuses on the diversity of physiological mechanisms which different animals employ, and the physiological and biochemical adaptation and specialization found in animals with exceptional abilities. Prerequisite: A course in animal physiology. Lecture.

451 Comparative Vertebrate Physiology Laboratory 1 cr
Prerequisite: A previous animal physiology or neurophysiology course (or concurrent registration), or permission of the instructor.

455 Mammalian Physiology 3 cr
This course is intended to provide the student with an in-depth understanding of respiratory, cardiovascular, renal, and muscle physiology. After covering the normal function of each system, consideration is given to the response to severe stress and disease. Neurophysiology is covered to the extent that is required for an understanding of the control of the above systems. Prerequisite: A course in animal physiology. Lecture.

456 Mammalian Physiology Laboratory 1 cr
Prerequisite: A previous animal physiology or neurophysiology course (or concurrent registration), or permission of the instructor.

460 General Endocrinology 3 cr
A survey of the endocrine system and neuroendocrine integration with particular reference to vertebrates. Lecture and laboratory.

464 Regulatory Physiology 3 cr
A treatment of physiological and environmental regulatory mechanisms with emphasis on neuroendocrine integration and adaptation. Prerequisite: Permission of the department. Not open to students with previous similar course. Lecture and laboratory.

468 Reproductive Physiology 3 cr
A comparative study of reproductive processes in laboratory animals, domestic species, and man.

472 Neurophysiology 3 cr
Study of the cellular and molecular properties of neurons including excitation, conduction, transmission, integration, sensory mechanisms, and neural processing using vertebrate and invertebrate examples. Prerequisite: A course in animal physiology. Lecture.

473 Neurophysiology Laboratory Techniques 2 cr
An introductory laboratory course with emphasis on techniques employed to gather data from invertebrate and vertebrate sensory cells, interneurons, motor neurons, and muscle fibers. Students will learn intra- and extracellular recording methodology, neuron culture, and histochemical methods. Data acquisition is MacLab hardware and Apple Macintosh computer-based. Completion of or concurrent registration in Biology 472 is required.

490 Experimental Embryology 3 cr
Studies on the mechanisms and dynamics of animal growth, differentiation, and development. Prerequisite: A course in embryology or permission of the instructor. Lecture and laboratory.

496 Ecology 3 cr
The goal is to provide an overall grasp of the principles and procedures underlying ecological thought. Interrelationships of living things with each other as well as the nonliving components emphasize the need for interdisciplinary studies and quantitative data. Applicability to current human problems is discussed, such as waste disposal, pollution, food, fuel, agriculture, and urbanization. Prerequisite: Permission of the instructor. Lecture and laboratory.

498 Urban Ecology 3 cr
To provide integrated information about population, food, resources, pollution and the impact of technology. The course will be used as applicable to specific industrial metropolitan areas. Analysis of ecosystems with respect to matter and energy flows will be described. Prerequisite: A course in ecology or permission of instructor. Lecture.

DEPARTMENT OF CHEMISTRY

Chairman: Andrew J. Glad, Ph.D.
Professors: Andrew J. Glad, Ph.D., Jack Haussler, Ph.D., Omar Steward, Ph.D.
Associate Professors: David Seybert, Ph.D., Paul Stein, Ph.D.
Assistant Professors: Bruce Beaver, Ph.D., Frank R. Gorga, Ph.D., Richard Norman, Ph.D.

COLLEGE OF LIBERAL ARTS AND SCIENCES

Professors Emeriti: Oscar Gavron, Ph.D., Norma L, Ph.D., Kurt Schreiber, Ph.D.
Adjunct Professor: Heinz Machatzke, Ph.D.
Ted J. Wissmann, Ph.D.

The Chemistry program is designed to provide the student with a fundamental background in chemistry and an understanding of the relationship of chemistry to the other sciences and disciplines. Elective courses and the opportunity to do undergraduate research allow the chemistry major to develop interests in a specialized area of chemistry, such as analytical, inorganic, organic, physical chemistry, and biochemistry.

Because of the fundamental nature of chemistry as a science, numerous opportunities for advanced study, as well as employment, are open to chemistry and biochemistry majors. A large percentage of students elect to continue their study in graduate programs in chemistry and related fields. Chemists and biochemists provide a core of personnel at a wide spectrum of research, technical, sales, library, management positions in the chemical and related industries, the space industry, education, the environmental sciences and the healthcare industry. A degree in chemistry or biochemistry is the major in biochemistry.

The focus of the program is on providing advanced courses in biochemistry and electives in biology.

REQUIREMENTS FOR THE CHEMISTRY AND BIOCHEMISTRY MAJORS

Thirty-two semester hours are required. All students must take 121, 122, 221, 222, 321, 323, and 421. Mathematics I, II, and III; Physics 201, 202 or 211, 212, Biology I, II, III, 112, proficiency in German, Russian or French at the 202 or 212 level is required.

If a student takes 111, 112 and 121, 122 chemistry courses, the credits for the 111, 112 will not apply to the total required for the degree.

Chemistry Major: All students must take 321, 322, 422 and Mathematics 215.

Biochemistry Major: All students must take 401, 524. In addition, Chemistry 526 may be taken as an elective. Students planning to enter a graduate chemistry program should take 322, 324.

Students who intend to work in industry after graduation are strongly advised to take 548 Industrial Organic Chemistry.

To meet the American Chemical Society's requirements for Professional Certification, the Chemistry Major must elect two additional courses from the following: 401, 523, 524, 537, 538, 545, 546, 547, 548, 572, Mathematics 216 or 308, Biology 505, Pharmacy Sciences 539 and Physics 206, one of these must be
REQUIREMENTS FOR THE MINORS

A minor in Chemistry consists of 12 credit hours beyond 121, 122. A minor in Biochemistry consists of 12 credits beyond 121, 122. Normally 325, 326 or 221, 222 along with 401, will constitute the Biochemistry minor.

111, 112 Principles of Chemistry 4 cr each

The course is divided into three segments, general, organic, and biochemistry. The section devoted to general chemistry the laws of chemical behavior are developed with particular reference to the simple molecules of inanimate nature. The organic section deals primarily with the structural features of organic compounds, the chemistry of functional groups and the practical applications of organic compounds in the synthesis of polymers, of carbohydrates, lipids, proteins, nucleic acids, vitamins, etc. Biochemistry is treated in terms of the digestion and metabolism of nutrients, the functions of enzymes in the metabolic process and the abnormal metabolic conditions that prevail in disease. Lecture, three hours, Recitation, one hour, Laboratory, two hours.

121, 122 General Chemistry

The fundamental principles and concepts of chemistry are presented from the standpoint of atomic and molecular structure with illustrative examples from descriptive chemistry. The basic concepts of thermodynamics, chemical kinetics, and equilibria are introduced. The laboratory portion of the first semester illustrates physical and chemical properties in a quantitative manner, and the laboratory portion of the second semester illustrates the principle of ionic equilibria including qualitative inorganic analysis.

121 Lecture, three hours, Recitation, one hour, Laboratory, three hours 4 cr

122 Lecture, three hours, Recitation, one hour, Laboratory, six hours 5 cr

205, 206, 221, 222 Organic Chemistry 4 cr each

The theoretical background is developed from the standpoint of the electronic structure of molecules and the accompanying energy considerations. The preparation and the chemical and physical (including spectral) properties of representative organic compounds are discussed in detail. Prerequisites 121, 122. For 205, 206, Lecture, three hours, Recitation, one hour, Laboratory, four hours, and for 221, 222, Lecture, three hours, Recitation, one hour, Laboratory, eight hours.

321, 322 Physical Chemistry 3 cr each

A study of the structure and properties of the various states of matter, thermodynamics, thermodynamics, kinetics and an introduction to chemical physics. Prerequisites: Physics 202 or 212, Chemistry 122, Mathematics 116. Lecture, four hours.

323, 324 Physical Chemistry Laboratory 1 cr each

Laboratory portion of Chemistry 321, 322, four hours.

401 Biochemistry 4 cr

An introduction to modern biochemistry at the molecular level. The course includes discussion of the structure and function of proteins, the mechanisms and regulation of enzyme catalysis, macromolecular structure and function, the structure and metabolism of carbohydrates, and the bioenergetics of ATP synthesis and utilization. Prerequisite: Chemistry 206 or 222. Lecture, three hours, Laboratory, four hours.

421 Analytical Chemistry 4 cr

Theoretical and practical training in modern methods in chemical analysis with emphasis on instrumental methods. Prerequisite: Chemistry 322. Lecture, three hours, Laboratory, eight hours.

422 Inorganic Chemistry 4 cr

A survey of the basic principles required for understanding inorganic chemistry including atomic and molecular structure, crystal structure, nonaqueous solvents and coordination compounds. Prerequisite: Chemistry 322. Lecture, three hours, Laboratory, four hours.

490 Undergraduate Research Maximum 2 cr

Selected students work on a research problem under the direction of a staff member.

524 Biochemistry II 3 cr

This course is a continuation of CHEM 401. The course presents an overview of the metabolic transformations of fatty acids and the complex lipids, amino acids and the purines and pyrimidine nucleotides. The second half of the course offers a discussion of the molecular basis of genetics, including DNA and RNA metabolism, protein biosynthesis, and an introduction to the biochemical basis of recombinant DNA methodology. Prerequisite: Chemistry 401.

ORIGINAL LANGUAGE COURSES

101, 102 Elementary Classical Latin 4 cr each

Study of the fundamentals of Latin grammar and syntax combined with occasional exercises in translation from Roman authors.

404 Intermediate Classical Greek 3 or 4 cr

Study of ancient Greek literature and syntax combined with occasional exercises in translation from Greek authors.

405 Elementary Classical 6 cr each

Study of the fundamentals of Greek grammar and syntax combined with frequent exercises on translation from Greek authors.

406 Intermediate Classical Greek 3 or 4 cr

Study of ancient Greek literature and syntax combined with occasional exercises in translation from Greek authors.

DEPARTMENT OF CLASSICS

Classperson

Chapman, Lawrence E.

Gaichas, Ph D.

Professors

Clack, Jerry

Henderson, Stephen T.

Assistant Professor

Kelly, G. Kelly

Lecturers

Hoover, M A.

MARSHALL, M A.

The study of Classics is a unique discipline. It is not the study of a language or literature alone. It is rather the investigation of one of the world's inspired civilizations, the Graeco-Roman world. As such, it offers the student insight into the breadth of human existence set in a perspective distant enough from one's own to expand significantly the understanding and appreciation of humanity's aspirations, failures, and occasional triumphs.

DEPARTMENT OF LIBERAL ARTS AND SCIENCES

COLLEGE OF ICONIC ARTS AND SCIENCES

101, 102 Elementary Classical Latin 4 cr each

Study of the fundamentals of Latin grammar and syntax combined with occasional exercises in translation from Latin authors.
307 Imperial Literature 3 cr Seneca, Lucan, Petronius, Martial, Plutarch, Tacitus, Juvenal, Pliny the Younger, Suetonius, Apuleius, and Lucan

308 Post Classical Literature 3 cr Post classical, medieval, renaissance and neo-Latin authors

309 Studies in Genre 3 cr Selected genre of Greek and/or Latin literature

400 Independent Readings and Research Var cr

CLASSES COURSES IN ENGLISH (NO GREEK OR LATIN REQUIRED)

121 General Etymology 3 cr A study of Greek and Latin roots to facilitate the comprehension of modern English as it is written by our acknowledged modern masters

122 Etymology of Scientific Terms 3 cr Introduction to Greek and Latin elements of scientific terminology

123 Classical Mythology 3 cr A presentation of the major myths of Greece and Rome with special attention to contemporary interpretations of myth and the influence of myth on art and literature

206 Greek Art 3 cr A study of the architecture, sculpture, vase painting, and minor arts of the Greek world from Minos to Hellenistic times. The student is introduced to the extensive vocabulary of Greek art which has been a continuing formative force in Western art.

207 Roman Art 3 cr An introduction to Roman innovations in architecture, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in formulating Christian Art, Renaissance Art and Neo-Classicism is analyzed

219 Computer Use in the Humanities 3 cr A survey of non-scientific applications of computers in the humanities

230 Ancient Theatre 3 cr An examination of the origins and development of ancient tragedy and comedy. Readings from the works of Aeschylus, Sophocles, Euripides, Anosthenes Menander, Plautus, Terence, and Seneca

231 Ancient Epic 3 cr A study of ancient epic literature with particular attention to the techniques of oral and literary composition. Readings from the works of Homer, Apollonius of Rhodes, Vergil, and Lucan

232 Ancient Novel and Romance 3 cr Survey of Greek and Roman prose fiction with special emphasis on the nature and development on narrative techniques. Readings from Homer, Herodotus, Xenophon, Apollonius of Rhodes, the Greek Romances, Lucan, Petronius, and Apuleius

233 Ancient Sature 3 cr Investigation of the satirical element in classical literature with special reference to the writings of Lucian, Lucilius, Horace, Persius, Martial, and Juvenal

242 Ancient Law 3 cr An historical survey, including the contributions of the Babylonians and the Greeks and of the Romans to the development of law between c. 500 B.C. and A.D. 100

244 History of Ancient Medicine 3 cr Examination of the most significant medical theories and practices in the period from the Egyptian temple physicians to the doctors of the Roman Empire. Special attention will be given to Hippocrates and Galen

245 Greek History 3 cr An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon

246 Hellenistic History 3 cr A survey of Mediterranean history from the death of Alexander until the accession of Octavian and the establishment of the Roman Principate

247 History of the Roman Principate 3 cr Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus

248 History of the Late Roman Empire 3 cr Examination of Roman history from the accession of Severus to the death of Justinian

249 Egyptian Civilization 3 cr A survey of Egyptian history and culture from the pre-dynastic period to the establishment of Roman rule in Egypt. Special attention will be given to the attics, literary, and religious achievements of Egypt

250 Classical Archaeology 3 cr A study of the archaeological discovery of classical civilization from the Bronze Age through the Roman Empire. Introduces the student to the techniques of archaeological investigation. (Does not count for History)

260 The Classical Tradition in America 3 cr A study of the influences of Graeco-Roman civilization on American cultural life

261 Contemporary Literature and Classics 3 cr An investigation of the influence of ancient myth on 20th century French, German, Italian, English and American literature

300 Seminar 3 cr Topics variable

DEPARTMENT OF COMMUNICATION

Chairperson
Nancy L. Harper, Ph.D

Professors
Nancy L. Harper, Ph.D

Associate Professors
Robert Bellamy, Ph.D

D Clark Edwards, Ph.D

Margaret J. Patterson, M.A

Eva Robotti, M.A

Richard Thames, Ph.D

Frank Thornton, M.F.A

Paul J. Traub, Ph.D

Assistant Professors
Jason Berger, Ph.D

James J. Johnston, M.A

H Allen White, Ph.D

Sheryl L. Williams, M.A

Lecturers
Edward Barr, M.Ed

Jane Beckwith, M.F.A

Donald Burke, M.A

Sondra Chester, M.A

Lloyd Cordey, Ph.D

Ronald Cruikshank, Ph.D

John Erwin, M.F.A

Kenneth Goodman, Ph.D

John Hackett, B.A

Daniel Sarmasko, M.A

Rick Thurman, B.A

Robert Toothman, M.B.A

Victor Vrabl, B.A

Patrick Wood, M.A

Professors Emeriti
Paul Krakowsky, M.A

Cornelius S. McCarthy, Ed.M

UNDERGRADUATE DEGREES AVAILABLE

Advertising, Broadcast Journalism, Communication, Corporate Communication (also available in the University's evening program), Media Performance, Media Production, Media Management/Operations, Organizational Communication, Print Journalism, and Public Relations

*(Includes "Academic Preparation" for graduate study in Communication or a "Preprofessional" program such as pre-law or "Other," a specially tailored program such as health communication)

DEFINITION OF THE DISCIPLINE

Communication is an ancient discipline. The traditional focus has been on the study of how people come to know, to believe, and to act. Talking and writing, as a way of knowing, as a way of establishing and clarifying belief, and as a way of acting upon the environment in order to bring about change or to reinforce stability, in other words, language-use ("pragmatics"), has been the unit of study. The discipline traces its roots to Socrates through his students, Plato, and Plato's student, Aristotle Aristotle's Rhetoric, written in the 4th century B.C., established the rationale for the study of communication.

To a certain extent all people attempt to discuss statements and to maintain them. Ordinary people do this either at random or through practice and education. Both ways being possible, the subject can plainly be handled systematically, for it is possible to inquire the reason why some succeed through practice and others spontaneously, and every one will at once agree that such an inquiry is the function of a science (or "art") (1345a:3:11)

Twentieth-century study of communication continues to pursue the generic questions set forth in ancient Greek scholarship. The modes of communication have increased in number and contemporary communication studies attend to these modes, e.g., oral communication which occurs in interpersonal situations where a few converse and mass communication situations where a single speaker faces a large audience or where speakers' messages are transmitted through television, film, etc. Written communication, likewise an object of study, occurs in interpersonal situations, through a friendly letter, and in mass situations, through newspapers, magazines, etc.

In addition, the number and kinds of careers pursued by professional communicators and studied in departments of communication has expanded from politics and law to areas such as television production and performance, organizational development, corporate media, and of course advertising, public relations, news reporting and writing

DEPARTMENT OBJECTIVES

One objective of the Communication Department, like all the liberal arts and sciences, is to enhance students' personal and social lives by contributing to their liberal education. The Department does so by approaching the generic questions — How do we come to know? to believe? and to act? — through study of communication as it occurs within a variety of media and situations. The Department also works to help students prepare for careers as professional communicators

REQUIREMENTS FOR THE MAJOR

A minimum of 30 credits in communication is required. (To encourage a broad liberal education, the maximum allowable credits in the department are 45.) Students design, in consultation with their advisors, a Plan of Study that is coherent and balanced (The Plan of Study form is available from faculty advisors)
“Coherence” is provided by following the requirements of one of the degree programs listed below or creating a personalized major tailored to the students’ interests, abilities, and post-graduate or career aspirations.

“Balance” is achieved by taking a range of courses representing different perspectives, levels, and types. In order to facilitate this goal, the courses in the department have been organized into four basic groups—Theory/Media, Theory/Nonmedia, Applied/Media, and Applied/Nonmedia. Students are required to take at least one course from each of these four areas. Courses are also categorized as either “Advanced” (number 300 - 499) or “Introductory” (numbered 100 - 299). Students must take at least two introductory and two advanced courses. Course titles may be double counted, e.g., a single course may count both as Theory/Media and as advanced.

In addition to the above requirements, students are normally expected to take at least two introductory courses—101 Process of Communication and 171 Dynamics of Mass Communication. Exceptions based on prior learning or experience may be granted by the Department Chair. A third introductory course, 111 Introduction to Media Arts, is required for the Theory/Nonmedia, in broadcasting, advertising, and public relations. Students are also encouraged to take at least one of the senior seminars and an internship.

SPECIFIC REQUIREMENTS BY DEGREE

REQUIREMENTS BY DEGREE

Advertising 111, 271, 333, 433, 436, 475
Broadcast Journalism 111, 271, 367, 467, 476, 494
Communication—Academic Preparation 457, 475, 478, 494

For “Preprofessional” and “Other” see advisor
Corporate Communication 281 or 432, 434, 304, 306, 333, 456, 475
Media Management/Operations 111, 368, 369, 370, 475
Media Performance 111, 251, 271, 351, 355
Media Production 111, 145 and 146 or 182 and 282 or 240 and 340, 215, 245
Organizational Communication 454, 455, 456, 475
Print Journalism 271, 371, 375, 476, 494
Public Relations 111, 271, 333, 430, 436, 475

REQUIREMENTS FOR THE MINOR

A minimum of 18 credits, including at least one course from each of the four course groupings (see MAJOR above), and at least one introductory and one advanced course. A minor in a particular degree program (e.g., advertising) must include three of the four or five required courses in that major.

101 Process of Communication 3 cr

Examinations of human beings communicate beliefs. As an introduction to communication and persuasion, the course asks three basic questions: How do we come to believe what we do? How do we maintain our beliefs? How can we be persuaded to change them? Answers vary depending upon the perspective taken. The course will investigate the psychological, the physiologial, the sociological, the rational, and the religious perspectives for their insights into interpersonal and organizational persuasion, brainwashing, hypnosis, advertising, propaganda, mass movements, revolutions, and cults. Lecture supplemented by films and text. Required for all communication majors.

102 Public Speaking 3 cr

Develops those communicative skills necessary to critically analyze verbal discourse and to perform effectively in public speaking situations which confront the educated person. Students begin with a non-graded presentation and proceed to develop and present informative and persuasive speeches/presentations. Individual coaching sessions for the purpose of developing good presentation strategies are required during class time.

103 Workshop Relational & Interpersonal Communication 3 cr

Develops verbal communication skills and abilities in face-to-face relationships. The emphasis is on establishing (1) a positive attitude toward yourself, (2) a positive attitude toward others and (3) a positive attitude towards communication situations.

111 Introduction to Media Arts 3 cr

Familiarizes students with equipment applications and technology and provides basic hands-on experience in media production (audio, photography, video). Theory and applications of porta-pak video, studio video, radio-audio, and photography are explored. Course prerequisite for all upper level media production courses. Required for communication majors in all media-related areas of concentration, in broadcasting and in public relations and advertising.

120 Acquisition of Communicative Behavior 3 cr

Focuses on the acquisition of verbal and nonverbal communication from infancy through childhood with emphasis on the comparative analysis of theories of communication development. Examines physical, neurological, psychological, and social bases of "language." Discusses socio-linguistic differences with reference to racial and regional variations.

122 Phonetics 3 cr

Approximates the English language through the study and production of speech sounds as systematized by the International Phonetic Association. The two vital questions, "What is good speech?" and "How may one acquire it?" are addressed in this course.

145 Audio Production I (same as Music 145) 3 cr

Investigates the types of recording equipment, microphones, and sound systems needed for production plus the skills of recording, mixing, and editing.

146 Audio Production II (same as Music 146) 3 cr

Investigates advanced aspects of audio production techniques. Trains student in professional multi-track studio. Prerequisite: 145.

151 Voice and Diction 3 cr

Trains students in the voice and diction skills required of professionals in the media and elsewhere. Some phonemes Breath control Control VolumeContour Pitch control Vocal stress—melody—expressiveness.

171 Dynamics of Mass Communication 3 cr

Provides an introduction to the history, economics, politics, religion, and social impact of the mass media. Emphasis is on the understanding of media and the masses as the keynote of public decision-making.

182 Basic Photography 3 cr

Introduces students to the use of photography as a medium of communication. Teaches the fundamentals of camera work, light, filters, film development, and printing. Students must supply their own 35 mm adjustable camera, film and printing paper. Lecture/Laboratory Required Prerequisite “B” grade or better in 111 Intro to Media Arts, or permission of course supervisor.

201 Introduction to Group & Organizational Communication 3 cr

Develops verbal and nonverbal skills and abilities in group and organizational relationships. The emphasis is on leadership and membership in problem-solving and decision-making groups and organizations through social and task behaviors.

207 Journalistic Writing 3 cr

Teaches the fundamentals of news reporting and writing for the print and broadcast media. The course will include instruction in objective news coverage and feature writing, interviewing and research techniques, beat coverage, and story organization. Open to Continuing Education Certificate students only, does not count toward the 30 credits required for a major in communication.

208 Workshop: Nonverbal Communication 3 cr

Develops nonverbal communication skills and abilities in human relationships. The emphasis is on learning "another language" in order to become a more effective communicator by establishing a positive relationship between our verbal language and nonverbal language.

210 Media and Society 3 cr

Studies the profound practical implications of personal and social relationships. Topics will include soap operas, situation comedies, crime-dramas, sports, children's programming, game shows, religious television, etc.

215 Media Design and Scriptwriting 3 cr

Introduces the theory, process, and techniques of designing and writing for corporate media, employee communication, training, and marketing promotion. Planning for and writing corporate video scripts—skills transferable to the development of other media forms.

240 Video Production Studio 3 cr

Introduces fundamentals of "live" television studio production techniques, combining basic technical and aesthetic considerations. Student group and individual productions. Required Prerequisite "B" grade or better in 111 Intro to Media Arts, or permission of course supervisor.

251 News Analysis 3 cr

Investigates current issues and the world's trouble spots. The student learns to identify salient facts and to be able to present them in a clear, concise manner. Topics will include soap operas, situation comedies, crime-dramas, sports, children's programming, game shows, religious television, etc.

282 Color Photography 3 cr

Investigates 35 mm slide photography and its application to audio-visual production. Each student will learn to develop and produce current color slides as well as produce a slide show from initial proposal to final script. Each student will also be given an introduction to color printing. Prerequisites 111 and 182.

285 Television Criticism 3 cr

This is a genre criticism course from both journalistic and academic perspectives. Genre, socio-cultural, and close-textual approaches will be used. Genre will include soap operas, situation comedies, crime-dramas, sports, children's programming, game shows, religious television, etc.

304 Persuasion 3 cr

Aesthetics of persuasion: the profound implications of persuasion as the keynote of public decision-making and as one of the most important choices in both public and private life. Includes practice in persuasive writing and speaking. Emphasis recommended for students of advertising, marketing, public law, and public relations.

305 Evidence 3 cr

Designed for students of exposition, discussion, persuasion, and argumentation. Students must support assertions with evidence and defend judgments with probable cause in the many aspects of public
56 DEPARTMENT OF COMMUNICATION

306 Business and Professional Communication 3 cr
Focuses on one-to-one (e.g., interviews), group (e.g., problem-solving, planning), and individual (e.g., formal communication proposals) communication in business, government, industrial, and not-for-profit or service organizations. Students give individual presentations, compose a resume, interview professionals, and report to the class a variety of formats. Memo writing is used to communicate student peer and self-evaluations on all assignments. Prerequisite: junior standing.

333 Advertising and PR Campaigns 3 cr
Uses case study method to develop an understanding of the principles and practices of contemporary advertising and public relations. Provides an overview of the similarities and differences of the advertising and public relations functions in agencies, businesses, and not-for-profit organizations. Successful and unsuccessful advertising and PR campaigns are illustrated through analysis of case studies. Prerequisite: junior standing.

340 Video Production EFP 3 cr
Introduces electronic news gathering and electronic fields production as remote location video production techniques. Includes focus on documentary production. Covers pre-production planning and design, on-location production, and post-production editing into final form. Out-of-class production time required. Prerequisites: 215 and 241, or permission of instructor.

351 Radio and Television Announcing 3 cr
Introduces electronic news gathering and electronic fields production as remote location video production techniques. Includes focus on documentary production. Covers pre-production planning and design, on-location production, and post-production editing into final form. Out-of-class production time required. Prerequisites: 215 and 241, or permission of instructor.

357 Editing for Print 3 cr
Teaches editing and presenting the written word for the print media in a lecture-laboratory style. Style, headlines, and layout covered. Computer laboratory experience required. Prerequisite: 271 or department approval.

363 Advanced Black and White Photography 3 cr
The course is an investigation of advanced black and white photography techniques. Included will be a refinement of dark room skills with an introduction to high contrast materials and studio lighting techniques. Prerequisite: 367 or 315.

402 Argumentation and Debate 3 cr
Applies the principles and methods of critical deliberation to a significant contemporary social issue. Emphasizes advocating defending and refuting a position of policy, evidence principles and argumentation principles, the student will develop the ability to write and produce effective on-air and external communications for a broadcast cause. There will be an examination of standard promotion practices, unique strategies, and the roles and regulations restricting gimmicks, lotteries, and cooperate attendant to promotional campaigns. The student will prepare an entire campaign after assessment of an assigned station's image and goals. The student will utilize print and/or broadcast, radio and television spots in conjunction with print and public relations devices to persuade/educate the viewer/listener as to the attractiveness of the product. Prerequisite: 368 or permission of instructor.

433 Advertising Practices 3 cr
Examines research on differences in male and female communication in a variety of contexts, ranging from personal to social to work relationships. Special emphasis is given to formal and informal relationships in complex organizations.

458/558 Theory and Practice of Group Communication 3 cr
Studies communication processes in small group situations. Topics include group formation, structure, decision-making, norms and roles, status structures, group-think, interaction models, conflict, bargaining and negotiation, and research methods. Prerequisites: 368, 215, and 241 or permission of instructor.

459/559 Mass Communication and Everyday Life 3 cr
Course examines theories and research in the field of mass media (notably television) and society. Focuses on communication theory and mass media, prosocial television, cultivation theory and mass media, propaganda theories, agenda setting, functions and effects of pornography, media depictions of women and minorities.

471/571 Sex Roles and Communication 3 cr
Examines research on the impact of socialization and family influences on the development of sex role attitudes and behaviors. Emphasizes the development of critical awareness and understanding of one's own sex role attitudes and behaviors as a foundation for effective communication with others. Prerequisites: 215 and 241 or permission of instructor.

491 Interactive Video 3 cr
Investigates interactive video as a medium that goes beyond linear media. Examines its applicability in industrial and educational environments. Both computer authoring systems and authoring language are used. Prerequisites: 215 and 241.

494/594 Theory and Practice of Interpersonal Communication 3 cr
Studies communication between individuals in the context of relationships such as friendship, marriage, work, etc. Topics include phases of relationship development, disclosure, symmetry and asymmetry in relationships, etc.

495/595 Theory and Practice of Group Communication 3 cr
Studies communication processes in small group situations. Topics include group formation, structure, decision-making, norms and roles, status structures, group-think, interaction models, conflict, bargaining and negotiation, and research methods. Prerequisites: 368, 215, and 241 or permission of instructor.

547 Communication, Science, and Revolution 3 cr
Examines how beliefs built upon assumptions common to science and revolution influenced the "modern" world's understanding of communication. Develops a more complete and philosophically rigorous version of the rhetorical perspective introduced in "Process of Communication" by applying that particular perspective to contemporary systems of belief. Covers the rhetorical-communication theories of the Sophists, Plato, Aristotle, Weaver, Burke, Grassi, and others.

557 Communication, Science, and Imagination 3 cr
Examines how the triumph of beliefs dominated by "imagination" over beliefs dominated by "science" has changed our understanding of communication. Rhetorically analyzes science-fiction/fantasy (the literature combining science and imagination) for its insights and its assumptions about reality which characterize the "modern" and the "post-modern" worldviews. Covers the
DEPARTMENT OF COMMUNICATION

rhetorical-communication theories of the Sophists, Plato, Aristotle, Bacon, Ramus, Burke, Perelman, and Hudson.

467 Advanced Writing for Radio and Television
3 cr
Teaches writing for radio and television in a lecture-laboratory course. Covers scripting for special types of programs, such as documentaries, editorials, and panel shows. Public Service Announcements, traffic continuity, commercials, and promotion-publicity are the main core of the course. Prerequisite 211, 271, and 367.

471 Advanced Public Affairs Reporting
3 cr
Teaches interpretive reporting of urban affairs in a lecture-laboratory course. Analyzes major political, economic and social developments that have local news interest and significance. Includes guest and field trips. Prerequisites 271, 371 or permission.

472 Writing Editors, Critiques, and Reviews
3 cr
Studies the basic principles of reviewing art forms (literature, movies, theatre, etc.) and writing thoughtful, informative editorials on local, national and world affairs. This course is designed for the print or electronic communicator who wishes to develop a specialization, but it is intended for generalists as well. Prerequisite 271.

473/573 Feature Writing
3 cr
Teaches feature writing for the general and specialized print publication in a lecture-workshop course. Includes writing for internal and external publications, as well as query writing and feature writing for the news reporter. Prerequisite 271 or graduate standing.

474 International Mass Communication
3 cr
Studies world news systems and analyzes their roles as instruments of world understanding. Compares U.S. foreign systems, including newspapers, broadcasting, magazines, and wire services.

475/575 Communication Research Methods
3 cr
This course provides training in audience and market research and corresponding methods. Topics include qualitative and quantitative research approaches, including focus-group interviews, sampling, survey design and statistics. Hands-on computer applications for statistical analyses are included. Students will conduct a survey complete with data entry and analysis.

476 Communication Law
3 cr
Examines the legal rights, privileges, ethics, and responsibilities of the mass media — electronic and print. Covered topics include the historical foundations of media law, First Amendment, transportation/communications “tradeoff,” distinctions between law, regulation, and policy, obscenity/indecency, libel, access, copyright, and the impact of evolving media technology.

478/578 History of Communication
3 cr
Analyzes major social influences affecting communication theory and practice from classical to contemporary times. Theories emphasized include Plato’s dialogues, Hobbes, Cicerbo, Augustine, John of Salisbury, Bacon, Campbell, Whately, Kant, Watzlawick, and Berger. Theories are applied to interpersonal, organizational, and group communication and to print and broadcast journalism.

480 Practicum in Journalism
1 cr
Designs and assists all persons working for a college newspaper, this course conducts formal critiques of The Duquesne Duke and other college media. Areas of criticism range from the technical production of a collegiate newspaper to journalistic philosophy. Prerequisite permission of instructor. May be repeated up to 4 credits, maximum of 1 credit per semester and maximum of 3 credits toward the degree in communication, up to 3 additional credits may count as electives. NOTE Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.

481 Practicum in Forensics
1 cr
Designed for all persons on the University Debate Team or for competitive, Individual Events. Meeting times will be used for critiques of practice performances, training of evidence, construction, and analysis of arguments and interpretations. Prerequisite permission of instructor. May be repeated for up to 6 credits, maximum of 1 credit per semester and maximum of 3 credits toward the degree in communication, up to 3 additional credits may count as electives. NOTE Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.

492 Seminar Current Issues in Communication
3 cr
Discusses professional problems and advancements in communication. Specific topics vary. Open to majors only.

493 Seminar Multi-Media Production
3 cr
Provides practicum based experience to advanced production students. Topics and assignments vary. The objective of the course is to provide professional-level, hands-on production environment to students nearing graduation.

494 Seminar Communication Ethics
3 cr
Analyzes ethical issues in print and broadcast news reporting, public relations, advertising, organizational and interpersonal communication. Issues will be examined in light of historic and current practices, as well as traditional and modern ethical and rhetorical theory. Strongly recommended for all communication majors.

496 Directed Readings
1-4 cr
Offers the opportunity for students and faculty to conduct in-depth study of a topic not covered, or covered only briefly, in other departmental courses. In order to enroll in Directed Readings, students must obtain secure approval from the faculty member best qualified to guide their study. Approval requires (1) discussing with the faculty member his or her availability and level of interest, (2) submitting to the faculty member a written proposal for the project, (3) the faculty member’s evaluation of the proposal for outside of scheduled courses, a statement of goals and proposal for evaluation procedures (exams, papers, projects), and a preliminary bibliography on the topic, (4) obtaining the faculty member’s signature on the approval form, (5) submitting the signed approval to the Department Chair for her signature approving the arrangements proposed. May be repeated for up to 6 credits. NOTE Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.

497 Special Projects
1-6 cr
Students in this course prepare print or electronic products (e.g., newspapers, brochures, slides, shows, video programs, articles) commissioned by University or community organizations. In order to be admitted to the course you must (1) find a client — preferably a University organization or not-for-profit agency — whom you will pay production costs, (2) gather a group of students who have the skills necessary to produce the project, (3) audition and present a portfolio to the instructor, and (4) be recommended by one or more faculty members in the area of your expertise (e.g., writing, graphics, video, etc.) Class activities focus on the projects, beginning with analysis of the client’s goals and continuing through audience analysis, message design, production, and evaluation. NOTE Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than a total of 9 credits, but the extra credits will count as electives.

498 Internship
3-6 cr
Provides a supervised observation/experience program for study (assignment and performance) in areas such as media, marketing, editorial, human resources, and public relations. Most placements are in the Pittsburgh/ Western Pennsylvania area. Requirements 60 credits with a minimum of 9 credits in the internship area, and an overall GPA of 2.5 or better. Written recommendation from relevant faculty member(s) open to majors only. May be taken for 3 or 6 credits. No more than 6 credits of internship may be taken to count toward the minimum 30 credits required for the major. Prerequisite department approval. NOTE Total credits for 480 + 481 + 496 + 497 + 498 cannot exceed 9 credits toward the minimum 30 credits required for the major. Students may take more than 9 credits, but the extra credits will count as electives.

DEPARTMENT OF ECONOMICS
Chairperson Richard E Bond, Ph D
Professor Emeritus Geneva Grosschmid, J D
Professors
Stanley Bobier, Ph D
Kurt Rethwisch, Ph D
William Sher, Ph D
Associate Professors
Richard Bond, Ph D
Lee Glick, Ph D
Marshall Levinson, M A
Matthew Marlin, Ph D

The purpose of the Economics program is to enable the student to understand the workings of the U.S. and International economy and to develop the student’s capacity to think analytically about a wide range of economic and social problems. An ability to think analytically and to write concisely are stressed in courses in Economics. A grasp of the methodology of Economics enhances the student’s ability to deal systematically with the issues that face everyday in the news media. The study of Economics is indispensable to anyone interested in government, politics, or international affairs.

A major in Economics serves as a solid preparation for Law School or for MBA programs. It is not a narrowly vocational major. However, the general background, which the student acquires, prepares him or her for careers in professions in strategic planning, government, banking, etc.

REQUIREMENTS FOR THE MAJOR
Twenty-four credit hours are required for a major in Economics. These credits must include Principles of Economics 221 and 222, National Income Analysis 321, and Price and Production 322. The Expenditure requirement is Math 125. Additional courses that may usefully supplement a major in Economics depend heavily on the objectives and vocational interest of the student. Students who choose Economics as a major should consult with the chairperson of the Economics Department for advisement.

REQUIREMENTS FOR THE MINOR
Eighteen credit hours are required for a minor in Economics. These credits must include Principles of Economics 221 and 222. It is strongly recommended that students having Economics as a minor consult with the chairperson of the Economics Department for advisement.

Course Descriptions and faculty listing are provided in the School of Business and Administration Section of this Catalog on Pages 106-107.
**Requirements for the Minor**

A minimum of 12 credit hours beyond the freshman level of which no more than six hours may be taken at the 200 level.

There are five separate emphases from which the student must choose one:

1. **English Literature**: 201, 202, and six hours in upper division English Literature
2. **American Literature**: 205, 206, and six hours in upper division American Literature
3. **Literature and Film**: "Introduction to Film" (3 hours) and nine hours in courses in literature and film. Examples are "Shakespeare on Film" and "American Short Story into Film".
4. **Writing**: 203 and nine hours in 300 level Writing Workshops
5. **English Honors**: Students who, by invitation of the Honors Committee, complete English 212, 213, and two 300 level Honors Seminars, may count that program as an English Minor

**honors program**

Students who give evidence of outstanding ability in English through their performance in Thinking and Writing Across the Curriculum 101 or by virtue of superior national test scores will be invited to participate in the English Honors Program. These students may apply Honors course credits to either an English major or minor, or may use these credits as electives. Further details concerning the Honors program are available through the department office and will be distributed to all nominees at the time of their recommendation for admission to the program.

**requirements for the major**

The major is an individually-designed program of 24 hours of English Department courses above the 100 level. Each major must, with the close advice and approval of a member of the English faculty, design a program to fit his/her background, interest, and career objectives.
DEPARTMENT OF ENGLISH

428 Late Eighteenth Century
English Literature 3 cr
Johnson and his circle, the development of the novel, the aesthetic movement

429 Eighteenth Century Special
Topics 3 cr
Studies in Eighteenth Century thought and aesthetic in the works of one or more of its great writers Dryden, Swift, Pope, Johnson, Blake, etc. or through the ideas and attitudes conveyed in one of the dominant genres of the Eighteenth Century the drama, the novel, the essay, etc.

Nineteenth Century Studies

434 English Romantic Literature 3 cr
A study of the aesthetic, moral, political, and literary aspects of English romanticism approached through the writings of Wordsworth, Coleridge, Byron, Shelley, Keats

435 Victorian Literature 3 cr
A study of the poetry of Tennyson, Browning, Arnold and the prose of Arnold, Carlyle and Ruskin. Attention also given to the poetry of Morris, Rossetti and Fitzgerald

439 Nineteenth Century Special
Topics 3 cr
Studies in Nineteenth Century thought and aesthetic in the works of one or more of its great writers such as Tennyson, W. S. qaunt, Dickens, Hardy, or through the ideas and attitudes conveyed in one of the dominant genres of the Nineteenth Century

American Studies

441 Colonial American Literature 3 cr
A study of the American historical and political, and aesthetic developments in 17th and 18th century America

442 American Literature of the National Period 3 cr
Post-revolutionary literature of the emerging nation, including Irving, Brown, Cooper, Simms, Rowson, Child, and Sedgwick

445 American Romanticism 3 cr
The Romantic/transcendental movement emphasizing Emerson, Thoreau, Poe, Hawthorne, Melville, and Whitman

446 American Realism and Naturalism 3 cr
Post-Civil War fiction of Twain, Howells, James, Chopin, Wharton, Crane, and Norris

449 American Literature — Special Topics 3 cr
Studies designed to reflect current interests of faculty and students alike. Topics can be drawn from such areas as historical background, women's and ethnic studies, regional literature, special themes, major authors, and literary genres

Twentieth Century Studies

452 English Literature from 1890 to WWII 3 cr
Selective study of authors representing the major literary types and trends, emphasizing Hardy, Moore, Butler, Conrad, Yeats, Hopkins, and Joyce

453 English Literature Since WWII 3 cr
Major modern types and trends

456 American Literature 1920- World War II 3 cr
American prose and poetry of post-WWII, including Dos Passos, Fitzgerald, Stein, Hemingway, Faulkner, Eliot, Frost, and Stevens

457 American Literature 1920-World War II 3 cr
Modernist and post-modern literature of such writers as Maier, Bellows, Stor, O'Connor, Mroser, Updike, Barth, and Pynchon

458 Twentieth Century Special Topics 3 cr
Studies in twentieth-century thought and aesthetic in the works of one or more writers or through the ideas and attitudes conveyed through one of the dominant genres

460 Twentieth Century Special
Topics 3 cr
Studies in Twentieth Century thought and aesthetic in the works of one or more of its major writers such as Yeats, Joyce, Eliot, or through the ideas and attitudes conveyed in one of the dominant genres of the Twentieth Century

Studies in Language, Criticism, and Theory

460 The English Language 3 cr
An introduction to linguistic analysis with primary emphasis on the history of the structure of English from old to modern English

462 Introduction to Linguistics 3 cr
Basic principles and methods of modern linguistics, emphasizing phrase-structure grammar and its practical application to teaching

464 Modern English Grammar 3 cr
Basic principles of phrase-structure (generative-transformational) grammar and its application to the study and solution of problems in writing

465 History of Literary Criticism 3 cr
A study of the major statements about the nature of literature and the nature of criticism

466 Literary Theory 3 cr
A study of the principal developments in twentieth-century literary theory and criticism, with emphasis on New Criticism, structuralism, post-structuralism, Marxism, and feminism

468 Special Studies
Language/Criticism/Theory 3 cr
Studies designed to reflect current interests of faculty and students. Topics chosen explore in depth a particular figure, movement, or idea

REQUIREMENTS FOR THE MAJOR

A minimum of thirty credits must be taken including 'The Shaping of the Modern World' (Core 151), History of the U.S. (103, 104), and either Western Civilization I and II (213, 214). Fifteen credits must be taken from 200, 300 and 400 level courses. At least six credits must be taken at the 400 level. Six credits of Art History can count for a History major. Graduation with 'honors' in History requires a 3.5 GPA and the taking of the Senior Honors Seminar (490)

A History major with a concentration in Art History is required to take 30 credits of History and Art History courses, which must include Western Civilization I and II (213, 214). Art History 111 and 112, and a Senior Honors Seminar or a Directed Readings course in Art History. The fifteen additional credits, at least nine must be taken in Art History courses above the 200 level. A maximum of twelve transfer credits in History can be applied to the major requirement

REQUIREMENTS FOR THE MINOR

Students who wish to minor in History may consult with a department undergraduate advisor. The student is required to take fifteen hours including History of the U.S. (103, 104)

The Art History minor in History consists of fifteen credits of Art History courses, with at least nine credits at the 200, 300, and 400 level

DEPARTMENT OF HISTORY

Chairperson
Bernard J. Weiss, Ph. D.

Professors
Albert B. Costa, Ph. D.
Jean E. Hunter, Ph. D.
Paul T. Mason, Ph. D.
Steven B. Vardy, Ph. D.
Michael P. Weber, D. A.
Bernard J. Weiss, Ph. D.

Associate Professor
Joseph F. Rishel, Ph. D.

Assistant Professors
Madeline C. Archer, Ph. D.
Perry K. Blatz, Ph. D.
Louis Haas, Ph. D.
Holly A. Mayer, Ph. D.

Professor Emeritus
Joseph R. Monroe, Ph. D.

Adjunct Assistant Professor
Ann T. Kowalski, M.A.

REQUIREMENTS FOR THE MAJOR

103 History of the United States to 1877 3 cr
The historical development of American institutions, ideals, and society from earliest times to 1877

104 History of the United States since 1877 3 cr
The historical development of American institutions, ideals, and society since 1877

Area Courses

212 Europe in the Feudal Age 3 cr
The world of the Middle Ages—a survey of medieval man's political, social, and cultural activities

213, 214 Western Civilization 3 cr
An introductory survey of the origins and characteristics of European Civilization, emphasizing the personalities and events and institutions that have shaped the West

244 History of Ancient Medicine 3 cr
Examination of the most significant medical theories and practices in the period from the Egyptian temple physicians to the doctors of the Roman Empire. Special attention will be given to Hippocrates and Galen

245 Greek History 3 cr
An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon

246 Hellenistic History 3 cr
A survey of Mediterranean history from the death of Alexander until the accession of Octavian and the establishment of the Roman principate

247 History of the Roman Principate 3 cr
Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus

248 History of the Late Roman Empire 3 cr
Examination of Roman History from the accession of Severus to the death of Jjustian

249 Egyptian Civilization 3 cr
A survey of Egyptian history and culture from the pre-dynastic period to the establishment of Roman rule in Egypt. Special attention will be given to the artistic, literary, and religious achievements of Egypt

254 The History of the Modern Middle East 3 cr
A study of the modern Near East with concentration upon the conflict between imperialism and nationalism, traditionalism and western influence, in the area

255 History of Asia 3 cr
A survey of Asian civilization from ancient times to the present day, with emphasis on the present day, western colonialism, the rise of the nationalist movement, and the establishment of modern states
An examination of the causes of revolution, as well as the major social, economic, and political crises leading up to it.

The exploration and settlement of the British North American colonies and the problems faced in the 20th century.

An introduction to Canadian history, with particular attention to the years from 1763 to the present, and to Canadian-American relations and contemporary Canada.

Topical Surveys

305 History of Medicine
A survey exploring the development of medicine in the Western World in terms of medicine as an art and as a science. The latter part of the course will focus on the social and institutional aspects in the development of American medicine.

307, 308 History of Science
A survey exploring the significance of scientific developments within the historical and social context of Western culture.

311, 312 World History and the Historian
The course traces the main events of world history in relation to the most important theories of world history and in the context of an inquiry into the nature of historical understanding. The first semester treats prehistory, the emergence of civilization, and the world views of the major classical civilizations. The second semester is an inquiry into the nature of modernity.

320 Colonial America
The exploration and settlement of the British North American Colonies to 1763.

321 American Revolution
A survey of the major events, persons and movements in American history from 1763 to 1790.

322 Contemporary Central America
An examination of the causes of revolution, as well as the major social, economic, and political crises confronting the Central American region.

340 History of Western Law
Primary emphasis will be placed on the rise of customary law, especially its development in England into Common Law.

341 History of American Law I
This course deals with the development of law, legal philosophy, and legal institutions in America from the colonial period to the Civil War.

342 History of American Law II
This course deals with the development of law, legal philosophy, and legal institutions from the Civil War to the present.

343 Church History I
A religious and historical exploration of the growth of Christianity from the first century up to the Reformation, discussion of those issues within the Church and the external forces which brought about major conflict and development.

344 Church History II
Selected topics in Catholic and protestant development from 1500 to the present day, special emphasis on the crises, revolutions, and reforms that were central to this development.

345 American Church History
Emphasizes the historical development of major religious traditions in America, both Catholic and Protestant. Special attention will be given to "the life of the mind" in Christianity in America, the frontier expansion of religion, the often-controversial interaction between the Church and American culture, the role of religion in the creation of the American character, and the unique separation of church and state.

347 War in Modern Society
A study and analysis of the phenomenon of war in the Western World from the Age of Napoleon to the present, with special emphasis upon the inter-relationships between international conflict and social, political, and technological change.

348 Family and Society in History
Interaction between the family, the traditional basic unit of society, and the larger world in modern times. Working through family histories, the course will investigate the changing nature of the family in an effort to better understand the modern institution.

357 History of the American Presidency
Primarily an investigation and evaluation—personal, political, contemporary, and historical—of each president with some attention to the growth of the office.

360 Constitutional History of the United States
An analysis of the Supreme Court and constitutional development, stressing the major controversies in the field.

362 History of the United States' Political Parties Since 1865
A detailed examination and analysis of the origins, leadership, and operation of the major political parties since 1868.

364 The American Mind
The origins, development and contemporary modes of American thought, including major "climates of opinion," diverse movements, and selected scientific, political, religious, social, and artistic topics.

366 The Modern Mind
The major ideological tendencies of modern European thought and their connection to society and politics, and to the major philosophic and scientific currents of the nineteenth and twentieth centuries.

370 Current History
What are the major forces affecting our lives today? Where do they come from? Where will they lead? Resources will be the current media such as newspapers, TV, etc.

375 History of Inner Asia
The history of Inner Asia from Genghis Khan's Mongol Empire to Mikhail Gorbachev's Soviet Empire.

378 Europe and International Politics, 1870-1970
A study of global international relations since 1870, with emphasis upon the evolution from a European-centered world to global politics.

382 Psychohistory
Examines the inter-relationships between psychology—especially psychoanalysis—and history. Psychology leadership of group behavior, or war, etc.

385 Women in History
A survey of the historical experience of women, from ancient times, with emphasis on the forces that have led to the modern changes in women's status.

386 Historical Geography
A survey of the physical world which is the basis for a human civilization, past, present, and future. What are the possibilities and limitations of different places for human development? How successful or unsuccessful were human settlements? Emphasis also on geography as an intellectual discipline and cultural phenomenon.

389 Europe Industrialism and the Masses
A historical analysis of Europe in the last two centuries with particular attention to the relationships between technological and social change and its impact on politics and culture.

395 Pittsburgh and the American City
The rise of Urban America, using Pittsburgh as a case study of city growth and change, industrialization, immigration, and renewal in the twentieth century.

396 Reform in Modern America
The study of the progressive reform movements in the United States since the Civil War.

398 Economic History of the United States
Investigates the economic development of the United States, emphasizing its impact on social and political issues as background for current economic problems.

401 Medieval Europe
403 History of Papacy
413 Renaissance to Reformation
417 Reason and Revolution
419 19th Century Europe
422 20th Century Europe
441 American Painting
442 American Architecture
443 American Decorative Arts
444 Phenomena of Modern Science
445 Imperial Russia
446 Soviet Russia
447 Hapsburg Empire
448 Ottoman Empire and Balkans
452 Amer Tech & Material Culture
453 Explorations in Psychohistory
462 The American Character
478 Family and Society in U S
480 American Popular Culture

Specialized Areas and Topics

358 Civil War and Reconstruction
An intensive study of the American experience before and after the War for the Union.

367 Science and Society in the Twentieth Century
The economic, social and cultural consequences of the rise of modern science.

379 Revolution in the Modern World
An analysis of the major political and social revolutions since 1789, the nature of the revolutionary phenomenon, and the inevitable counter-revolutionary trend.

380 European Fascism
An intensive study of the major fascist movements and regimes of the twentieth century in light of the political, economic, social, intellectual, and psychological tensions which produced them.

387 The American Frontier
An historical view of man's attempts to create new societies, concentrating upon ecological issues, frontier experiences, and utopian ventures.

388 United States 1945 to the Present
A discussion of selected contemporary issues, foreign and domestic, which illustrate the identity crisis in the U S.
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

420 Special Studies in European History 3 cr
Topic will be announced by the instructor. The course may be taken more than once.

421 Special Studies in American History 3 cr
Topic will be announced by the instructor. The course may be taken more than once.

460 History of U.S. Immigration 3 cr
An examination of the dynamics of immigration to the United States with emphasis on the new immigration at the turn of the century.

461 American Science and Technology 3 cr
The development of science and technology in America from colonial times to the twentieth century.

470 American Urbanization in Historical Perspective 3 cr
This course examines the development of the American city with special focus upon changes in land use patterns, social class arrangements, political organizations, mobility and migration, ecological patterns, industrial and commercial developments, transformation of the built environment, and the creation of a national urban policy.

472 U.S. Labor and Capital 3 cr
An analysis of the forces which have shaped American industrialization, focusing on the impact of unionization and the development of big business on the everyday lives of Americans from pre-industrial craftsmen to industrial workers.

479 Diplomatic History of United States Since 1898 3 cr
Emphasis is upon involvement of the United States in both World Wars and its role as an imperial power.

481 The Modern Historian 3 cr
The development of modern historical thinking and scholarship as it is related to the major intellectual and social currents of modern times.

490 Senior Honors Seminar I 3 cr

499 Directed Reading, Selected Historical Topics 3 cr

Frank D'Ambro, Ph.D.
Donato DiFelice, M.S.
Rosaline Lee, Ph.D.
Charles Lech, M.A.
Mark S. Mazur, Ph.D.

Assistant Professors

Daniel Barbus, M.A.
Adam Drozd, Ph.D.
Abhay Gaur, Ph.D.
Hershel Sacks, Ph.D.
Lilu Shaisfani, Ph.D.
Donald Simon, Ph.D.

Lecturers

Timothy Kelly, M.A., M.S.
Edward Markoff, M.A.
Larissa Shtrahman, M.S.

MATHMATICS PROGRAM

The major objectives of the mathematics program are to provide knowledge of the theoretical basis of the field, appreciation for the intrinsic beauty of the discipline, skill in interpreting the concepts underlying quantitative procedures, and ability to apply modern mathematical techniques and tools to practical problems. Courses in the curriculum give students an opportunity to develop the basis for critical and logical analysis of problems and to design and implement creative solutions. In addition to courses that have programs leading to a major or minor in mathematics, offerings are designed to serve the liberally educated person in support of other disciplines.

REQUIREMENTS FOR A MAJOR

The student may choose to pursue a major in mathematics with a program leading to a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) degree. The B.A. program, which requires a minimum of 33 semester hours of mathematics, allows a great deal of flexibility for persons interested in combining the major program with a strong minor or double major in a non-science discipline. The B.S. program, which requires a minimum of 39 semester hours of mathematics, is recommended for students interested in scientific applications or further study in mathematics on the graduate level. Requirements are as follows:

Mathematics Core (B.A. and B.S.) 115, 116, 215, 216, 301, 306, 402, and 415. A grade of C or better must be achieved in all mathematics core courses. Remaining courses must be taken at the 200 level or above.

Extra-disciplinary Requirements (B.A. and B.S.)

Computer Science 105 or 111

Additional B.S. Mathematics Requirements

Applications component. At least one course chosen from 301 and 308.

Theoretical component. At least two courses chosen from 403, 420, and 416.

Additional B.S. Extra-departmental Requirements

General Analytical Physics 211-212

APPLICATIONS

If an appropriate program of support work is planned, the mathematics major may choose a career from fields including actuarial science, astronomy, biomathematics, operations research, computer science, nuclear fields, economics, electronics, engineering, geophysics, operations research, physics, statistical surveying for industry and governmental agencies, and teaching. Elective courses in the major program which have a particular connection to an application area include Business 301-302, 308, 325, and 425.

Computer Science 235, 301-302, and 308

Education 301-302, 311, and 330

Natural Sciences 301-302, 308, and 420

Social Sciences 301-302, 325, and 425

Statistics 301-302, 325, and 425

REQUIREMENTS FOR A MINOR

The minimum requirements for a minor in mathematics are 116 and 10 hours additional numbered 200 or above. Suggested concentrations include:

Computer applications 235, 301, 306, and 308

Logic and foundations 301, 311, and 330

Scientific applications 215, 216, 306, 308, and 420

Statistics 301-302, 325, and 425

102 Trigonometry

Trigonometric functions and their inverses, identities, graphs, and other properties. Credit is not allowed for both 102 and 105.

105 College Algebra and Trigonometry

4 cr

Algebraic expressions, solution of equations and inequalities, algebraic functions and graphs, trigonometric functions, solutions of simultaneous equations and inequalities. Credit is not allowed for both 102 and 105 or for both 105 and 109.

109 College Algebra

3 cr

Factorial, rational expressions, equations, inequalities, functions and their graphs, exponential and logarithmic functions, systems of equations and inequalities. Credit is not allowed for both 105 and 109.

111 Calculus for Non-Science Students

3 cr

Limits, continuity, differentiation, implicit differentiation, applications of the derivative, exponential and logarithmic functions and their derivatives, integration, and applications of integration. Credit is not allowed for both 111 and 115. Prerequisite 109 or equivalent.

115 Calculus I

4 cr

Functions and their graphs, limits and rates of change, derivatives, the mean value theorem and its applications, integrals, and logarithmic and exponential functions. Credit is not allowed for both 111 and 115. Prerequisite 105 or equivalent.

116 Calculus II

4 cr

Transcendental functions, techniques of integration, indeterminate forms, improper integrals, Taylor's formula, analytic geometry, plane curves, and polar coordinates. Prerequisite 115 or equivalent.

125 Fundamentals of Statistics

4 cr

An introduction to descriptive and inferential statistics including random variables, probability and sampling distributions, and hypotheses testing.

215 Calculus III

3 cr

Vectors and surfaces, vector valued functions, partial differentiation, multiple integrals, vector calculus, sequences, and series. Prerequisite 116.

216 Ordinary Differential Equations

3 cr

Solutions of first order equations, linear equations, differential operators, Laplace transforms, power series techniques, and elementary applications. Prerequisite 215.

235 Discrete Mathematics

3 cr

Mathematical logic, sets, relations, functions, graphs, trees, Boolean algebra, algebraic structures, algorithm development, and languages. Prerequisite 115.

300 Foundations of Higher Mathematics

3 cr

Mathematical logic, mathematical induction and other proof techniques, sets, relations, functions, number systems, countability, and history of mathematics. Prerequisite 116.

301 Introduction to Probability and Statistics I

3 cr

An introduction to probability theory and mathematical statistics including probability distributions of discrete and continuous random variables and their mathematical expectation and bivariate and multivariate probability distributions. Prerequisite 116.

302 Introduction to Probability and Statistics II

3 cr

A continuation of 301 including probability and sampling distributions of random variables and hypotheses testing. Prerequisite 301.

306 Linear Algebra

3 cr


308 Numerical Analysis

3 cr

Numerical techniques for solving problems involving linear systems, interpolation, functional approximation, numerical differentiation and integration, and solutions to non-linear equations. Identical course to Computer Science 308. May be counted as either mathematics or computer science, but not both. Prerequisite 116 and either Fortran (111) or Computer Programming I (105).

DEPARTMENT OF COMPUTER SCIENCE

Chairperson

Thomas Keagy, Ph.D.

Professors

Thomas Keagy, Ph.D.
Kathleen A. Taylor, Ph.D.

Associate Professors

George R. Bradley, Ph.D.

COLLEGE OF LIBERAL ARTS AND SCIENCES
DEPARTMENT OF COMPUTER SCIENCE

311 Number Theory 3 cr
Divisibility, congruences, quadratic residues, diophantine equations, and arithmetic functions
Prerequisite 300

325 Application of Statistics 3 cr
Applications and techniques of procedures in inferential statistics, analysis of variance and covariance, comparisons, random and fixed effects models, multiple regression, and correlation
Prerequisite 301 or permission of instructor

330 Fundamentals of Geometry 3 cr
Euclidean and non-Euclidean geometry from both the synthetic and metric axiomatic approach
Prerequisite 300

402 Abstract Algebra 3 cr
Cyclic, abelian, and factor groups, isomorphisms, direct products, integral domains, rings, and fields
Prerequisites 215, 300, and 306

403 Topology 3 cr
Topological spaces, homeomorphisms, connectedness, compactness, regular and normal spaces, metric spaces, convergence, and separation axioms
Prerequisites 215, 300, and 306

415 Advanced Calculus I 3 cr
Functions, convergence of sequences and series, limits, continuity and uniform continuity, derivatives, the mean value theorem, and Taylor's formula
Prerequisites 215, 300, and 306

416 Advanced Calculus II 3 cr
A continuation of 415 including integration theory and advanced topics in analysis
Prerequisite 415

420 Introduction to Complex Variables 3 cr
The complex number plane, analytic functions, integration of complex functions, sequences and series, and the role of the computer in the modern world
Prerequisites 215, 300, and 306

425 Operating Systems 3 cr
Operating systems, including Unix, VMS, and DOS. Offerings provide opportunities for students seeking courses supporting other disciplines as well as comprehensive programs leading to a major or a minor in computer science

REQUIREMENTS FOR THE MAJOR
A minimum of 31 semester hours in computer science is required for the major. In addition, support courses in mathematics and English are required for all majors. At least one course in physics is strongly recommended. All majors must choose either a business or a scientific track as outlined in the subsections below. Requirements for all majors are as follows:

Computer Science Core: 105, 106, 200, 211, 300, 325, 480 (each with a grade of "C" or better)

Additional Computer Science Requirements: At least 12 additional upper level hours (at least 9 of which must be taken at the 400 level).

Mathematics: Calculus II (Calculus I & II), 235 (Discrete Mathematics), and either 301 (Introduction to Probability and Statistics), or 306 (Linear Algebra)

English Support Course: 385 (Professional and Technical Writing)

COMMERICAL APPLICATIONS
Majors who choose an emphasis in commercial applications minor in business, complete a certificate program in business, or complete a minor in another field related to business or commercial applications. Possible professional positions include business applications programmers, systems analyst, data base administrator, and information systems analyst.

Suggested electives include 401, 410, 425, 435, and 445

SCIENTIFIC APPLICATIONS
Majors who choose an emphasis in scientific applications should minor in one of the laboratory sciences, mathematics, or another field related to scientific applications. Possible professional positions include scientific applications programmer, engineering analyst, and software engineer.

Suggested electives include 308, 410, 418, 419, and 425

REQUIREMENTS FOR THE MINOR
A minimum of 15 hours in computer science and three hours of discrete mathematics are required for a minor. All programs must include Math 235 and

Computer Science 105, 106, 200, 300, and three additional hours numbered 300 and above. Suggested computer science courses related to commercial applications include 325, 401, 410, 425, 435, and 445.

Suggested computer science courses related to scientific applications include 308, 325, 410, 418, 419, and 425.

100 Elements of Computer Science 3 cr
An introductory course for students in other disciplines. Includes a survey of computer organization, computer languages, the history of computers, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

101 Introduction to Computer Science/Basic 3 cr
A first programming course. Microcomputer programming in BASIC, algorithms, data representation, computer logic, and computer organization. Credit not given to computer science majors or minors.

105 Computer Programming I 3 cr
Structured programming in Pascal. Data types and representations, arithmetic and logical operations, simple I/O, control structures, subprograms, arrays, records, and an introduction to file processing. Programming style, documentation, and testing.

106 Computer Programming II 3 cr
Continuation of 105. Structured programming in Pascal and C. Recursion, dynamic allocation, stacks, queues, and linked lists. String processing, searching, sorting

111 FORTRAN 3 cr
Concepts of the FORTRAN programming language, including formatted I/O, arrays, looping techniques, and subprograms with an emphasis on scientific applications.

200 Computer Organization and Assembly Language 3 cr
The organization and operation of a conventional computer including principal instruction types, data representation, addressing modes, program control, and I/O Assembly language programming

211 System Programming and Design 3 cr
An introduction to the interaction between software and hardware components in an integrated system. Discussion of translation issues including assemblers, linkers, loaders, and initial processing in compilers

300 Data Structures 3 cr
Methods for organizing data and an introduction to the connection between the design of algorithms and the efficient implementation and manipulation of data structures. Abstract data types, trees, and graphs. Programming in Ada or Modula-2

306 Numerical Analysis 3 cr
Numerical techniques for solving problems involving linear systems, interpolation, functional approximation, numerical differentiation and integration, and solutions to non-linear equations. Identical course to Math 308. May be counted as either mathematics or computer science, but not both

325 Operating Systems and Computer Architecture I 3 cr
An introduction to the organization of various types of operating systems and to basic computer architecture. Major operating systems and components. A functional examination of the basic components of a computer system including the CPU, memory systems, and I/O systems

401 Data Base Management Systems 3 cr
The study of the use, design, and implementation of data base management systems. Topics include data models, current DBMS implementations, and data description, manipulation, and inquiry languages

410 Artificial Intelligence 3 cr
Knowledge representation and natural language processing, search strategies, design and applications of heuristics. Support for problem solving in practical domains such as psychology, medicine, science and architecture

419 Formal Languages and Automata 3 cr
Introduction to formal languages and their relation to automata. The Chomsky hierarchy of classes of grammars. Formal languages. Recognition of languages by automata. Parsing classes of context-free languages

420 Languages and Compilers 3 cr
Introduction to formal languages and their relation to automata. The Chomsky hierarchy of classes of grammars. Formal languages. Recognition of languages by automata. Parsing classes of context-free languages

445 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

455 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

465 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

475 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

485 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.

495 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages. Problems of language implementation. Global properties of algorithms, languages, and the role of the computer in the modern world. Some programming is required. Credit not given to computer science majors or minors.
445 Systems Analysis and Software Design 3 cr
Introduction to the analyses, design, and implementation of large software systems. Topics include methods and tools for the structuring and modular design of large systems, organization and techniques of team programming, design evaluation and validation. Prerequisite: 300.

450 Senior Project 1-3 cr
An individual or group project involving a significant programming component, documentation, and written report on a topic of current interest in computer science. Prerequisites: Senior status, 300, and Professional and Technical Writing.

491-499 Selected Topics in Computer Science 1-3 cr
Topics selected in consultation with the advisor. Prerequisite: Consent of the department chairperson.

DEPARTMENT OF MODERN LANGUAGES AND LITERATURES
Chairperson
Gregorio C. Martin, Ph.D.

Professors
Francesca Coleccia, Ph.D.
Carla E. Lucente, Ph.D.
Gregorio C. Martin, Ph.D.

Associate Professors
Mark Frisch, Ph.D.

Eugenia Skwarecki, Doctor of Modern Languages and Literature

Assistant Professors
Donald H. Kellander, M.A.
Anne Maier, M.A.

Rosllyn Rainey, Ph.D.

Instructor
Marie Coccone Sakmar, M.A.


Professor Emeritus
Primativo Colombo, Ph.D.

The Department of Modern Languages and Literatures offers courses in French, German, Italian, Russian, Spanish, and Swahili. The four language skills (reading, writing, speaking, and oral comprehension), are emphasized at all levels beginning with the elementary courses. Fluency in the active use of the language is emphasized. Courses beyond conversation and composition stress primarily literary studies in which the student is systematically introduced to the literature and is given a working acquaintance with the culture of the groups whose language he/she is studying. Choice of courses dealing with specific works, authors, and auxiliary subjects is also presented. Courses are also offered in Linguistics, Language for Business, and Language for Musicians. All courses at the 300- and 400-levels are conducted in the target language. Incoming students with previous language background are required to take the language placement test. Student participation is required in the language laboratory at the elementary and intermediate language levels and strongly encouraged at the advanced levels. It is recommended that students who must fulfill language requirements begin these courses in their freshman year.

Majors and minors are advised to spend a summer, a semester, or a year abroad in the university programs or those approved in advance by the department. Further information may be obtained in the department office. It is also recommended that majors in the department include a course in the art of the country of the language in which they specialize as well as one course in literature in translation in the literature of a country other than that of their major.

A maximum of 12 transfer credits will be accepted towards the major.

The student possessing a knowledge of foreign languages will find career opportunities in a number of fields such as education, government employment, foreign service, social work, business and industry, tourism, and international law.

REQUIREMENTS FOR THE MAJOR

The Department offers major programs in French, German, and Spanish. In addition, it offers a minor program in Italian, as well as non-major courses in Russian and Swahili.

The major program in Modern Languages and Literatures consists of a minimum of 27 semester hours at the 300 level and above. Required courses are:

**French**
- 301, 302, 462, 463
- Majors will discuss their courses with their advisors.

**German**
- 301, 302, 460, 461
- Majors will discuss their courses with their advisors.

**Spanish**
- 301, 302, 401, 402, 453, 460
- Majors will discuss their courses with their advisors.

**French**
- 301, 302, 462, 463
- Majors will discuss their courses with their advisors.

Elementary and intermediate courses must be taken in sequence. Credit toward the major or minor will not be given for 101, 102, 201, 202, or 239, 240, 302 or 313. 301 is the prerequisite to all courses numbered 312 and above.

**REQUIREMENTS FOR THE MINOR**

The minor program consists of a minimum of 12 semester hours at the 300 level and above.

**490 Independent Field Study (All Languages)** 4 cr
The student will participate, under the supervision of the instructor, in selected tours to various foreign countries to undertake independent study on selected and approved projects involving the exploration and study of history, life, work, arts and culture. Prerequisite: Prior permission of the instructor and Department Chairman.

**495 Professional Language Internship** 3 cr
An unpaid internship consisting of 100-120 hours of supervised work for which the student will receive three credits. See Department for particulars.

**200 French**

101 Elementary French I 3 cr
Fundamentals of oral and written French. Three hours of class and one hour laboratory per week.

102 Elementary French II 3 cr
Fundamentals of oral and written French. Three hours of class and one hour laboratory per week. Prerequisite: French 101.

115 French for Musicians 2 cr
Specially designed for majors in music to provide them with those skills in French to meet their professional requisites. Registration limited to students in the School of Music.

120 Intensive French I 6 cr
Fundamentals of oral and written French. Utilizes a different approach allowing the student to complete one year's work in one semester. Six lecture hours and one-hour laboratory each week.

201 Intermediate French I 3 cr
An intensified review of grammar and a major emphasis of oral skills. Prerequisite: French 102.

202 Intermediate French II 3 cr
Emphasis on the written and oral aspects of the language. Prerequisite: French 201.

220 Intensive French 6 cr
Review and continuation of 201. Utilizes techniques allowing the student to complete one year's work in one semester. Twelve lecture hours and one-hour laboratory each week.

301 French Conversation and Composition I 3 cr

302 French Conversation and Composition II 3 cr
Prerequisite: 301.

303 is the prerequisite for all courses above this level.

320 Stylistics 3 cr
Comparative study of English/French style in spoken and written French.

321 Phonetics 3 cr
Mechanics of phonation with comparative English-French.

322 Theatre de L'Avant-Garde 3 cr
The "avant-garde" theatre since 1950; such as Ionesco, Beckett, Genet, Schoeade, Vian, Pinet.

325 Realism and Naturalism 3 cr
Theories of the two movements in the latter part of the 19th Century.

326 The Literature of the Existentialist Movement 3 cr
An analysis and discussion of selected works of Camus, J.P. Sartre, and G. Marcel.

327 The Symbolist Movement in French Poetry 3 cr
A basic introduction to the Symbolist movement, with emphasis on hermetic poetry of Mallarme and Rimbaud.

328 French Poetry: Middle Ages to 20th Century 3 cr
Study of mechanics of prosody, various genres, periods, movements in French poetry.

329 17th Century French Literature 3 cr
Emphasis on the 17th-century French prose and poetry. Will also include a play of Corneille, Racine, and Monlere.

330 French Prose of the 19th Century 3 cr
Examination of French prose of the 19th Century.

331 18th Century French Literature 3 cr
An overview of the "Age of Louis," with emphasis on the literary works of the four major "philosophers" Montesquieu, Voltaire, Diderot, and Rousseau.

332 Voltaire and His Age 3 cr
In-depth work on Voltaire, plus another writer of the period, such as Prevost, Beaumarchais, Bernand de Saint-Pierre, etc.

360 French for Business 3 cr
Spoken and written language of business French. Conversions of letter writing, import, export, and commercial transactions.

360 French Culture and Civilization 3 cr
A study of the major cultural and socio-political movements of France through its literary works.

462 Chanson de Geste 3 cr

18th Century 3 cr
Literary Survey II. Main authors and movements of the Middle Ages, 16th, 17th and 18th Centuries.

463 19th Century to Modern Period 3 cr
Literary Survey II. Main authors and movements of the 19th and 20th Centuries.

464 17th Century French Theatre 3 cr
An overview of the theatre of the grand siécle. Emphasis on Corneille, Moliera, and Racine.

465 18th Century French Theatre 3 cr
An overview of the major dramatists of the century, including Marivaux, Voltaire, and Beaumarchais.

466 19th Century French Poetry 3 cr
The major poetic movements of the 19th Century.
German

302 German Conversation and Composition II
3 cr
Prerequisite 301

303 German Conversation and Composition III
3 cr
Prerequisite 302

304 German Conversation and Composition IV
3 cr
Prerequisite 303

305 German Conversation and Composition V
3 cr
Prerequisite 304

306 Advanced German Conversation and Composition
3 cr
Prerequisite 305 or equivalent

Italian

101 Elementary Italian I
3 cr
Fundamentals of oral and written Italian Three hours of class and one hour laboratory per week
Prerequisite Italian 101

102 Elementary Italian II
3 cr
Fundamentals of oral and written Italian Three hours of class and one hour laboratory per week
Prerequisite Italian 101

115 Italian for Musicians
2 cr
Specially designed for majors in music to provide them with those skills in Italian to meet their professional requirements. Registration limited to students in the School of Music

201 Intermediate Italian I
3 cr
An intensified review of grammar and major emphasis on oral skills Prerequisite Italian 102

202 Intermediate Italian II
3 cr
Emphasis on the oral and written aspects of the language Prerequisite Italian 201

306 Advanced Italian Conversation and Composition
3 cr
Prerequisite 202 or equivalent Prerequisite for all courses above 306

314, 315 Individual Study
Var Cr
With written permission of the department Prerequisite 202

Spanish

101 Elementary Spanish I
3 cr
Fundamentals of oral and written Spanish Three hours of class and one hour laboratory per week
Prerequisite Spanish 101

102 Elementary Spanish II
3 cr
Fundamentals of oral and written Spanish Three hours of class and one hour laboratory per week
Prerequisite Spanish 101

120 Intensive Spanish
6 cr
Fundamentals of oral and written Spanish Utilizes a different approach allowing the student to complete one year's work in one semester Six lecture hours and one-hour laboratory each week

201 Intermediate Spanish I
3 cr
An intensified review of grammar and major emphasis on the oral skills Prerequisite Spanish 102
DEPARTMENT OF MODERN LANGUAGES AND LITERATURES

202 Intermediate Spanish II 3 cr
Emphasis on the oral and written aspects of the language Prerequisite Spanish 201

220 Intensive Spanish 6 cr
Review and continuation of 120 Utilizes techniques allowing the student to complete one-year's work in one semester Prerequisite 120, 102 or equivalent

239 Readings in Modern Spanish Authors 3 cr
Selection from modern works of literature Does not carry credit toward major or minor Prerequisite 202 or equivalent

240 Readings in Modern Spanish-American Authors 3 cr
Selection from modern works of literature Does not carry credit toward major or minor Prerequisite 202 or equivalent

301 Spanish Conversation and Composition I 3 cr
Prerequisite 202

302 Spanish Conversation and Composition II 3 cr
Prerequisite 301

303 is the prerequisite for all courses above this level

322 The Nineteenth Century Novel 3 cr
Examines the realist, naturalist, and regionalist movements of Spain through modern times Authors include Tirso de Molina, Moliere, Mozart, Byron, Zorrilla, and Valera

323 Don Juan as a World Literary Figure 3 cr
Principal plays and narrative poems dealing with the theme from its origins in Seventeenth Century Spain through modern times Includes Tirso de Molina, Moliere, Mozart, Byron, Zorrilla, and G B Shaw

324 The Generation of 98 3 cr
Most recent developments in the novel in a historical perspective From Asturias through Garcia Marquez and Sarduy

325 Contemporary Spanish Novel 3 cr
The Spanish Novel since the Civil War From Cela to the present

326 Contemporary Spanish-American Fiction 3 cr
Most recent developments in the novel in a historical perspective From Asturias through Garcia Marquez and Sarduy

327 Spanish Culture and Civilization 3 cr
A study of the major cultural and socio-political movements of Spain through its literary works

328 Modern Spanish Theatre 3 cr
From Buero Vallejo to the present, including the "Underground Theatre"

329 Revolt and Change The Spanish American Novel 3 cr
Nature and types of protest expressed in modern Spanish-American Literature Major works of "protest literature"

330 Theatre of the Golden Age 3 cr
Reading and discussion of works of the major dramatists of the period selected plays by Lope de Vega, Calderon and Tirso de Molina

360 Spanish for Business 3 cr
Spoken and written language of business Spanish Compositions of letter writing, import, and commercial transactions

401 Spanish Literature from the Cid through the Siglo de Oro 3 cr
Survey of major works from the Medieval Period through the 17th Century

402 Spanish Literature from the 18th Century to the Present 3 cr
Survey of works representative of the major literary movements of the 18th, 19th, and 20th Century

453 Trends in Latin American Literature 3 cr
Major movements and representative works from Pre-Columbian period to the present

460 The Quixote 3 cr
An in-depth study of Cervantes' masterpiece and of the symbolic meaning of the two main characters

461 Spanish Literature since the Civil War 3 cr
The Civil War as mirrored in this literature its relationship to contemporaneous literary expression in other countries From Hernandez through Gortz and Sastre

462 Avant-Garde Spanish-American Theatre 3 cr
An introduction to the avant-garde theatre in Spanish America Historical perspective Influence of European avant-guard plays

463 Lorca and the Generation of 1927 3 cr
Major poets of the "Lorca-Guillen generation" who brought Spanish poetry to the new "Siglo de Oro"

464 The Literature of the Siglo de Oro 3 cr
Spain's most glorious era through the poetry, prose, and drama of its major authors

465 Literature of Spanish Romanticism 3 cr
Study of the major poems, plays and historical novels of the period Authors include Duque de Rivas, Espinceda, Larra, Becquer, Rosalia de Castro and Zorrilla

466 The Age of Enlightenment 3 cr
The study of literary works of major 18th century Spanish writers

467 Readings in Medieval Literature 3 cr
The development of Spanish literature from its oral tradition as well as the evolution of the Spanish language beginning with the "jarchas" through 1 la Cestancina

480 Directed Readings 3 cr
Readings of literary texts under close faculty supervision for majors only and only with written permission of the Department Variable credit

COLLEGE OF LIBERAL ARTS AND SCIENCES

Swahili

101, 102 Elementary Swahili 3 cr each
Fundamentals of oral and written Swahili Three lecture hours and one hour laboratory each week

201, 202 Intermediate Swahili 3 cr each
An intensified continuation of 101 and 102 Prerequisite 102 or equivalent

DIVISION OF PERFUSION TECHNOLOGY

Academic Director
Tata Subhas, D.V.M., Ph D
Medical Director
Ronald B Pellegro, M D

Duquesne University, in collaboration with The Metey Hospital of Pittsburgh, offers a four-year program leading to a Bachelors' Degree in Perfusion Technology. Students in the program are provided with a comprehensive education and training, within the guidelines established by the Committee on Allied Health Education and Accreditation, and prepared for eligibility for professional certification and registration

Students with a B.S. Degree may complete the program in two years

Perfusion Technology is a knowledge and application of advanced medical technology for the management of vital physiologic functions in medical situations, such as open heart surgery. It involves the operation of specialized medical equipment during the use of computers in medicine

301 Introduction to Perfusion Technology 3 cr
Students will be introduce to the surgical suite environment with emphasis on aseptic technique, sterilization procedures, and general OR conduct Demonstration and discussion of devices used in OR will be emphasized. The evolution and history of cardiac surgery and the development of extra-corporeal devices, as well as medical technology and application in these fields will be presented Focus on the practice and ethics of perfusion technology will be discussed

306 Applied Instrumentation 3 cr
Lectures and applications pertaining to mechanical and electronic principles to the instrumentation associated with perfusion technology Emphasis will be placed on design and selection of equipment stressing basic electronics, background for monitoring systems, and safety measures Introduction to the use of computers in medicine

320 Surgical Research Technique 3 cr
Lectures and demonstrations relating to perfusion technology in the use of extra-corporeal devices and monitoring instrumentation in controlled in-vitro and in-vivo laboratory environments will be presented. During this time, writing skills, computer literacy, and presentations will be reinforced. This will be in conjunction with Applied Perfusion Technology

302 Applied Perfusion Technology 3 cr
Lectures and demonstrations relating to circulator as it pertains to the clinical use of extra-corporeal technology and monitoring instrumentation in cardiovascular surgery will be presented Other applications with related technology will be discussed such as, assist devices, cardiac catheterization, ECMO, and balloon pumping

330 Cardiovascular Pharmacology 2 cr
A survey of pharmacology emphasizing cardio vascular drugs and agents used in perfusion technology and surgery. Particular emphasis will be placed on the interactions of these drugs as they apply to the cardiovascular and respiratory systems

331 Cardiovascular Pathology and Physiology 2 cr
An understanding of pathological conditions that exist in cardiovascular systems with special emphasis on the cardiovascular system. Acquired and congenital defects will be discussed. Attention will be given to pathological conditions that exist in patients requiring perfusion

Renal and cardiac physiology and the management of disease including the use of extra-corporeal devices will be presented. Topics will include acute renal failure, endocrine physiology, hemodynamic monitoring and
music, blood gas analyses, coagulation potential, electrolyte balance, red cell concentration, blood conservation, temperature monitoring, blood products and anesthetic agents associated with the extra-corporeal circuit.

340 General Medical Business Management 2 cr
Basic functions of management will be discussed with emphasis on the organization and business structure of hospital systems. Topics to be included are budget skills, cost-containment, inventories, purchasing, and personnel management.

401 Clinical Perfusion Technology 3 cr
Clinical experience in the preparation of extra-corporeal circulatory devices and physiological monitoring and instrumentation in support of cardiovascular surgery. Major areas of experience will include heart-lung bypass for adults, adjunctive techniques used with extra-corporeal circulation, and patient monitoring techniques.

450 Clinical Practicum in Perfusion Technology 9 cr
An opportunity is given to acquire skills necessary for clinical perfusion. Students will be directly supervised during all procedures. Major areas of experience may include laboratory experience, heart-lung bypass, long-term supportive extra-corporeal circulation, monitoring, hypothermia, pulsatile flow devices, red blood cell concentration and hemodilution, and pharmacological interventions. Monitoring techniques will include hemodynamic measurements, temperature monitoring, blood gas analyses, electrophysiology, coagulation status, fluid-electrolyte balance, bubble detection, and level-sensing. A sufficient number and variety of clinical perfusions will satisfy the recommendations of the American Board of Cardiovascular Perfusion will be completed.

402 Clinical Circulation Technology 3 cr
Special applications of perfusion technology will be presented. They are cardiac catheterization, right and left heart bypass, autotransfusion, hepatic and cardiac transplantation, renal dialysis, and hypothermia.

460 Clinical Practicum in Circulatory Technology 9 cr
An opportunity to acquire skills necessary to perform procedures required in circulatory technology. Students will be directly supervised during all procedures where applicable. They include an exposure to cardiac catheterization, echocardiogram, EKG, pacemaker insertion, PTCA, and laser surgery. Adjunctive techniques utilizing supportive long-term extra-corporeal circulation, intra-aortic balloon pumping, red blood cell concentration and dilution, hemodynamic measurements, temperature monitoring, electrophysiology, coagulation potential, fluid electrolyte balance. Special applications will include renal dialysis and phlebotomizers. A sufficient number and applications to satisfy the recommendations of the American Board of Cardiovascular Perfusion will be completed. Opportunity for cardiovascular rounds and conferences are presented.

310-312, 410-411 Seminars 2 cr
Conferences, group discussions, and lectures of selected topics of interest pertaining to cardiac surgery and perfusion technology will be presented.

DEPARTMENT OF PHILOSOPHY

Chairperson
Elenore Holveck, Ph.D.

Professors
Charles D. Keyes, Ph.D.
Donald Polansky, Ph.D.
Roland Ramires, Ph.D.
Tom Rackmore, Ph.D.
John Scanlon, Ph.D.

Associate Professors
Elenore Holveck, Ph.D.
Robert Madden, Ph.D.
William Smith, Ph.D.

Assistant Professor
Edward Gelbium, M.A.

Professor Emeritus
Rev. Andre Schwer, Ph.D.
Michael Strasser, Ph.D.

The program offered by the Department of Philosophy is designed to be a basic part of the student’s liberal education. It is intended to introduce students to philosophical thinking, past and present, to provide a discipline for asuing the basic questions of life and to help students begin relating their other academic subjects to one another and to human experience. The Department, made up of professors who have different philosophical interests, attempts to develop the capacity for independent thinking on all issues. The Philosophy Department is in the process of revising its curriculum, so the material below may be out of date. Students are advised to consult the Department for the newest information.

REQUIREMENTS FOR THE MAJOR

The Department requires majors to take nine philosophy courses above the 100 level of these nine courses, three must be selected from the Historical Sequence, and two from the sequence of Advanced Courses.

REQUIREMENTS FOR THE MINOR

Five courses are required for a minor—one from the Introductory Courses (100 level), two from the Basic Courses (200 level), and two from the Historical Sequence and Advanced Courses (300 and 410 levels).

Introductory Courses
104 Introduction to Philosophy 3 cr
A first-hand study of selected philosophical texts from both traditional and existential perspectives with the aim of introducing students to the nature of philosophical thinking, and to the variety of philosophical issues, area, methods, and theories.

105 Ethics 3 cr
An introduction to ethical theories of past and present times. Contemporary moral issues will be considered in the light of these theories.

106 Introductory Logic 3 cr
Analysis of the requirements for valid reasoning, logical fallacies, types of definitions, and important informal aspects of arguments in ordinary discourse will be studied in addition to the formal logic of inferences involving simple and compound statements.

107 Medical Ethics 3 cr
Ethical questions that arise in medical care and research will be examined. Topics might include experimentation on animals and man, allocation of scarce medical resources, euthanasia, the privileged relationship of doctor and patient, etc.

108 Business Ethics 3 cr
This course, designed primarily for business majors, begins with a discussion of some general ethical issues and, in particular, the problem of a just distribution of wealth. These discussions are applied to current concrete business problems.

Basic Courses
200 Introduction to Phenomenology 3 cr
The basic approach to philosophical issues developed by Husserl, the founder of Phenomenology, will be explored, the types of signs, meaning, the possibility of philosophy as rigorous science, etc. are considered.

203 Philosophy of Religion 3 cr
Introduction to the nature of religious experience. Topics such as religious symbolism, belief and unbelief, the existence of evil, and free will, and will be considered. Assigned readings include both traditional and contemporary writers.

204 Literature and Philosophy 3 cr
Explores philosophical themes as they emerge within great works of literature. Works will be selected from such authors as Sophocles, Dante, Shakespeare, Goethe, and Dostoevsky.

205 Existential Phenomenology 3 cr
Examination of the methods and style of thought which characterizes existential phenomenology. Lectures and discussion on texts by major thinkers, such as Being and Time by Heidegger, Phenomenology of Perception by Merleau-Ponty, and Being and Nothingness by Sartre.

211 Marxism 3 cr
A study of the political philosophy of Karl Marx as one of the major directions in social thought. Engels, Lenin, and contemporary Marxism.

212 Political Philosophy 3 cr
Fundamental political questions will be explored for example, Utopian state, freedom, justice, the origins of political society, war and empire, and revolutions will be considered. Possible authors read Plato, Aristotle, Aquinas, Machiaveli, Hobbes, Locke, Rousseau and Hegel.

214 Philosophy of Sex 3 cr
The course provides an introduction to both the basic themes and texts, both traditional and contemporary, related to the philosophical study of sex. It uses historical, analytical, and positivist methods and gives attention to the sexual origin of our consciousness of values.

215 Psychoanalysis and Philosophy 3 cr
Psychoanalysis has had an impact upon and been affected by modern philosophy. This course will study the presuppositions and implications of Freud’s thought and that of some other thinkers, such as Sartre, Marcuse, Ricoeur.

216 Communication and Philosophy 3 cr
Speech is man’s most important means of communication. The course will examine the structure, purpose, and function of speech in everyday usage and in the spheres of art, science, and art.

217 Elementary Symbolic Logic 3 cr
Introduction to the methods of symbolic logic as applied to the logic of arguments involving compound statements, propositional functions and quantifiers, and relations.

281 Special Topics 1-3 cr
May be repeated as topics change.

220 Philosophy of Death and Living 3 cr
The course provides an introduction to some of the basic themes and texts, both traditional and contemporary, related to the philosophical study of death. Its main purpose is to ask how human beings can be happy in view of death’s certainty, therefore it emphasizes the act of living.

224 Philosophy of Sport 3 cr
A philosophical examination of the nature of sport. Particular focus will be upon the ontological, ethical, and aesthetic status of sport and the phenomenon of sport.

225 Elements of Thomistic Thought 3 cr
An introduction to the basic concepts and principal ideas of Christian philosophy with an emphasis on the thought system of St. Thomas Aquinas. The course will cover an introduction to metaphysics, metaphysics of being, the principles and causes of being, the concept of the transcendent and the problem of evil.
Puritanism, Enlightenment, Transcendentalism, a range of issues, approaches, and theories which translation selected as representatives of the broad perspective taken from Plato and Aristotle from the Presocratics to Plotinus with readings primarily taken from Plato, Aristotle, Aquinas, Descartes, Pascal, Hobbes, Spinoza, Leibniz, Locke, Hume, Kant.

300 Ancient Philosophy
A study of the beginning of Philosophy in Greece, from the Presocratics to Plotinus with readings principally taken from Plato and Aristotle.

301 Medieval Philosophy
A philosophical study of medieval texts in English translation selected as representatives of the broad range of issues, approaches, and theories which characterize the major Christian, Jewish, and Islamic Philosophical thinking of the period.

302 Early Modern Philosophy
Explores the beginning of modern thinking in the 16th century and proceeds to the time of the French Revolution. Course work consists in analysis of several important texts chosen from such philosophers as Montaigne, Descartes, Pascal, Hobbes, Spinoza, Leibniz, Locke, Hume, Kant.

304 Later Modern Philosophy
This course examines the period of modern philosophy initiated by Kant. It deals primarily with the crucial thinkers of the 19th century including Hegel, Feuerbach, Kierkegaard, Marx, Mill, and Nietzsche.

305 Contemporary Philosophy
A study of contemporary philosophy from 1900 to the present, covering the methods and history of selected 20th century movements.

322 American Philosophy
Puritanism, Enlightenment, Transcendentalism, Pragmatism, with emphasis on key figures in American Philosophy Peirce, Dewey, James, Royce, Scheler, Whitman.

323 Oriental Philosophy
Introduction to Oriental thought through study of its major structures in their historical setting, aiming at understanding its characteristic vision. Examination of perspectives presented by traditions such as Confucianism, Taoism, Buddhism, Hinduism and Zen.

325 Concentrated Philosophical Readings
This course is an in-depth study of one or several philosophers such as Plato, Aristotle, Aquinas, Ockham, Descartes, Kant, Wittgenstein, Strawson, Heidegger, etc., varying in subject matter from time to time.

DEPARTMENT OF PHYSICS

Chairperson
Reginald A. Ney, M.S.

Professors
Shih-Chi Chang, Ph.D.
Rev. J. Clifton Hill, Ph.D

Assistant Professor
Reginald A. Ney, M.S.

Instructor
Anna D’Eramo, B.S.

The program in the Department of Physics is primarily aimed at providing today’s students with a fundamental background in traditional Physics as well as the interrelationships with other sciences and disciplines. The Department is also aware that in today’s changing world, there must be a flexible program which will best fit the graduate for the challenges faced in the many professions which are based on the science of Physics. There is always the hope that the student will continue professional growth in physics, but it is also realized that there are many professions along paths to professional growth. The Department program, therefore, is structured to provide the essential background for success in graduate studies in the many current fields which seek Physics graduates, as well as equipping the student with the necessary skill and knowledge as needed for a successful career.

The course offerings are designed to fit, as nearly as possible, the individual needs of students. In addition to those courses needed to fulfill University and College of Arts and Sciences Core requirements, each Binary Engineering student is required to complete the following: Physics 211, 212, and 473. Chemistry 121 and 122. Mathematics 115, 130, 215, 216. Geology 101, 102. Geology 201 (Note: Students preparing for a non-majors degree program must take Physics 201 and 202. Physics 211, 212. Pharmacy students concentrating in Nuclear Pharmacy are encouraged to complete Physics 201, 202.)

DEPARTMENT OF PHYSICS

Chairperson
Reginald A. Ney, M.S.

Professors
Shih-Chi Chang, Ph.D.
Rev. J. Clifton Hill, Ph.D

Assistant Professor
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Astronomy 3 cr
This course provides a student with a sampling of the principles and concepts of elementary astronomy and astronomical observation. Topics covered may include the scale of the cosmos, the celestial sphere, the solar system — past, present and beyond, astronomical tools, properties of stars and stellar evolution, the black hole, neutron stars, and the origin, evolution and properties of galaxies. The question of life on other worlds may also be examined. This course assumes no scientific background, and is open to all students who have completed the University's completion of non-core science requirements for students in the College of Liberal Arts and Sciences, and as a physical science course for School of Education students.

Physics and the Modern World 3 cr each
A course especially for the nonscientist. Designed to give the student some basis for understanding the physics of the twentieth century and the physicist's approach to the study of nature. The physics of everyday life is used as a basis, and classroom demonstrations are generously employed to help the student grasp concepts by showing concrete examples. Prerequisite: High-school mathematics.

General Analytical Physics 4 cr each
An introduction to the fundamental theories and applications of classical physics designed for students of science and engineering. A good algebra and trigonometry background is assumed and methods of using the calculus are presented. The course is strongly quantitative and emphasizes the solving of problems. Mechanics and electromagneticism are treated in detail in 211 and 212, respectively. Brief treatment of optics and modern physics is usually included. Co-requisite for 211. Mathematics 116 Lecture, three hours, Laboratory, two hours.

Thermodynamics 3 cr
This is an intermediate level course covering the fundamental principles of thermodynamics, kinetic theory and statistical mechanics. The following is a partial list of items generally included: temperature, thermodynamic systems, work, heat, the first and second laws of thermodynamics, ideal gases, Maxwell's equation, the kinetic theory of ideal gas, and the basic concept of statistical mechanics. Prerequisites 212, Mathematics 215.

Applied Electronics Laboratory 2-3 cr
This course seeks to combine a treatment of the principles of modern electronic instrumentation with practical laboratory experience. Topics which will be included are passive and active electronic components, electronic measuring instruments, power sources, amplification, feedback and control, analog and digital devices. Emphasis will be on understanding instrumentation rather than on an advanced treatment of design. Prerequisite: Permission of the instructor.

Advanced Laboratory 1 1 cr
This course is designed to acquaint the students with the basics of modern electronics to the extent that the student will have a sufficient background to design and use simple electronic circuits in future research. A set of experiments is performed and analyzed by the students. Subjects covered include discrete component electronic circuits and measurements, Binary numbering system, Gating Circuits, Boolean Algebra, Digital decoding, multiplexing and sequencing, flip-flops, counters, digital wave generation and shaping, elapsed time measurement and shift registers. Prerequisites 212 or 202 and consent of instructor.

Advanced Laboratory 2 1 cr
A continuation of Advanced Laboratory 1 which includes the following: Random Access Memory, Analog to Digital and Digital to Analog Conversion, Operational Amplifiers, Active Filters, Function Generators and practical applications of digital circuits including microcomputer interfacing. Prerequisite 329 or consent of instructor.

Mechanics 4 cr
An intermediate level theoretical classical mechanics. This course includes concepts and problems that cannot be understood except by using the mathematical language of vectors, calculus, matrices, etc. Many of the mathematical tools will be reintroduced in the course. A good calculus background is indispensable. The topics normally covered are motion of a particle in 3-dimensions, non-inertial systems, central force systems, dynamics of many particles and rigid bodies and Lagrangian mechanics. Prerequisites 212, Mathematics 215.

Electromagnetism 4 cr
An intermediate course for the science and engineering student. The fundamental topics will usually include electrostatics, energy relations in electrostatic fields, dipoles, currents and their interaction, magnetic properties of matter, AC circuits, Maxwell's equations, and electronic radiation. Prerequisites 212, Mathematics 215.

Optics 4 cr
This course introduces the student to the principles of geometrical and physical optics. Topics may include reflection, refraction, diffraction, polarization, and other topics relevant to lens system design, basic quantum optics and the laser. Prerequisites 212 or 202 and the consent of the instructor.

Astronomy 3 cr
An introduction to the designs of micro and minicomputers for interfacing and control. This course introduces the student to those concepts of discrete and digital electronics that relate to the use of these concepts for interfacing the microcomputer with the "real" analog world. Some of the topics covered are assembly language programming for an 8085 microprocessor, uses of parallel and serial I/O ports, analog to digital and digital to analog conversion techniques, motor speed control, and process control. Prerequisites: Physics 419, or consent of the instructor.

Microprocessors Laboratory 3 cr
A "hands-on" laboratory course in the use of single board microcomputers for interfacing and control. This course introduces the student to those concepts of discrete and digital electronics that relate to the use of these concepts for interfacing the microcomputer with the "real" analog world. Some of the topics covered are assembly language programming for an 8085 microprocessor, uses of parallel and serial I/O ports, analog to digital and digital to analog conversion techniques, motor speed control, and process control. Prerequisites: Physics 419, or consent of the instructor.

Problems in Microcomputers 1-4 cr
Special topics and problems in microcomputers, microcomputer interfacing circuitry and related subjects suitable for independent work. Prerequisites: Physics 419, or consent of the instructor.

Robotics 3 cr
This is an introductory course that deals with robotic controllers, programming, operational aids, drive systems, interfacing, end effectors, sensors and robotic applications. Prerequisites Physics 211 and 212, or Permission of the Instructor.

Advanced Research 2 cr
This is a one year course in which the student selects a research project, develops it, and prepares a report on the results. The student is also required to present results of his work at a department seminar or at an appropriate scientific meeting if deemed advisable. A research topic is selected from those suggested by members of the Physics Department or other science faculty members. Work is carried out in close coordination with the selected advisor, and a research grant must be the student's own. No grade is given at the end of the first semester but a final grade is assigned at the completion of the project in the Spring Semester.

Atomic Physics 3 cr
This course provides an introduction to special relativity and quantum theory with applications drawn mainly from modern theories of the atom. Topics usually included are quantum theory of heat radiation, the uncertainty principle, quantum theory of the hydrogen atom, many-electron atoms, atomic spectroscopy. Prerequisite 212.

Nuclear Physics 3 cr
Experimental and theoretical aspects of the atomic nucleus are discussed. The topics presented may include neutron scattering, nuclear decay, nuclear structure, nuclear forces, radioactivity, modes of decay, radiometric dating, interaction of radiation with matter, nuclear structures and reactions, and nuclear fission. Prerequisites 212 or 202 and consent of the instructor.

Special Topic Courses 1-3 cr each
These courses are designed to allow the Physics Major flexibility in designing his/her program. These courses are offered irregularly and at times when there is sufficient student demand to justify the offering of the course. The courses offered include: 474 Quantum Mechanics (please note that the department will accept Graduate Chemistry 537, Quantum Chemistry, in lieu of the Quantum Mechanics course), 484 Introductory Solid State Physics, 485 Relativistic Mechanics and 486 Shop Techniques. Descriptions of these courses follow.

Quantum Mechanics 3 cr
A basic introduction to the dynamics of quantum phenomena. Some of the topics covered are Schroedinger Equation, oscillators, hydrogen atom, linear operators, Hermitian Matrices, observables, conservation theorem, spin, angular momentum and perturbation theory. The course will emphasize application to simple systems. Prerequisites: 212, Mathematics 215.

Introductory Solid State Physics 3 cr
Bulk properties of materials are discussed with both the phenomenological and microscopic approaches. Typical topics are the geometric structure of solids, waves and diffractions, thermal properties, the free electron model, band theory, superconductivity, magnetic properties and magnetic resonance. Prerequisites: 212 and consent of instructor.

Relativistic Mechanics 3 cr
This course is an introduction to the Special and General Theories of Relativity. A list of topics which may be discussed are absolute space, Einsteinian Kinematics, Einsteinian Optics, space-time and four-vectors, relativistic particle mechanics. Prerequisites: 212, Mathematics 215.

Shop Techniques 1 cr
A basic introduction to machine shop practices necessary to experimentalists in all fields. Some of the areas covered are: shop equipment and its use, materials, soldering and welding techniques, mechanical drawing and schematics, electronics construction techniques and practical application.
DEPARTMENT OF POLITICAL SCIENCE

Political science studies the political ideas, institutional life, political actors, systems of law, political ideals and thought, and the ways by which political activity relates to the dimensions of life as a whole, the student becomes familiar with the political as an expression of deeper and more fundamental considerations. Students in the Department of Political Science are introduced to both the normative and empirical methods of analyzing political life.

Political science majors are prepared for careers in government and administration, private enterprise, and for further study in graduate and law school programs.

REQUIREMENTS FOR THE MAJOR
Thirty semester hours beyond 101 are required for a major in political science. These credits must include 201, 208, 245, 317 or 318, and 490 or 491.

A student transferring to Duquesne from another College or University may receive a maximum of 12 transfer credits applied to their major requirement.

REQUIREMENTS FOR THE MINOR
Fifteen semester hours beyond 101 are required for a minor in political science. Students can design personalized concentrations in consultation with the departmental faculty.

A maximum of 6 transfer credits can be applied to the minor requirement.

101 Introduction to Political Science 3 cr
An introduction to political science, the political process, the political institutions of national and international systems, and the role of political actors.

201 American National Government 3 cr
An examination of the political institutions and processes of the national government as they relate to the political process and political behavior.

202 State and Local Government 3 cr
A study of the political institutions and processes of the state and local governments in the United States.

245 International Relations 3 cr
An introduction to international relations, including the political, economic, and social dimensions of international political systems.

290 American Political Thought 3 cr
An introduction to the political thought of American political figures, including the Founding Fathers and modern political figures.

302 Soviet Foreign Policy 3 cr
A study of the foreign policy of the Soviet Union, including its foreign relations, economic policies, and military strategies.

314 Public Policy 3 cr
An analysis of public policy, including the process of policy formulation and implementation.

317 Western Political Thought 3 cr
An examination of the political ideas and theories of Western political philosophers.

320 United States Foreign Policy 3 cr
An examination of United States foreign policy, including its historical development and contemporary challenges.

322 Government and Politics of Eastern Europe 3 cr
An introduction to the political systems of Eastern Europe, including the former Soviet Union and Eastern Europe after the fall of communism.

325 Constitutional Law Federalism 3 cr
A detailed examination of Supreme Court cases concerning the nature of federalism and the role of the United States Constitution in shaping the relationship between the federal and state governments.

326 Constitutional Law Civil Liberties 3 cr
A detailed examination of Supreme Court cases concerning the protection of civil liberties, including freedom of speech, religion, and assembly.

335 The Mass Media and Politics 3 cr
An introduction to the role of the mass media in politics, including the influence of the media on public opinion and political behavior.

340 American Political Parties 3 cr
An introduction to the structure and functioning of American political parties, including their role in the political process.

365 Voting and Election Behavior 3 cr
An examination of the factors that influence voting behavior, including political parties, elections, and voter turnout.

401 The American Presidency 3 cr
An examination of the role of the American presidency, including the powers, duties, and responsibilities of the president.

407 The American Congress 3 cr
A study of the structure and functioning of the American Congress, including its role in the political process.

412 International Law and Organization 3 cr
An introduction to international law and its role in shaping the relationship between states and international organizations.

415 Ethics and Policy Making 3 cr
A study of ethical considerations in policy making, including the role of values and principles in political decision making.

420 Contemporary Political Thought 3 cr
An introduction to contemporary political thought, including the role of ideas and ideologies in shaping political policy.

425 War and Peace in the Nuclear Age 3 cr
An examination of the role of the nuclear arms race in shaping the contemporary international political system.

430 Internship in Practical Politics 4 cr
A work and observation experience in government and political offices at the city, county, state and national levels in the Pittsburgh area. Permission of department is required.

436 Advanced Seminar 3 cr
A detailed examination of a selected topic.

450 Workshop—International Studies 3 cr
An intensive one-week interdisciplinary summer school course. This course presents politics, foreign policy, culture, religion, and social problems of Third World Countries. Several outside speakers augment Duquesne faculty.

490 Senior Seminar 3 cr
Open to seniors and advanced juniors only. An in-depth consideration of selected topics in the discipline.

491 Research Methods in Political Science 3 cr
A study of the techniques of scientific inquiry into political phenomena including research methods, data collection, analyses and interpretation.

DEPARTMENT OF PSYCHOLOGY

Chairperson
Richard T Knowles, Ph D

Professors
Anthony Barton, Ph D
Constance Fischer, Ph D
William Fischer, Ph D
Richard T Knowles, Ph D
Rev. Edward Murray, C S Sp, Ph D
Bolz von Eckenberg, Ph D

Associate Professors
Charles Maes, Ph D
Charles Brice, Ph D
Michael Sipora, Ph D
Eva Simons, Ph D
Sidney White, Ph D

Instructor
J Scott Staples, M A
DEPARTMENT OF PSYCHOLOGY

The undergraduate program of the Department of Psychology is designed to introduce and familiarize students with the fundamental content, issues, and interests of various areas of psychology and critically evaluate and reformulate these in the context of psychology as a human science. 2) to foster intellectual and personal freedom and critical thinking as essential to the humanizing process, 3) to prepare the professionally oriented student for advanced study, 4) to provide a foundation for careers involving human services. To these ends, the department offers a wide variety of courses covering psychology conceived as a human science, a natural science, and within a historical perspective. Further study in graduate school prepares students for careers in mental hospitals, schools, mental health and social welfare agencies, business and industry. In our rapidly changing society the demand for professionally trained psychologists is increasing.

While the department believes that human scientific psychology is the most viable and encompassing approach to the study of the person, it also realizes its responsibility to expose its students to other psychological approaches. Hence, every major who plans to attend graduate school in psychology is strongly encouraged to take advantage of the offerings in sister universities through the procedure of cross-registration.

REQUIREMENTS FOR THE MAJOR

The major program consists of 103 Introduction to Psychology plus a minimum of 24 semester hours. These credits must include 220 and 223 Majors desiring to pursue graduate study in psychology are strongly advised to take six additional credits through cross-registration at other universities. (Learning Theory, Experimental, Perception, Memory, etc.) and Statistics (225 Fundamentals of Statistics offered by the Mathematics department may be considered part of the mathematics/science requirement). Finally, it is recommended that majors enroll in a hospital or community practicum for credit, and/or do volunteer work in a neighborhood clinic. Three credits earned in practicum count toward the 24 required credits, an additional three credits in practicum may be earned above and beyond the required minimum of 24. Information about such opportunities can be obtained from the department secretary. Prospective majors should consult the departmental secretary concerning the special prerequisites followed for the declaration of the major. A minimum of 15 credits in psychology exclusive of practicum must be taken at Duquesne University for the major.

REQUIREMENTS FOR THE MINOR

Requirements for a minor are 103 and 223 and any three of the following: 225 or 226, 280, 328, 340, 352, 361, 390, 400 level courses may be taken for the minor with permission of the department head. A minimum of nine credits in psychology must be taken at Duquesne University for the minor.

COUNSELING SERVICES

Personal counseling services are available to all students at the Psychology Counseling Center located at the Chapel end of Centennial Walk.

103 Introduction to Psychology 3 cr

(Prerequisite to all courses) Introduction to fundamental concepts and methods of psychology, examined from both traditional and phenomenological perspectives. Prerequisite for all other departmental courses.

220 Systematic Psychology 3 cr

For majors only. Traditional approaches (behavioristic, physiological, psychoanalytic) to sensation, perception, learning, and motivation. Required for majors.

223 Introduction to Existential Phenomenological Psychology 3 cr

Introduction to a human-science alternative to psychology as a natural science. Prerequisite for 336 and 410, required for majors and minors.

225 Developmental Psychology I 3 cr

(Infancy and ChildHood) Growth and development of the child, with emphasis on personality development.

226 Developmental Psychology II 3 cr

(Adolescence and Maturity) Development from adolescence, through adult stages, to coping with death.

230 Psychology of Community Experience 3 cr

Experience of community phenomena, e.g., individuals versus group priorities, intimacy vs. privacy.

280 History of Psychology 3 cr

Overview of figures and issues in the history of psychology, from precursors to present.

328 Psychology of Personality 3 cr

Critical examination of major theories of personality.

340 Social Psychology 3 cr

Foundations of social processes, attitudes, values and roles, public opinion, propaganda and communication, personal participation in society.

352 Abnormal Psychology 3 cr

Examination of theories and data on disordered human existence.

356 Research Psychology Theory and Practice 3 cr

Review of theory and practice of traditional and human-science research. Includes student projects. Prerequisite 220, 223, permission of department head for non-majors.

361 Psychology of Identity and Fulfillment 3 cr

The ways in which identity is lived individually and collectively. Designed to be personally relevant to the life of the student. Open to juniors and seniors only.

370 Psychology of Aesthetic Experience 3 cr

Theoretical and empirical explorations of aesthetic experience.

390 History of Psychology II 3 cr

Intensive study of selected historical figures, in dialogue with contemporary thinkers. Prerequisite 280.

391 Applied Psychology Practicum 3 cr

An applied psychology setting provides opportunity for working directly with professionals. Settings have included psychiatric hospitals and community centers. Majors only, permission of Department head. Repeatable once.

392 The Individual and His/Her World 3 cr

Examination of individual's relation to society, from a developmental and cross-cultural perspective.

393 Principles of Psychoanalytic Thought 3 cr

Examination of the times and contributions of Freud and selected other major psychoanalytic theorists. Permission of department head for non-majors.

394 Psychology of Language and Expression 3 cr

Communication as a life embodied relation of person to world and others. Emphasis is on phenomenological therapists. Permission of department head for non-majors.

410 Advanced Existential-Phenomenological Psychology 3 cr

Detailed investigation of selected works in existential-phenomenological philosophy and psychology. Prerequisite: 223. Permission of department head for non-majors.

423 Gestalt Psychology 3 cr

Contributions of Gestalt psychology (especially the works of Koffka, Kohler, and Goldstein) to traditional and human-science psychology. Permission of department head for non-majors.

430 Contemporary Issues in Clinical Psychology 3 cr

A human-science examination of the approach, methods, data, and current issues of clinical psychology. Permission of department head for non-majors.

457 Independent Studies 3 cr

A tutorial course for an exceptional student who wishes to pursue a particular study with a faculty member. For majors only, usually those intending graduate study. Advanced coursework completed. Permission of faculty member and department head required.

DEPARTMENT OF SOCIOLOGY

Chairperson

Eleanor V. Fails, Ph.D.

Professors

Eleanor V. Fails, Ph.D.

Michael Kupersman, Ph.D.

Associate Professors

Norma Feinberg, Ph.D.

Charles F. Hanna, Ph.D.

Joseph D. Yenerall, Ph.D.

Assistant Professors

Mary Frances Antolino, M.A.

Karen McIntosh, Ph.D.

Lecturers

Lee Frank, M.A.

Ronald Perlman, M.A.

Eric Joy, M.A.

Patrick J. Moore, M.A.

Linda Nelson, M.A.

Raymond A. Novak, J.D.

James L. Whaley, M.A.

Professor Emeritus

Chester A. Jurczak, Ph.D.

Undergraduate instruction in sociology has as its primary commitment the intellectual development and preprofessional training of sociology majors. At the same time, we focus on the contribution of the discipline to the liberal education of the student, regardless of his/her major. The pursuit of excellence in value-building and service orientation articulated in the Mission and Goals statement of the University has been and continues to be the foundation on which our curriculum is built.

REQUIREMENTS FOR THE MAJOR

A minimum of 30 semester hours will be required for the major. These must include 200-201 and 300-301 in addition to required courses within the selected concentration. The remaining credits are to be scheduled in consultation with the student's faculty advisor. A self-designed program combining concentrations may also be developed with the approval of the student's advisor. A maximum of six credits earned in 450, 451, 454, 455 will count toward the 30 required.

490 Special Topic 3 cr

A visiting professor presents his/her specialty, or a regular faculty member presents highly specialized studies or an experimental course. Repeatable. Prerequisites vary with the instructor. Permission of department head for non-majors.
CONCENTRATIONS

584 Sociology This concentration is designed for the "generalist," the student preparing for advanced study in sociology and certain "double majors" Required courses 200, 201, 300, 301 12 of the remaining 18 credits must be taken within the Sociology sequence.

585 Criminal Justice This program provides the student with the opportunity to develop knowledge and skills in preparation for career pursuits in many areas of criminal justice, including probation, parole, investigation, corrections and research. Required courses 102, 200, 201, 300, 301 12 of the remaining 15 credits must be taken within the Criminal Justice sequence.

586 Human Services/Gerontology This concentration provides the preprofessional training and skill development in the general area of human services and in the study of the elderly. Required courses 103, 200, 201, 300, 301 12 of the remaining 15 credits must be taken within the Human Services/Gerontology sequence.

REQUIREMENTS FOR THE MINOR

A minimum of 15 semester hours is required for the minor. The minor program is self-designed; a faculty advisor should be consulted to assist in the design.

COURSE DESCRIPTIONS

Required Courses

200 Sociological Theories I 3 cr
This course introduces the major or minor to an intensive review of basic sociological principles and the process of theory-building.

201 Sociological Theories II 3 cr
A study of selected classical and contemporary theorists and schools of thought. Prerequisite 200.

300 Sociological Methods I 3 cr
A discussion of the techniques and research procedures used in sociological research.

301 Sociological Methods II 3 cr
A study of the construction and application of statistics in social research. Specific attention is given to an introduction to computer uses in the social sciences. Prerequisite 300.

Additional requirement for Sociology Concentration

101 Survey of Sociology 3 cr
An introduction to the basic concepts, processes, and institutions which are the subject matter of sociology as an academic discipline.

Additional requirement for Criminal Justice Concentration

102 Introduction to Criminal Justice 3 cr
An introduction to the criminal justice system, including police, courts, correctional facilities and community based connections. Open to non-majors.

202 Sociology of Social Problems 3 cr
A study of the person-structure-change framework applicable to contemporary social issues.

205 Person and Society 3 cr
A study of the person's interaction with societal groups, organizations and institutions.

214 Sociology of Child and Adolescent 3 cr
A discussion of the child and adolescent in American society.

225 Family Systems 3 cr
A study of the family institution and its interaction with other community institutions.

302 Evaluative Research and Planning 3 cr
An analysis and development of techniques for the investigation and evaluation of human services and criminal justice programs. Prerequisite 300.

307 Leisure and Popular Culture 3 cr
A study of the relationship between work, leisure and popular culture, leisure as a social problem will be considered.

308 Racial and Ethnic Groups 3 cr
Comprehensive survey of roles performed and problems faced by racial and ethnic groups.

315 Social Development - Infancy to Death 3 cr
A study of the socialization process from the infant state to the dying state.

316 Social Change 3 cr
A discussion of the theories and techniques of initiating social change.

317 Social Stratification 3 cr
A study of status differentiation within various cultures.

Criminal Justice

211 Social Deviance 3 cr
A study of the forms and consequences of social deviance and law.

213 Delinquency and Society 3 cr
A study of the phenomenon, theories, and causation of juvenile delinquency.

216 Criminology 3 cr
A study of sociological explanations of criminality, correlates, causation, and criminogenic conditions.

250 Criminalistics I 3 cr
A study of case preparation, questioning of witnesses, and collection and preservation of evidence and processing of criminal evidence.

251 Criminalistics II 3 cr
A study of the techniques of collecting evidence, fingerprints and the microscopic and laboratory study of firearms, hair, fibers, blood, paint, poisons, and other clues. Prerequisite 250.

264 Police and Society 3 cr
An analysis of the role of police in the community, and some of the critical issues in law enforcement.

266 Crime Prevention 3 cr
A study of contemporary crime prevention programs involving criminal justice agencies, citizens, and community politics.

310 The Law and the Juvenile Offender 3 cr
A survey of those aspects of the legal system that relate to the identification, processing and rehabilitation of the juvenile offender.

311 The Law and the Adult Offender 3 cr
A survey of those aspects of the legal system that relate to the identification, processing and rehabilitation of the adult offender.

367 Corrections 3 cr
A study of the various goals and processes of corrections.

Human Services/Gerontology

203 Social Gerontology 3 cr
An examination of the sociology of aging.

210 Aging Across Cultures 3 cr
A study and analysis of the socialization, roles and problems of aging in various cultures.

212 Helping Process 3 cr
Discussion of the helping relationship and practice in the techniques of helping.

312 Aging and Social Policy 3 cr
An examination of past, present and future social policies related to the aged.

324 Social Aspects of Death and Dying 3 cr
A study of American values, behavior, customs and other institutional practices related to dying and death with special attention to older Americans.

350 Therapeutic Techniques 3 cr
Discussion and practice in the skills designed for therapeutic intervention.

For All Concentrations

450, 451 Fieldwork I, II 3-12 cr
Internship in a criminal justice, social service or gerontology setting. Seniors and Majors only. Prerequisite 21 completed credits in the major to include 212 Helping Process and 302 Evaluative Research and Planning.

454 Selected Readings 1-3 credits
Independent, supervised reading in concentrated area of interest. Prerequisite 21 completed credits in the major.

DEPARTMENT OF THEOLOGY

Chairperson
Rev. Francis X. Malinowski, C.S.Sp., Ph.D.
Professors
James P. Hangen, Ph.D.
Rev. David Kelly, Ph.D.
Marilyn Schaub, Ph.D.
William Thompson, Ph.D.
George S. Worful, Jr., STD., Ph.D.

Associate Professors
Rev. Michael Cahill, C.S.Sp., Ph.D.
Rev. Charles Fenner, C.S.Sp., Ph.D.
Rev. William Rademenos, Ph.D.
Rev. Michael Susser, D.Phil.

Assistant Professor
Sr. Anne M. Clifford, C.S.J., Ph.D.
Sr. Mon McIntyre, I.H.M., Ph.D. (cand.)

Associate Dean, Pastoral Ministry
Sr. M. Patricia Armbr, SS.C.M., M.A., NACC Supervisor

Adjunct Associate Professors
John W. Hoyt, M.D.
Christopher J. Daly, M.D.
Mark Schmidholzer, M.D.
Stacey A. Hinderliter, M.D.
Eimer Holzinger, M.D.
Charles E. Hollerman, M.D.
Diann M. Westrick, M.D.
Daniel Thompson, M.D.
Rev. Charles S. Becker, STD.
Rev. Frank Sokol, Ph.D.

Adjunct Assistant Professor
Luis Corluff, Ph.D.

Duquesne's Department of Theology affirms that the academic study of religious experience is essential to a complete education. The Department fulfills its role in theological studies by the pursuit of the following aims: 1) it emphasizes Catholic Theology, in dialogue with other Christian traditions, non-Christian traditions and Judaism, as the key element in Duquesne's commitment to Catholic education on the university level; 2) it acknowledges the fact of the universal search for religious meaning and experience, and seeks not only to offer the possibility of a study of the varying approaches to religious witnesses in history, but also to place Catholic Theology in communion with that quest.
DEPARTMENT OF THEOLOGY

REQUIREMENTS FOR THE MAJOR

The major program consists of a minimum of 27 credits. These must include 106, 213, 214, 220, 250, 498, the remaining credits will be chosen in consultation with the student’s advisor.

REQUIREMENTS FOR THE MINOR

A minor consists of four courses.

The department has also prepared suggested sequences which may be helpful to a student wishing to concentrate in a certain area of theology, e.g., Biblical Studies, Roman Catholic Theology, World Religions, Religion and Culture, Christianity in History, etc.

COURSE INFORMATION

The numbering of the course indicates the level of approach.

100 These courses are of the basic, survey type, wherein emphasis is on breadth rather than in depth, and serve as background for other courses.

200-300 These courses treat of subject matter in a specific area of theology and in greater depth than in the 100 category.

400 Selected topics are dealt with at a more advanced level, independent research is required.

Biblical Studies

213 Introduction to the Old Testament 3 cr
A presentation of the Old Testament writings in their dynamic context of culture, politics, and geography, as well as an introduction to their literary modes, theologies, and themes.

214 Introduction to the New Testament 3 cr
A presentation of the books of the New Testament, including their literary makeup, historical origins and testimony, and theological content, practical approaches in interpreting key passages of the New Testament.

313 Archaeology and the Bible 3 cr
An illumination through archaeological of the historical setting, the cultural background, and the events described in the Bible, a general introduction to the techniques of archaeological investigation and a study of the principal archaeological sites in Palestine.

316 The Apostle Paul 3 cr
An exposition of Pauline Literature, emphasizing the person of Paul and his impact on the early Church.

321 Jesus in the Gospels 3 cr
A portrait of the person of Jesus Christ, based on a study of the 4 gospels, with ample usage of recent scholarship.

413 Theology of the Old Testament 3 cr
Examination of the theology of the various books or blocks of writing in the Old Testament, an attempt to draw together and present the major themes, motifs, and concepts of the Old Testament, a study of the relationship between the Old Testament and the New Testament.

414 Theology of the New Testament 3 cr
A study of specific themes or books of the New Testament focusing on particular questions of contemporary Christianity. Syllabus will be available in the Theology Office.

490 Field Experience in Biblical Archaeology 3 cr
Six weeks of supervised participation in an archaeological excavation in the Ancient Near East, experience in stratigraphic digging, pottery identification, scientific analysis of finds, and recording methods. Offered every two or three years, approval of participants by core staff required.

493 Individual Topics in Biblical Studies 1-3 cr
The topics will change regularly and will be published within the department.

Christian Studies In General

235 Christian Worship 3 cr
The meaning of ritual and worship in Christianity with special emphasis upon the history of worship and the developments in both Roman Catholic and Protestant worship since the Vatican Council.

243 Religion and Social Issues 3 cr
A study of the influence of religious convictions in confronting major social issues of today's world, e.g., population growth, famine, ecology, liberation and revolution, truth as a social issue, wealth, taxation, and stewardship.

290 Protestantism 3 cr
An introduction to the thought of the principal reformers Luther, Calvin, Zwingli, Wesley, a study of speculative and practical forces operating in the fourteenth-sixteenth centuries which gave rise to the reforming movement, the formulation of Protestant Orthodoxy.

271 Eastern Christianity 3 cr
A study of the major theological developments in the Eastern Church from the Patristic age on through the medieval times until the modern days as they shape its distinctive spirit and mentality and as they are interpreted in the Eastern Churches.

274 Church History I 3 cr
A religious and historical exploration of the growth of Christianity from the first century up to the Reformation, discussion of those issues within the Church and the external forces which brought about major conflict and development.

275 Church History II 3 cr
Selected topics in Catholic and Protestant development from 1500 to the present day, special emphasis on the crises, revolutions, and reforms that were central to this development.

343 Women and Christianity 3 cr
Survey of the Old and New Testament views of women and a history of the status of women in the Roman Catholic and major Protestant traditions with emphasis on the contemporary role and spirituality of women in Christianity.

351 Sexuality, Sex, and Morality 3 cr
An analysis of the nature of sex and sexuality according to the sources and developments of Christian thought, the integration of these concepts into a contemporary framework, and a study of the sexual behavior of modern cultures.

352 Human Life and Morality 3 cr
A discussion of the fundamental moral principles involved in making any of the "life decisions," the problem of the definition of life, a survey of the varied moral approaches to the issues of war and peace, capital punishment, abortion, birth control, euthanasia, genetics, engineering, and the new embryology.

353 Health Care Ethics 3 cr
A study of practical and theoretical issues in the ethics of health care. The course is cross-listed in the nursing school and is taught by the members of the theology faculty and a member of the nursing faculty. Issues include life and death questions, professional-patient relationships, and moral aspects of the health care professions.

451 War and Peace in Christian Perspective 3 cr
An analysis of Christian teaching of the moral permissibility of using violence and participation in war from biblical times to the present, including an evaluation of the varieties of pacifism, of nonviolent resistance, and of just war theories.

470 Christian Mysticism 3 cr
A study of the manifold Christian experience of mysticism, i.e., experiential contact with God, as seen in famous exemplars of mystical experience, e.g., Jesus Christ, Paul, Ignatius of Antioch, Augustine, John Ruysbroeck, Catherine of Siena, Teresa of Avila, Meister Eckhart, Venerable Liberman.

494 Individual Topics in Christian Studies 1-3 cr
The topics will change regularly and will be published within the department.

Roman Catholic Theology

106 Faith and Experience 3 cr
An examination of various forms of atheism and an exploration of Christian responses to their challenge, a study of the meaning of faith and revelation in its history and contemporary expression, an attempt to answer the question of faith's reasonableness.

108 Catholicism 3 cr
An exploration of the spirit, beliefs and practices of Roman Catholicism including its understanding of sacramentality, mediation and communion, a study of the Roman Catholic classics and issues confronting Roman Catholicism.

220 The Mystery of Christ 3 cr
A study of the person and meaning of Christ in historical and contemporary perspective, a discussion of the new bond between God and humanity and the new era in the spirituality of humanity inaugurated by the Incarnation and the Passion-Death-Resurrection event.

230 The Church 3 cr
A study of the Christian community of believers in its organs, some of its major historical and dogmatic emphases, and its contemporary understanding of itself, the Church as a mystery, as Mystical Body, as People of God, as sacrament.

242 Contemporary Theological Issues 3 cr
An examination of theological developments in an era of renewal, reevaluation, and cooperation, e.g., belief and unbiblical, Christian and secular humanism, the future with reference to hope, heaven, hell, afterlife, and resurrection, sin in a secular age, suffering and evil.

250 Conscience and Morality 3 cr
A Catholic perspective of the basic issues involved in the formulation of moral values with the developing person, and of the sources upon which moral systems are based, a discussion of the absolute vs the relative, traditional morality vs "the new morality," and application of these principles to modern problems.

256 God and His Meaning 3 cr
A theological understanding of the problems of God, a consideration of the responses of various religions and philosophies to this problem, the origins and development of the theology of God in the Judeo-Christian tradition with special focus on Catholic development.

301 Marriage 3 cr
A personally-oriented and practical treatment of the marital union as seen in its Christian theological, psychological, and sexual aspects, a discussion of Christian marriage as a bond of love, as a sacrament, and as a way of human fulfillment.

331 The Church in the Modern World 3 cr
An analysis of the Church's role in human development today and in offering solutions to present
problems of humanity in light of Vatican II's "Pastoral Constitution on the Church in the Modern World" and other related documents.

335 Theology of the Sacraments 3 cr
A practical treatment of the seven sacraments in relation to their significance for the Christian's daily spiritual growth and fulfillment, consideration of human needs for ritual and symbol, discussion of recent revisions and developments in sacramental theology.

475 Theology and Catechesis 3 cr
An examination of the principal theological and pedagogical themes of modern religious education, and of the place of catechesis in the ministry of the Church, a presentation of the historical background of the contemporary catechetical renewal.

491 Experiences in the Teaching of Religion 6 cr
One semester of supervised experience in teaching religion in a high school environment in conjunction with a cooperating high school teacher and University Department Coordinator. This course is open only to majors in Theology upon approval of the Chairperson of the Department.

495 Individual Topics in Roman Catholic Study 1-3 cr
The topics will change regularly and will be published within the department.

498 Seminar in Theology 3 cr
A critical analysis of selected topics in theology or of selected works by outstanding theologians, open only to juniors and seniors with a major or minor in theology.

Selected Religious Studies

180 Religious Experience 3 cr
An examination of the dimensions of mankind's religious experience, e.g., mystical, ritual, mythical, ethical, and scriptural, an analysis of the likeness and differences of how the Divine is sensed and responded to in varied geographical, cultural, and chronological contexts.

240 Studies in Black Theology 3 cr
An examination of the dimensions of the religious experience of Black Americans, e.g., its history, its relationship to African origins, to slavery, to racism, to Christian denominations, an analysis of special elements in that experience, e.g., Black Churches, preaching, music and the "American Way of Life."

283, 284 Judaism People & Faith 3 cr each
A survey of modern Jewish history to discover roots and traditions of the Jewish people in American, Israel and the Soviet Union, view of the Holocaust and its effects on world Jewry. The faith, beliefs and practices of Jewish life today (This course is sponsored by the Chautauqua Society.)

372 Religious Themes in Literature and Film 3 cr
An exploration of religious experience and religious concepts as expressed in significant works in film and literature, including themes concerning human person's relationship to self, others, and to God.

496 Individual Topics in Religious Studies 1-3 cr
The topics will change regularly and will be published within the department.

School Of Business and Administration

Administration
Acting Dean
Bernadine Meyer, Ed D., J D

Associate Dean
Thomas A Pollock, Ph D

Assistant to the Dean
Cynthia Boyer, B.S. B.A

Emly Gomes, M.B.A

Chairperson(s)
Robert Borman, M.B.A., C.P.A

Quantitative Sciences Division
William D. Presutti, Jr., Ph D

Behavioral Sciences Division
Richard Bond, Ph D

Economic Sciences Division

HISTORY
The School of Business and Administration was established in 1913 as the School of Accounts and Finance. The rapid growth of the School necessitated a constant broadening of the curriculum until it covered all business subjects of fundamental importance.

In 1933 it was designated the School of Business Administration, and, with this change, definitely became a professional school of business administration.

In 1971 the name was changed to the present designation to indicate broader preparation for activity in organizations of all types.

PHILOSOPHY AND OBJECTIVES
In accord with the educational philosophy and objectives of the University, the School of Business and Administration aims to assist students in their development of the natural and supernatural virtues. The general aim is to provide through the media of instruction and related collegiate activity the facilitation of purposeful character, intellectual accomplishment, emotional and social maturity, and professional efficiency.

The School of Business and Administration has the professional responsibility of developing in students such knowledge of business principles, procedures and problems as will enable them to become self-sustaining members of the community, aware of their social and public responsibilities and dedicated to the enrichment of the resources for worthy living.

It seeks to produce graduates who, upon entering their chosen careers, will be effectively prepared to discharge their obligations to God, their community, and themselves as intellectual and moral beings.

The School attains this objective by guiding students through a cultural core program, a business core program, an elective area of advanced business subjects chosen on the basis of professional interests, co-curricular and extra-curricular activities, and established personnel services.

As a division of the University, the School of Business and Administration is obviously dedicated to promoting those University aims and objectives contained in the overall mission statement.

The professional objective of the School of Business and Administration is to produce graduates who have acquired and developed:

1. An appreciation of the importance of initiative and who consequently are willing to assume responsibility, work efficiently and harmoniously with others, and adjust to changing circumstances.

2. A respect for logical thinking and who strive energetically, therefore, to develop the capacities for analytical reasoning through the vigorous and orderly application of ethical and technical principles to problem solving.

3. An understanding of the personal and professional value of effective communications and a cultivation of their capacities for speaking and writing clearly and concisely.

4. An awareness of the important role of quantitative measurements in today's business and who have become skilled in the interpretation of mathematical, accounting and statistical data with computer usage.

5. Sufficient knowledge in a professional area so that they can assume positions of responsibility with a background that will enable them to progress rapidly.

ADMISSION
Students who wish to enroll in the School of Business and Administration should apply through the Office of Admissions. In addition to the regular University admission requirements (see p. 6), students who wish to enroll in the School of Business and Administration should present a good background in mathematics.

Students transferring from a school of business that is accredited by the American Assembly of Collegiate Schools of Business must present an overall quality point average of 2.0 (on a 4.0 scale) or better. For other students including those transferring from another school within the University, a quality point average of 2.25 or better overall and a grade of C- or better in all mathematics and business courses are necessary.

If the student wishes to transfer credit for course work in business taken elsewhere at the lower level (freshman and sophomore) when that work is
The School of Business and Administration grants information about validation by CLEP and qualify—must first validate such course work by testing For those who satisfy the entrance requirements and complete successfully the School's degree program

SECOND BACHELOR'S DEGREE

Persons who have received a Bachelor's degree from an approved college or university may be eligible to enter the program for a second Bachelor's degree in Business Administration. A second degree candidate must meet all requirements of the School's degree program. A minimum of 30 credits must be completed in residency.

THREE-YEAR BACHELOR'S/J D

A student who has completed 90 credits at Duquesne University with a 3.5 or better overall average and who has satisfied all undergraduate curricular requirements may apply for the Bachelor's degree after successful completion of the first year of academic work at Duquesne University School of Law. Students interested in this program should consult their advisors in the sophomore year.

EARLY ADMISSION TO MBA PROGRAM—BSBA/MBA

The School of Business and Administration provides an opportunity for students in the School who achieve the Dean's List to apply for early admission to the Master of Business Administration (MBA) program. Provided they receive a satisfactory score on the Graduate Management Admission Test, these students may apply to take certain MBA courses during the senior year. Dean's List students interested in this program should consult their advisors early in the junior year.

EARLY ADMISSION TO MBA PROGRAM—B S. PHARMACY/MBA

The School of Business and Administration and the School of Pharmacy have a cooperative program that enables qualified pharmacy students to apply for early admission to the MBA program. Pharmacy students interested in this program should consult their advisors.

BUSINESS CERTIFICATE PROGRAM WITH COLLEGE OF LIBERAL ARTS AND SCIENCES AND SCHOOL OF EDUCATION

The School of Business and Administration and the College of Liberal Arts and Sciences and School of Education have developed a certificate program in business for liberal arts and science students. Students in the College and School of Education who are interested in the program should consult the advisors in the School of Business and Administration.

SCHOOL CENTERS

Activity complementing direct instruction takes place in three ancillary units. All function to provide students and faculty with an opportunity for professional development, as well as to provide services to the University and the community at large.

Center for Economic Education

The Center is charged with the responsibility of instilling and promoting economic education in the society at large. More specifically, it develops and coordinates economic education within the Western Pennsylvania and Tri-State area primarily to upgrade economic literacy and teaching competency in the school system. The Center also conducts economic education programs for clergy, media professionals, and other opinion leaders.

Center for International Management

The objective of the Center is to develop a better understanding of the American involvement in international affairs and business, and in management abroad through teaching and research, it is achieved by an interdisciplinary approach. The areas of current research focus are:

1. Trade expansion between the USA and Eastern Europe
2. Management in foreign nations
3. Problems in international business
4. International economic development with a stress on interaction among developed countries, and on the relationship of developed and less developed countries
5. International political and legal issues

The Center has no teaching program of its own, most of its staff are faculty members from various schools and departments of the University or visiting foreign professors.

Center for Real Estate Studies

The objective of the Center for Real Estate Studies is to become a regional education center and to provide students with the necessary background so that they may obtain various professional designations in the field of real estate.

SCHOOL OF BUSINESS AND ADMINISTRATION

The School of Business and Administration operates two large computer laboratories in Rockwell Hall. One laboratory is dedicated to personal computers and their applications across the business curriculum. These personal computers have graphics capabilities and maximum internal memory capacities. The other laboratory consists of terminals with which provide on-line access to software and applications associated with the University's mainframe computer system. These two laboratories provide state-of-the-art hardware and software support to students in the School of Business and Administration.

STUDENT ORGANIZATIONS

These student organizations in the School of Business and Administration exist for the promotion of the scholarly and professional interests of members.

American Marketing Association, the student chapter, affords membership to students whose major interests include salesmanship, marketing, advertising, transportation, or foreign trade. A selected group of seniors is permitted, under faculty supervision, to participate in the meetings of the Sales Executives Club of Pittsburgh and the senior chapter of the A M A.

Delta Sigma Pi, a national professional business society, is represented by Theta Rho chapter.

The Association for Personnel Administration is the student group sponsored by and affiliated with the American Society for Personnel Administration. Dean's Student Advisory Council, consists of student leaders in the School, who meet on a regular basis with the Dean to discuss School matters.

International Business Association, is a student organization for those with interest in careers in the area of international business.

Financial Management Association, is a group whose activities promote the interests of students interested in finance.

Data Processing Management Association, is an organization for those whose career interests are in the management information systems area.

ADVISORY BOARDS

Advisory Board for Accounting

Joseph D. Setz, CPA, Arthur Andersen & Co
Melvin G. Henninger, Bayer, USA, Inc
Robert J. Schuler, Blue Cross of Western Pennsylvania
William F. Buettner, Cooper's & Lybrand
Joan Ellenbogen, CPA, Crawford & Ellenbogen
Anthony M. Patiku, Defense Contract Audit Agency
Mark M. Cham, CPA, Deloitte Haskins & Sells
Betty Arenth, Duquesne University
James R. Blue, CPA, Epstein, Tabor & Schorr
Stephen F. Paskurich, Equitable Resources Inc
Anthony J. Crasco, CPA, Ernst & Whinney
Andrew W. Hasley, CPA, Federal Home Loan Bank
Richard J. Pike, CPA, Hossack, Specht, Muetsel and Wood
Robert Siadack, CPA, Internal Revenue Service
David N. Kaplan, CPA, Kaplan Sipos & Associates
Joseph S. Scherer, CPA, Love, Scherer & Bauer
Donald J. O'Reilly, CPA, Mellon Bank
Timothy G. Shelly, CPA, NVR Mortgage
Daniel J. Collins, Jr., CPA, Peat Marwick Main & Co
James R. Kilzer, CPA, Price Waterhouse
John G. Borman, CPA, Schneider Inc
Harry F. Larkin, Jr., CPA, Schneider, Downs & Co., Inc
Raymond P. Dimuzio, CPA, Touche Ross & Co
Robert E. Faust, Westinghouse Electric Corp
Charles R. Modispacher, CPA, Arthur Young & Company

Advisory Board for Marketing

Joseph Solomon, Blue Cross of Western Pennsylvania
Don A. Collins, Dymax Growth Inc
John Welch, Equitable Gas Company
David Peck, Fisher Scientific Company
Eric Theis, HenNi-Voss Corporation
Larry Angust, Joseph Horne Company
Bruce Karger, IBM
Michelle Cooper, Mercy Hospital
Alan Ridley, Metacon Corporation
Richard White, Metropolitan Life
Yoshito Tokumitsu, National Steel Corporation
John Vieheller, Register Results
James Bezila, Roerig — Division of Pfizer
George Harris, Susquehanna Management Associates
Richard Wardrop, USX Corporation
Thomas V. Doyle, Westinghouse Electric Corporation

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SCHOOL OF BUSINESS AND ADMINISTRATION

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### School of Business and Administration

**Advisor Board for Real Estate**
- Ray R. Barone, Barone & Sons, Inc
- Olver E. Shoemaker, Carey, Karmer, Pelusi & Co
- F. Lynn Fultz, FFV Realty
- Robert Gelman, Gelman Real Estate Service and Appraisals
- Howard W. Hanna, III, Howard Hanna Company
- Carl Grefenstein, The Hillman Company
- W. William Cotter, Jr, T A Title Insurance Company

**Divisions and Academic Programs**

The School of Business and Administration is comprised of three divisions: Quantitative Science, Behavioral Science, and Economic Science. Students entering the School of Business and Administration are expected to inform their advisors about their career objectives and their academic areas of concentration, and to consult with them when choosing upper-level courses.

#### Academic Regulations

**Acaedemic Load**

Students may normally carry five courses in one semester. A schedule of more than five courses or 15 credits must be approved by the Dean. In the summer sessions, students normally carry one credit per week, i.e., six credits in the six-week session. A 12-credit schedule in a regular semester is considered full-time study. Students on academic probation may not take more than 12 credits.

**Effective Catalog**

Degree requirements are those stipulated in the catalog of the year in which a student matriculates. The student is responsible for knowing the requirements. Degree requirements may be changed without notice or obligation. This catalog has been prepared on the best information available as of February 1980.

**Class Attendance**

Regular class attendance in the School of Business and Administration is required for maximum educational advantage. The responsibility for all course material rests wholly with the student. It is the prerogative of each instructor to establish specific policies for attendance at test, examinations, class lectures, deadlines for reports, and other specific school or course requirements.

A student who is unable to attend class because of serious illness, hospitalization, a serious accident, or other extenuating circumstances is responsible for notifying the student's advisor. The student should supply a written verification as soon as possible. A student who is absent for cause is expected to complete all of the work in all courses. It is the student's responsibility to make up all assignments in all courses and to be familiar with any instructions which may have been given during the absence.

**Handicapped Students**

Students requiring special assistance are urged to notify the class instructor or the student's advisor before the first class.

**Enrollment in Business Courses by Students in Other Schools of the University**

Students enrolled in other schools in the University are welcome to take business courses provided they meet all prerequisites. Under no circumstances, however, may a student in another school take more than 24 credit hours in business courses. Students in the College of Arts and Sciences who wish to take business courses should follow the business catalog established by the two schools. Students should consult their advisors in this matter.

**Prerequisites—Upper Level Business Courses**

In addition to any specific prerequisites that are listed in the course descriptions, all freshman and sophomore required business courses must be completed before the student may enroll for upper-level business courses. A student must have completed 60 credits or more. This requirement does not apply for all students, whether they are enrolled in the School of Business and Administration or in any of the other schools in the University.

**Frequency of Course Offerings**

The frequency of course offerings included in each course description is a guide only. Changes can occur as student demand warrants.

**Division of Quantitative Science**

The accounting faculty recommends that students concentrating in accounting take Accounting 211, 212, 311, 312, 314, 315, 411, 412, 413, or 485 and 251-Legal Process, as well as at least one of the following: Law 353, 354, 355 and 454. It is recommended that the student achieve an overall B average in Accounting 211, 212 before attempting Accounting 311 and a minimum grade of C in both 311 and 312 before attempting the remaining 300 and 400 level courses.

Computer and management information systems courses recommended for accounting students are 481, 485.

**CPA Requirements**

Students who desire to become certified public accountants in Pennsylvania and who have been graduated from a four-year program in a college

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**Table: Four Year Sample Plan (Effective September 1989)**

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses</td>
<td>Credits</td>
<td>Courses</td>
</tr>
<tr>
<td>101. Thinking and Writing in the Curriculum</td>
<td>3</td>
<td>102. Integrative Law or Political Science</td>
</tr>
<tr>
<td>109. College Algebra</td>
<td>3</td>
<td>111. Calculus</td>
</tr>
<tr>
<td>110. Intro to Computers</td>
<td>3</td>
<td>112. Microcomputer Software</td>
</tr>
<tr>
<td>Core Curriculum Requirement</td>
<td>3</td>
<td>Core Curriculum Requirement</td>
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<tr>
<td>Core Curriculum Requirement</td>
<td>3</td>
<td>Core Curriculum Requirement</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses</td>
<td>Credits</td>
<td>Courses</td>
</tr>
<tr>
<td>211. Intro Accounting I</td>
<td>3</td>
<td>212. Intro Accounting II</td>
</tr>
<tr>
<td>215. Life &amp; Stats I</td>
<td>3</td>
<td>216. Life &amp; Stats II</td>
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<tr>
<td>Core Curriculum Theology, Rel</td>
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<tr>
<td>Core Curriculum Science Req</td>
<td>3</td>
<td></td>
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<tr>
<td>Core Curriculum Science Req</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Junior Year</td>
<td>Fall Semester</td>
<td>Spring Semester</td>
</tr>
<tr>
<td>Courses</td>
<td>Credits</td>
<td>Courses</td>
</tr>
<tr>
<td>350. Prin of Management</td>
<td>3</td>
<td>351. Prin of Marketing</td>
</tr>
<tr>
<td>352. Business Finance</td>
<td>3</td>
<td>Non-Business elective</td>
</tr>
<tr>
<td>353. Non-Business elective</td>
<td>3</td>
<td>Non-Business elective</td>
</tr>
<tr>
<td>354. Social Science</td>
<td>3</td>
<td>355. Science</td>
</tr>
<tr>
<td>356. Science</td>
<td>3</td>
<td>357. Science</td>
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**Courses may be taken either semester**

- **Business Core Curriculum**
- Students registering for 300-400 level business courses must have successfully completed 60 credits and have junior standing. STUDENTS ARE RESPONSIBLE FOR KNOWING THE PREREQUISITES FOR THOSE COURSES IN WHICH THEY ARE REGISTERED.
Graduates may sit for the CPA examination

COURSE PREREQUISITES — see p 95

211, 212 Introductory Accounting 3 cr each
This course is primarily concerned with investment decisions. Offered every semester.

141 Auditing
Standard auditing practices are employed to render financial statements. Emphasis is placed on theory and philosophy of auditing, but case problems are used to demonstrate the application of the principles studied. 3 cr Offered every semester.

312 Intermediate Accounting 3 cr each
This course is designed to introduce students to management information processing systems. The student is expected to be able to identify problems and to develop solutions. 3 cr. Offered each year.

313 Managerial Accounting 3 cr
A study of the components of the balance sheet and income statement. Basic topics are covered. 3 cr Offered every semester.

314 Advanced Accounting 3 cr
This course studies the control of managerial efficiency, inventory control, and cost control. 3 cr. Offered every semester.

315 Cost Accounting 3 cr
Basic cost accounting procedures are discussed. The student is expected to be able to identify problems and to develop solutions. 3 cr. Offered every semester.

FINANCE CURRICULUM

412 Introductory Income Tax Accounting
This course is designed to introduce students to the principles of income tax law as it applies to corporations and their shareholders. It is a prerequisite to the study of intermediate courses in taxation. 3 cr. Offered every semester.

413 Accounting Information Systems
A course designed to introduce students to management information processing systems and the techniques and principles of financial analysis. 3 cr. Offered every semester.

414 Corporate and Partnership Taxation
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

419 Seminar in Accounting
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

321 Managerial Accounting
This course is primarily concerned with the study of income tax laws as they apply to corporations and their shareholders and to partnerships and their partners. Emphasis is placed on the application of accounting techniques in accounting, planning, and reporting of financial information. 3 cr. Offered every semester.

322 Money and Financial Institutions
A study of the role of financial institutions in our society as they perform their functions. 3 cr. Offered every semester.

323 Business Finance
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

324 Corporate Financial Problems
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

325 Business Financial Problems
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

326 Security Analysis
An intensive study of the analytic techniques applicable to the selection of the various securities of a financial nature. 3 cr. Offered every semester.

331 Business Management
A study of the components of the balance sheet and income statement. Basic topics are covered. 3 cr. Offered every semester.

332 Money and Financial Institutions
A study of the role of financial institutions in our society as they perform their functions. 3 cr. Offered every semester.

333 Financial Management
A study of the components of the balance sheet and income statement. Basic topics are covered. 3 cr. Offered every semester.

335 Business Financial Problems
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.

336 Security Analysis
An intensive study of the analytic techniques applicable to the selection of the various securities of a financial nature. 3 cr. Offered every semester.

337 Investment Analysis
This course is designed to develop a student’s ability to identify and to apply the principles of tax law. 3 cr. Offered every semester.
FINANCE/MANAGEMENT INFORMATION SYSTEMS

338 Futures and Options 3 cr
The course is designed to develop an understanding of futures and options and other derivative financial instruments. While these contracts may be used for speculative purposes, the main emphasis is on the reduction of asset and liability risk for business and financial institutions through hedging operations in debt and equity instruments, commodities and currencies. Methods of analysis such as Black Scholes model and arbitrage pricing theory are an essential part of the course. Students will have an opportunity to study actual market behavior through project analyses. Prerequisites: Finance 331, 336. Offered every year.

432 Credit Management 3 cr
This course gives the student an understanding of the function of credit management. Cases, problems, and field experience may be assigned. The student will have the opportunity to integrate knowledge gained from text material and other financial sources with that of other disciplines to arrive at a logical, sound credit decision. Prerequisite: Finance 331. Offered every third semester.

433 Financial Markets 3 cr
An extensive and intensive study of the market in which the financing of needs takes place. Study is made of the markets for borrowing and lending of capital. Both short-term and long-term financial institutional structures are given emphasis as they act and interact when serving as sources or intermediaries and users of funds. A research project provides the opportunity to concentrate upon an individual topic. Prerequisite: Finance 331. Offered every third semester.

434 Life Insurance 3 cr
A study is made of the risks of death and longevity and their effect upon personal and business situations. Analyses are made of various forms of life insurance and annuity contracts, with emphasis upon their functions as instruments of estate creation and administration. Uses of insurance in connection with bank loans, partners and key persons are explored. Attention is given to accident and health coverages, group plans, pensions, and regulation of the industry. Prerequisite: Finance 331. Offered infrequently.

435 Property and Liability Insurance 3 cr
A study of business and personal applications of casualty, fire, and liability coverage. Emphasis is placed upon the construction of insurance and bonding contracts, including the fields of workers' compensation, landlords' and tenants' liabilities, burglary, robbery, and theft, automobile, credit and title insurance, fire and related lines, fidelity and surety bonding, and relevant aspects of inland and ocean marine. Prerequisite: Finance 331. Offered every third semester.

437 International Financial Management 3 cr
This course provides a conceptual framework within which the key financial decisions of the multinational firm can be analyzed. Emphasis is placed on decision elements which are unique to multinational firms. All the traditional areas of corporate finance are explored, including working capital management, capital budgeting, cost of capital and financial structure, and valuation and control of operations. In addition, exchange risks and political risks are examined extensively. Prerequisite Finance 331. Recommended prerequisite: Economics 442. Offered as needed.

439 Seminar in Finance 3 cr
Concentration upon selected contemporary topics presented by distinguished visiting professors or resident faculty. Open only to senior students. Prerequisite: Finance 331. Offered as needed.

MANAGEMENT INFORMATION SYSTEMS CURRICULUM

The Quantitative Science Division offers an area of concentration in Management Information Systems to prepare students for career opportunities in business application programming, systems analysis and design, and information processing management. The course work is designed to prepare applications to those to systems techniques to the solution of information systems problems. Organizations. For the data, concentration, completion of M 382, 383, 385, 481, 482, and 483 is required. In addition, three elective courses must be taken from the following: 384, 386, 494, and 485.

382 Information Processing with COBOL 3 cr
Prerequisite: little or no programming experience. This course presents a fundamental overview of COBOL programming concepts and techniques. The scope of the COBOL language is based on that of COBOL concepts, data, and the computer. Multiple level control break reports, sorting, and COBOL handling methods to the introduction of file creation and file processing techniques. Prerequisite: Q5 182. Offered as needed.

383 File Processing with COBOL 3 cr
Prerequisite: little or no programming experience. This course presents a fundamental overview of COBOL programming concepts and techniques. The scope of the COBOL language is based on that of COBOL concepts, data, and the computer. Multiple level control break reports, sorting, and COBOL handling methods to the introduction of file creation and file processing techniques. Prerequisite: Q5 182. Offered as needed.

384 Expert Systems in Business 3 cr
The potential role of expert systems to support management decision making is analyzed. Expert systems are defined, their development is discussed, and areas of business applications are surveyed. The artificial intelligence software environment is also explored and evaluated. The student will apply the concepts of knowledge engineering to expert systems development through a commercial expert system software tool. Problems in modeling and maintaining an expert system are also discussed. Prerequisite: Q5 182. Offered in the spring semester.

385 Computer Systems 3 cr
Prerequisite: detailed coverage of mainframe hardware and system software. Topics such as compilers, computer memory, and operating system concepts from the basis for a sound background in computer technology. Detailed examination of tape, disk, printer, data entry, and data communications technology provide a base for advanced coursework. Prerequisite: Q5 182. Offered as needed.

386 Computer Simulation 3 cr
Provides an orientation to the design and implementation of simulation models as a means of studying the behavior of a system. The student is required to validate models and their results for the purpose of management decision making. Popular simulation languages are used to construct general-purpose simulation models as well as financial, system models. Other topics such as computer graphics applications using personal computers are also presented. Prerequisite: Q5 182. Offered in the fall semester.

481 Systems Analysis and Design 3 cr
A detailed study of all phases of the systems life cycle with emphasis on structured analysis and design techniques. Case studies are used to generate detailed data flow diagrams. The student is required to analyze needs and design files with corresponding inputs and outputs. The issues involving conversion, testing, training, documenting, maintaining and managing a system are also discussed. Prerequisite: Q5 182. Offered as needed.

482 Data Base Management 3 cr
Focuses on implementation, usage, and integration of a database into the systems analysis and design process. After a thorough introduction to data structures, students apply the network, hierarchical and relational models to a series of business problems using available commercial packages. Emphasis is on using such packages in a high-level or fourth generation language environment. Prerequisite: Q5 182. Offered as needed.

483 MIS in Organizations 3 cr
Establishes the role of management information systems and decision support systems in organizations. The impact of the information system on organizational objectives and structure is examined. The importance of accurately defining information requirements for all levels of management in a manner that fully utilizes the capacity of the information resource is stressed. Decision support software is integrated into the course content. Prerequisite: M 1 S 481. Offered in the spring semester.

484 Distributed Information Systems 3 cr
Develops an understanding of the terminology, devices and security features of centralized, decentralized, and distributed data communication systems. The impact of communications technology on information processing is considered. Data communications errors, their detection and correction are discussed. Available software, common carriers, and prevailing costs for services are presented. Case studies are used as the student is expected to design an educational environment. Prerequisite: Q5 182. Offered in the fall semester.

485 EDP Audit and Control 3 cr
3 cr
Prerequisite: EDP auditing standards with a blend of systems concepts and applications. The importance of incorporating controls in system design is stressed throughout. Techniques for testing computer programs, files, and processing systems are presented. Special attention is devoted to the particularities of auditing real-time systems, time-sharing systems, and computer services. Case studies of integrated audit software are used to create a simulated audit environment. Prerequisite: Q5 182. Offered in the spring semester.

QUANTITATIVE METHODS CURRICULUM

Students in the undergraduate School of Business and Administration complete a basic sequence in Quantitative Methods. This sequence is concerned with the application of mathematics, statistics, and electronic data processing to the analysis of business and economic problems. The objective of the program is to increase the student's knowledge and understanding of the uses of mathematics, statistics, and computers as aids in decision-making. The basic sequence is comprised of these courses: Quantitative 281, 282, 381 after completion of M 1 S 181 and 182. Prior to entry into the sequence, Mathematics 109 and 111 in the College or the equivalent are required.

381 Introduction to Computers 3 cr
3 cr
An introduction to computer terminology, concepts, applications, and programming. The course presents the computer as a problem-solving tool in the business environment. Concepts and applications of word processing, spreadsheets, and data base management systems are introduced. Programming and systems concepts and applications are also presented. Students will use both macro and
mainframe computers to complete course assignments. Prerequisite: Mathematics 109, to be taken concurrently. Offered every semester.

382 Microcomputer Software Applications 3 cr
Develops competency in applying the microcomputer and telecomputer software to business-related situations. The student is expected to apply pre-packaged software to devise solutions for decision support. Major spreadsheet and data base management software as well as advanced operating system concepts will be emphasized. Prerequisite: Q.S. 181. Offered every semester.

281, 282 Probability and Statistics 3 cr each
This sequence includes the basic ideas of descriptive statistics, inductive statistics, and probability. Among the topics covered are frequency distributions, measures of central tendency, measures of dispersion, sets and set operations, elementary probability theory, probability distributions, sampling distributions, statistical estimation, testing of hypotheses, time series analysis, simple linear regression and correlation. Prerequisites: Q.S. 181 and Mathematics 111. Offered every semester.

381 Introduction to Decision Sciences 3 cr
The application of the scientific method of problem solving to business problems. The course includes various models and the methods of applying them to business situations. The models covered include linear programming, simulation, queuing, and inventory optimization. The use of library computer programs will be emphasized. Prerequisites: Quantitative Methods/Real Estate 100 concurrently. Offered every semester.

**REAL ESTATE CURRICULUM**

Students who desire a concentration in real estate must complete Real Estate 339, 434 or 436, and Law 357 and, in addition, must select twelve credits in real estate and related elective courses.

**COURSE PREREQUISITE—see p 95**

339 Fundamentals of Real Estate 3 cr
A study of the problems involved in financing residential, commercial and industrial real estate from the points of view of both owner and lender. Methods of financing covered include use of individual and business equity, loans, secured by mortgages, land contracts, sale-and-lease-back arrangements, joint ventures, and escrow accounts. Prerequisites: Real Estate 339. Offered every semester.

434 Real Estate Investment Analysis 3 cr
In this course the student learns the application of investment principles and analytical techniques to real property. Emphasis is on the estimation and revenues/expenses and risk/return relationships in investment valuation of realty and the effects of financing, income taxes, and entity selection upon investment profitability. Prerequisite: Real Estate 339. Offered every year.

435 Property Management 3 cr
A survey course intended to provide an introduction to effective management, marketing and leasing techniques as they are applied to commercial real estate. Examination of both the physical and fiscal management functions and how they impact upon the financial performance of property. Prerequisites: Real Estate 339 and Management 361. Offered as needed.

436 Real Estate Valuation 3 cr
The principles and methods of appraising single-family dwellings, including analysis of region, neighborhood, site and improvements. The market approach, cost approach and gross-income multiplier approach are presented. Income Property Valuation—Forecasting and computation of gross income, expenses, and net operating income, theory and mechanics of deriving alternative capitalization rates, applications of compound interest theory, residual approaches and mortgage equity analysis. Critique of contemporary theory and practices. Prerequisite: Real Estate 339. Offered every year.

439 Contemporary Topics Seminar 3 cr
This course is designed in a seminar format and provides the opportunity for specialized study of the theory and special applications of real estate problems and institutions. Topical issues are treated in detail and students are encouraged to provide extensive examination of relevant and important issues facing property owners, users and society in general. Prerequisite: Real Estate 339. Offered as needed.

357 Real Estate Law 3 cr
See Law Administration Curriculum.

## DIVISION OF BEHAVIORAL SCIENCE

**PROGRAM GUIDE**
Programs of study offered through the Division of Behavioral Science include, but are not limited to, the following:

**General Business Administration**
- Human Resource Management
- International Business
- Law Administration/Pre-Legal Management
- Marketing

**Quantitative Methods/Real Estate**
- Finance
- Human Resource Management
- Labor Relations
- Management
- Marketing
- Property Management
- Real Estate
- Real Estate Valuation
- Urban Land Economics

**HUMAN RESOURCE MANAGEMENT CURRICULUM**

The objective of the Human Resource Management curriculum is to provide students with the opportunity to acquire specialized knowledge and applicable skills necessary to function, as professionals in this career field.


**COURSE PREREQUISITES—see p 95**

356 Legal Aspects of Human Resource Management 3 cr
See Law Curriculum.

364 Personnel Management 3 cr
This course includes the technical functions and services provided by an organization's Personnel/Human Resource Department. Among the topics covered are: human resource planning and systems, job analysis, job evaluation, recruitment, selection, performance appraisal, compensation, benefits, training and development, career planning, attitude surveys, occupational safety and health, employee rights, labor unions, international personnel relations, and equal employment opportunity. Prerequisite: Management 361. Offered every year.

**GENERAL BUSINESS ADMINISTRATION CURRICULUM**

This concentration is intended for those students who desire a broad overall background in business rather than specialization in any one specific field. Course work beyond the required core may be selected from junior or senior level elective courses in the various fields of study in business. Students in this concentration should plan their programs in consultation with their advisors.

401 Business Administration Internship 3 cr
This internship provides the student with a professional work experience in an organizational environment. It is an extension of the curriculum and provides meaningful experience related to the student's area of concentration. Internship responsibilities must be approved in advance by a faculty sponsor. The student is supervised within the work setting and also by a faculty member from the School of Business and Administration. Grading is Pass-Fail. Prerequisites: Junior standing and an overall QPA of 2.5 or better, completion of at least 15 credits at Duquesne University. Offered every semester.

**SCHOOL OF BUSINESS AND ADMINISTRATION**

**HUMAN RESOURCE MANAGEMENT CURRICULUM**

The objective of the Human Resource Management curriculum is to provide students with the opportunity to acquire specialized knowledge and applicable skills necessary to function, as professionals in this career field.


**COURSE PREREQUISITES—see p 95**

356 Legal Aspects of Human Resource Management 3 cr
See Law Curriculum.

364 Personnel Management 3 cr
This course includes the technical functions and services provided by an organization's Personnel/Human Resource Department. Among the topics covered are: human resource planning and systems, job analysis, job evaluation, recruitment, selection, performance appraisal, compensation, benefits, training and development, career planning, attitude surveys, occupational safety and health, employee rights, labor unions, international personnel relations, and equal employment opportunity. Prerequisite: Management 361. Offered every year.

**Industrial Relations** 3 cr
A course developed to present to the student historical knowledge of the labor movement, current status and importance in industry, and the legal status of labor governing the actions of management in a myriad of ways. Presents the role of labor, management and government in collective bargaining and current industrial relations policies and practices. Prerequisite: Management 361. Offered every year.

**445 Multinational Human Resource Management** 3 cr
This course offers the opportunity for the student to develop fundamental knowledge about the global corporation's problems and policies of human resource management in multiple foreign environments. In addition, students develop the special skills of human resource management as they apply to the particular situations created by the cross-national operations of the global corporation. Finally, students develop knowledge in an area or topic of multinational human resource management and skills in conducting cross-national research in the field of human resource management. Prerequisite: Management 361. Offered as needed.

**461 Human Relations** 3 cr
This is an advanced level course designed to aid the student in acquiring practical skills in managing interpersonal relationships in the workplace. The course is experiential in nature and requires active student participation in various group exercises including role playing, business games, and discussion groups in addition to more traditional instructional methods such as lecture and case analysis. Topics covered include organizational socialization, employee motivation, group dynamics, interviewing, interpersonal perception and communication, supervision, and the management of change. Prerequisite: Management 361. Offered every year.

**463 Collective Bargaining** 3 cr
Study of the relation of federal and state legislation and administrative aspects of collective agreements, specific provisions including adjustment of grievances, conciliation, mediation and arbitration, collective bargaining and public policy. Prerequisite: Management 361. Offered every second year.

**466 Compensation Management** 3 cr
An advanced course involving treatment of major compensation issues. Coverage includes analysis of the many economic and non-economic aspects of compensation, including the impact of legal, societal and organizational factors, collective bargaining, and government in collective bargaining. Prerequisites: Human Resource Management 361. Offered every second year.
INTERNATIONAL BUSINESS/LAW ADMINISTRATION/PRE-LEGAL CURRICULUM

The objectives of this curriculum are:
1. To prepare professionals in the administration of legal systems. Future executives in court management, correctional institutions, and law enforcement receive a broad interdisciplinary educational experience with the core coursework in the School of Business and Administration.
2. To provide solid preparation for the professional study of law. See three-year Bachelor’s law, with emphasis on the judicial branch.
3. To provide the basic legal issues surrounding the administration of legal systems. Offered every year.

357 Real Estate Law
The principles of real property law and their application to the transfer of property rights. Topics include real estate applications of contract and agency law, and the legal relationships among buyers and sellers, landlords and tenants, and lenders. Offered every year.

453 Administration of Legal Systems 464, 465
Study of the legal system and the procedures by which legal rights and duties are effectuated and enforced, current problems and issues related to the system in the attainment of its objectives, administrative problems in the legal system. Offered as needed.

454 The Law of International Commercial Transactions 3 cr
This course provides the student with an overview of the law governing the legal environment of international commerce. Topics covered include an introduction to foreign legal systems, study of various forms of business organization, and the legal issues involved in doing business with and in other countries. Offered every year.
361 Principles of Management 3 cr
This course represents an initial introduction to the essential principles. Offered every semester.

491 Executive Action Simulation 3 cr
A course incorporating the Game Theory Approach. The teaching techniques of Case Method and Role Playing are combined in a simulated business environment in which the students make the decisions affecting the conduct of a business. Participants are divided into teams with key corporate duties being assigned and several teams compete against each other in an attempt to operate the "firm" on the optimum profitable basis. Prerequisite: Management 361. Offered every year.

366 Behavior in Organizations 3 cr
This course is an introductory treatment of organizational behavior. Students learn a number of theories, concepts, and applications regarding people-oriented management skills. Topics covered include motivation, personality, perception, group dynamics, performance appraisal, leadership and decision making, cooperation and conflict, organizational politics, organizational structure, managing change, and organizational development. Prerequisite: Management 361. Offered every year.

367 Operations Management 3 cr
This course is an introduction to the content and service producing organizations, public and private, profit and non-profit. Topics covered typically include an introduction to various types of production systems, inventory control, quality control, scheduling, and the application of the theory of constraints. The course is productivity and quality improvement. Prerequisite: Management 361. Offered every year.

462 Public Administration 3 cr
This course introduces the student to the content of public administration and to the work of the public manager at federal, state, and local government levels. It also compares and contrasts public and private management and links management theory and practice. Lecture-discussions and participative methods are employed. Prerequisite: Management 361. Offered as needed.

484 Administrative Organization 3 cr
A course presenting organizational concepts as they relate to the operation of an enterprise. Line, staff, and functional relationships are thoroughly developed. Both formal and informal relationships are considered as they develop with the existence of a well-organized organization. Responsibility, delegation, centralization and decentralization of control and other related organizational problems are considered. Prerequisite: Management 361. Offered every year.

465 Introduction to Entrepreneurial Small Business Management 3 cr
This course deals with the overall management of the small business enterprise. Coverage includes entering the small business arena, organizing and financing a business, operation of the small firm, growth planning, and problems associated with being small. Prerequisite: Management 361. Offered every year.

371 Principles of Marketing 3 cr
This course is geared to helping marketing majors gain a perspective for international marketing. It covers the following topics: fundamental marketing concepts, market situations, and problems; the basis of customer demand and the role of the salesperson in satisfying that demand; the marketing system, and the role of the marketing manager in the marketing system. Prerequisite: Management 361. Offered every year.

374 Marketing Channels 3 cr
This course examines the means and methods business uses to get the necessary information for decision making involving what to produce, how much to produce, how to produce, and how to distribute goods that are produced. The various types of marketing research—consumer research, motivational research, consumer choice behavior, sales analysis, and sales forecasting—are studied in some detail. Prerequisite: Management 361. Offered every year.

375 Consumer Behavior 3 cr
This course introduces the student to the context of public administration and to the work of the public manager at federal, state, and local government levels. It also compares and contrasts public and private management and links management theory and practice. Lecture-discussions and participative methods are employed. Prerequisite: Management 361. Offered every year.

476 Product Management 3 cr
This course employs the case method illustrative of typical marketing problems such as merchandising, advertising, selection of channels of distribution, and development of new products. These problems are analyzed and related to the marketing structure including manufacturers, wholesalers, jobbers, brokers, agents, and similar functions. Theories of marketing are subject to the test of practical examples so that the student may develop a more realistic grasp of the principles involved and the value of the practitioner's judgment. Current marketing developments are studied. Prerequisite: Management 361. Offered every year.

478 Industrial Marketing 3 cr
This course deals with the physical distribution of goods. Topics treated are location analysis, inventory control, the total distribution cost concept, government regulations and current legislation related to physical distribution. There is also coverage of the organization and functioning of traffic departments, the development of new channels, and the related issues. Prerequisite: Management 361. Offered every year.

443 International Marketing 3 cr
This course is geared to helping students gain a perspective for international marketing. It covers the following topics: fundamental marketing concepts, market situations, and problems; the basis of customer demand and the role of the salesperson in satisfying that demand; the marketing system, and the role of the marketing manager in the marketing system. Prerequisite: Management 361. Offered every year.

475 Consumer Behavior 3 cr
This course introduces the student to the context of public administration and to the work of the public manager at federal, state, and local government levels. It also compares and contrasts public and private management and links management theory and practice. Lecture-discussions and participative methods are employed. Prerequisite: Management 361. Offered every year.

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This course is geared to helping students gain a perspective for international marketing. It covers the following topics: fundamental marketing concepts, market situations, and problems; the basis of customer demand and the role of the salesperson in satisfying that demand; the marketing system, and the role of the marketing manager in the marketing system. Prerequisite: Management 361. Offered every year.

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This course introduces the student to the context of public administration and to the work of the public manager at federal, state, and local government levels. It also compares and contrasts public and private management and links management theory and practice. Lecture-discussions and participative methods are employed. Prerequisite: Management 361. Offered every year.

478 Industrial Marketing 3 cr
This course is geared to helping students gain a perspective for international marketing. It covers the following topics: fundamental marketing concepts, market situations, and problems; the basis of customer demand and the role of the salesperson in satisfying that demand; the marketing system, and the role of the marketing manager in the marketing system. Prerequisite: Management 361. Offered every year.
DIVISION OF ECONOMIC SCIENCE

ECONOMIC SCIENCE CURRICULUM

The Economic Science program is designed to give a broad understanding of the United States and international economy and to develop in students a capacity to think systematically about a wide range of social and economic problems. An ability to think analytically and to write concisely are stressed in courses in Economics.

A concentration in Economics serves as a solid preparation for Law School or for MBA programs. It is not a narrowly vocational major. The general background which the student acquires prepares him or her for career opportunities in strategic planning, government, banking, and similar fields.

COURSE PREREQUISITES—see p 95

121 Elements of Economics 3 cr
Economics 121 is an introductory course in economics intended to afford an understanding of how our economic system works, of the forces which affect the level, composition, and distribution of the output of the economy, and of the issues behind current economic problems. The course content will define concepts, provide background materials, and develop economic ideas necessary to an understanding of the policy issues constantly before a complex dynamic economy. Not counted toward a degree in the School of Business and Administration. Offered every year.

221 Principles of Economics I 3 cr
The first course in economics for the student who plans to major in economics. The course seeks to acquaint the student with concepts and the logical basis to economic reasoning. Emphasis is placed on understanding the behavior of households and firms under competitive and imperfectly competitive market conditions. Offered every semester.

222 Principles of Economics II 3 cr
This course is primarily concerned with aggregate economic relationships. The theory of the determination of national income is developed and attention is given to the construction of national income accounts. Attention is given to monetary and fiscal policy and their implications. Prerequisite: Economics 221. Offered every semester.

321 National Income Analysis 3 cr
A conceptual analysis of national income theory, its tools, its basic principles and its social and economic significance. The course treats the macroeconomic method of economic analysis. It is concerned with explaining the development and nature of national income aggregates. The basic principles of national income theory are developed and explained in order to place into focus the operations of the American economy and the many problems relating to it. Offered every year.

322 Price and Production Economics 3 cr
An intensive study of the theory of demand, production and distribution. In addition, recent developments in the theory of imperfect competition and oligopoly are carefully examined. Offered every year.

323 Public Finance 3 cr
A study of the organization and management of government revenues and expenditures with emphasis on American practices and policies at the various levels of government. Benefit-cost and effectiveness analysis with their implications for program and capital budgeting receive heavy consideration. The economic consequences of various tax structures and alternative social choice mechanisms are studied. Prerequisite: Economics 321 or 322. Offered as needed.

324 Comparative Economic Systems 3 cr
A comparative study of capitalism, socialism, communism and other economic systems with emphasis on analysis rather than mere description of the economics of various countries. Offered as needed.

328 Urban Land Economics 3 cr
This course is concerned with the economic forces and governmental constraints applied to the physical growth and development of urban areas. The course materials will trace the development of the rules, regulations, enabling acts, codes, ordinances, administrative practices, and related procedures as they apply to the growth, development, and redevelopment of cities, suburbs, and countryside. Offered as needed.

420 Labor Economics 3 cr
Analysis of the principles for wage and employment determination in contemporary American economy under non-union conditions as well as under collective bargaining. The institutional development underlying labor supply and demand is studied with direct emphasis on its impact on employment and production, on the general wage-level and on wage differentials, on the distribution of national income and on general social welfare. The course also includes a comparative study of problems in labor economics in American and other democratic countries. Offered as needed.

421 History of Economic Thought 3 cr
Shows the development of economic thought from the Age of Mercantilism to 1890. Major emphasis is placed upon the writings of Malthus, Smith, Ricardo, Marx, and Jevons. Offered as needed.

422 Business and Public Policy 3 cr
A study of the regulatory techniques used by government to influence and modify business behavior. This course also includes an analysis of market structure, conduct and performance considerations pertaining to the firm and the industry. Emphasis is given to the anti-trust laws and special regulatory problems. Offered as needed.

423 Business Cycles and Forecasting 3 cr
This course is designed to study the process of economic change. Analyses of seasonal, cyclical, and secular movements will be undertaken. Theoretical and empirical aspects will be covered. Forecasting techniques will also be studied. Offered as needed.

424 Business and Public Policy 3 cr
A study of the regulatory techniques used by government to influence and modify business behavior. This course also includes an analysis of market structure, conduct and performance considerations pertaining to the firm and the industry. Emphasis is given to the anti-trust laws and special regulatory problems. Offered as needed.

425 Current Economic Issues 3 cr
A seminar-like discussion of the state of the nation's economy and its current problems on the basis of critical examination of professional journal articles and economic reports by official and private sources (such as the president's Council of Economic Advisers). The purpose of the course is to begin developing in the graduating senior the ability to coordinate and apply the analytical knowledge he has acquired during his undergraduate study of economics and related fields of social science and business administration. Offered as needed.

426 Monetary Theory and Policy 3 cr
This course presents the chief theoretical contributions on money. The policy implications of these theories, past and present, will be emphasized. Concentration will center upon policy proposals and controversy in the monetary field since World War II. The theories and contributions of Hicks, Keynes, Friedman and Tobin, among others, are reviewed. The role of interest rate is reviewed along with wage-price controversies, international gold flows, and the relationships between fiscal and monetary policies. Offered as needed.

427 Theory of Economic Development 3 cr
The course is designed to acquaint students with the area of economic development. The subject matter of this course conveniently divides itself into five major categories: the nature of development and problems of measurement, theories of development, factors and forces affecting economic growth, different approaches to a higher standard of living, and problems of domestic and international stability. Approach to this course encompasses detailed study as well as a strong emphasis on theoretical and critical analysis. Offered as needed.

429 Seminar in Economics 3 cr
The purpose of the seminar is to provide a vehicle for the advanced student to investigate separate subject areas in the field of Economic Theory. The intention is to provide a sound basis for further study at the graduate level. Seminar procedure will stress written and oral reports. Prerequisites: Economics 321, 322 and permission of the instructor. Offered as needed.

442 International Economics 3 cr
An introduction to international trade theory and international monetary economics. Topics discussed include the classical and neoclassical theory of comparative advantage, balance of trade, balance of payments, custom's union theory, commercial policy, theory of foreign exchange markets, history of the international monetary system, fixed versus flexible exchange rates. Offered every second year.
SCHOOL OF EDUCATION

PROGRAMS

The School of Education has program approval from the Pennsylvania Department of Education for the preparation of Elementary, Secondary, and Special (teaching the mentally and/or physically handicapped) Education teachers. Also, in consortium with Carlow College, students can become certified in Early Childhood Education.

The programs, in accord with the philosophy and objectives of the School of Education, offer students opportunity to qualify for

1. The Instructional I (Provisional) Certificate to teach classes in the schools of Pennsylvania for six contract years
2. Admission to graduate programs in education

The last 30 credits for the degree must be earned at Duquesne University. The minimum number of credits for graduation is 120.

CURRICULUM

General Education: The School of Education requires completion of the general education which includes courses in the humanities, social sciences, natural and behavioral sciences, and, for Catholic students, theology. The University Core Curriculum requirements are fulfilled within the General Education Program.

Professional Education: The basic professional education program introduces the student to the teaching profession through thorough study of the principles and practices of education and the learning process. Specialized courses provide preparation in teaching techniques and methods required for specific fields of concentration—elementary, secondary, special (mentally and/or physically handicapped), or early childhood education.

Professional Laboratory Experiences: The School has developed broad and diversified professional laboratory experiences designed to provide opportunities for observing and working with children and youth, including the teaching of elementary, secondary, and special education.

SCHOOL OF EDUCATION

All of these experiences are completed under professional supervision from the University and from the public or private school or off-campus agency.

GENERAL EDUCATION

The following courses in the arts and sciences are an integral part of each program:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Area</td>
<td>12</td>
</tr>
<tr>
<td>Core Writing</td>
<td>6</td>
</tr>
<tr>
<td>English Elective</td>
<td>3</td>
</tr>
<tr>
<td>Communication Area (Speech, Journalism, English)</td>
<td>3</td>
</tr>
<tr>
<td>Math, Science, Foreign Language</td>
<td>12</td>
</tr>
<tr>
<td>Math, Science, University Core or equivalent</td>
<td>6</td>
</tr>
<tr>
<td>Math/Science/Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td>Social Science/Humanities</td>
<td>12</td>
</tr>
<tr>
<td>University Core Requirements</td>
<td>6</td>
</tr>
<tr>
<td>University Core Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy/Theology</td>
<td>6</td>
</tr>
<tr>
<td>Catholic—minimum of 3 core Theology credits</td>
<td></td>
</tr>
</tbody>
</table>

COMPETENCY CORE CURRICULUM

The Competency Core Curriculum begins with Introduction to Education I, II in the freshman year. Developmental Foundations I, II in the sophomore year and concludes with Curriculum and Instruction I, II in the junior year. The Competency Core Curriculum focuses on the philosophico- logical and pedagogical foundations needed by entry-level teachers, extensive involvement in field experiences beginning with the freshman year, and an on-going process of individual advisement and counseling regarding teaching and career decisions.

The Competency Core Curriculum is predicated on four domains, 1) Becoming a person, 2) Becoming a student, 3) Becoming a teacher, and 4) Becoming a practitioner. The Competency Core Curriculum, as the title implies, is a competency-based program that is developmentally designed to prepare education students to be entry-level teachers in early childhood, elementary, secondary and special education.

Courses (Required in all Programs)*

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Orientation to Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>203</td>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td>307</td>
<td>Curriculum &amp; Methods for Early Childhood Education with Practicum</td>
<td>4</td>
</tr>
<tr>
<td>308</td>
<td>Curriculum &amp; Methods for Day Care with Practicum</td>
<td>3</td>
</tr>
<tr>
<td>309</td>
<td>Special Needs Practicum</td>
<td>1</td>
</tr>
<tr>
<td>**320 ED Reading &amp; Language Arts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321 ED Reading &amp; Language Arts Practicum</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>404</td>
<td>EC Nursery School Student Teaching &amp; Seminar</td>
<td>6</td>
</tr>
<tr>
<td>406</td>
<td>EC Primary Student Teaching &amp; Seminar</td>
<td>6</td>
</tr>
</tbody>
</table>

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

SCHOOL OF EDUCATION

ELECTIVE EDUCATION

The following 39 credits (semester hours) in Professional Preparation and 12 in electives combined with the 42 credits specified in General Education and 27 in the Competency Core Curriculum comprise this curriculum.

Required Courses—Duquesne University

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>231</td>
<td>Teaching Physical Education for Classroom Teachers</td>
<td>1</td>
</tr>
<tr>
<td>232</td>
<td>Teaching Art for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>233</td>
<td>Teaching Health for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>234</td>
<td>Teaching Music for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>331</td>
<td>Teaching Elementary Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>332</td>
<td>Teaching Elementary Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>333</td>
<td>Teaching Elementary Science</td>
<td>3</td>
</tr>
<tr>
<td>209</td>
<td>Foundations Special Ed</td>
<td>3</td>
</tr>
</tbody>
</table>

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

SCHOOL OF EDUCATION

ELEMENTARY EDUCATION

The following 39 credits (semester hours) in Professional Preparation and 12 in electives combined with the 42 credits specified in General Education and 27 in the Competency Core Curriculum comprise this curriculum.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>315</td>
<td>316 Curriculum and Instruction I</td>
<td>3, 2</td>
</tr>
<tr>
<td>317</td>
<td>318 Curriculum and Instruction II</td>
<td>3, 1</td>
</tr>
</tbody>
</table>

*In Early Childhood Education, 311, 313, 315, 316, and 317, 318 are not required.
Professional Preparation

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>231 Teaching Physical Education for Classroom Teachers</td>
<td>3</td>
</tr>
<tr>
<td>232 Teaching Art for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>233 Teaching Health for Classroom Teachers</td>
<td>1</td>
</tr>
<tr>
<td>234 Teaching Music for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>235 Teaching Reading in the Primary School</td>
<td>3</td>
</tr>
<tr>
<td>236 Teaching Reading in Intermediate and Middle Schools</td>
<td>3</td>
</tr>
<tr>
<td>330 Teaching Elementary Language Arts and Reading</td>
<td>3</td>
</tr>
<tr>
<td>331 Teaching Elementary Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>332 Teaching Elementary Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>333 Teaching Elementary Science</td>
<td>3</td>
</tr>
<tr>
<td>491 Children's Literature</td>
<td>3</td>
</tr>
</tbody>
</table>

*No student may register for additional course work during the student teaching semester without permission*

**MUSIC EDUCATION**

General and professional course work and professional education courses required for this program are outlined in the School of Music section.

**SECONDARY EDUCATION**

In addition to the 42 credits (semester hours) in General Education and 27 in the Competency Core Curriculum, a student must complete the following 50 credits, 17-19 in Professional Preparation, 2-4 in electives and a minimum of 30 in an Arts or Sciences Area to satisfy requirements for the degree and certification.

**Professional Preparation**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>479 Reading in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>275 Teaching Grammar and Composition AND</td>
<td></td>
</tr>
<tr>
<td>276 Teaching Literature OR</td>
<td></td>
</tr>
<tr>
<td>316 Teaching Secondary Mathematics and Science OR</td>
<td>3-4</td>
</tr>
<tr>
<td>317 Teaching Secondary Foreign Languages OR</td>
<td></td>
</tr>
<tr>
<td>319 Teaching Secondary Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>491 Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

*No student may register for additional course work during the student teaching semester without permission*

**ELECTIVES**

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts or Sciences Area (Minimum for Certification)</td>
<td>2-3</td>
</tr>
<tr>
<td>Arts or Sciences Area (Electives)</td>
<td></td>
</tr>
<tr>
<td>209 Foundations of Special Education</td>
<td>3</td>
</tr>
<tr>
<td>231 Teaching Physical Education for Classroom Teachers</td>
<td>3</td>
</tr>
<tr>
<td>232 Teaching Art for Classroom Teachers</td>
<td>1</td>
</tr>
<tr>
<td>233 Teaching Health for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>234 Teaching Music for Classroom Teachers</td>
<td>2</td>
</tr>
<tr>
<td>276 Methods in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>325 Teaching Reading in the Primary School</td>
<td>3</td>
</tr>
<tr>
<td>330 Teaching Elementary Language Arts and Reading</td>
<td>3</td>
</tr>
</tbody>
</table>

SCHOOL OF EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>386 Teaching the Mildly Handicapped</td>
<td>3</td>
</tr>
<tr>
<td>387 Teaching the Severely Handicapped</td>
<td>3</td>
</tr>
<tr>
<td>388 Vocational Education for the Handicapped</td>
<td>3</td>
</tr>
<tr>
<td>477 Management of Behavior and Instruction</td>
<td></td>
</tr>
<tr>
<td>in Special Education</td>
<td></td>
</tr>
<tr>
<td>491 Student Teaching—Special Education</td>
<td>12</td>
</tr>
</tbody>
</table>

*No student may register for additional course work during the student teaching semester without permission*

**TEACHER CERTIFICATION**

Through satisfaction of degree and certification program requirements, and after successful completion of Pennsylvania Teacher Certification Testing Program, student will be eligible for the appropriate Pennsylvania Instructional I (Provisional) Certificate. This certificate is valid for six years of teaching. During that time, to convert the certificate to the Instructional II (Permanent) form, the holder must complete 24 semester hours of post baccalaureate study and three years of successful teaching in public or private schools in Pennsylvania. All programs are approved by the Pennsylvania Department of Education. Certification in Pennsylvania enables a student to meet certification requirements in various other states. Application for the certificate must be made during the semester in which the student expects to be graduated.

**DUAL CERTIFICATION**

Through advisement, a student may complete requirements in two certification areas, such as elementary/early childhood, elementary/secondary, elementary/special education. Such programs require some additional course work beyond the 120 semester hours for a degree. After completing all other requirements, students may register with appropriate advisement for a four- and six-credit student-teaching course. Student teaching in both areas is offered during the student's final semester.

**CLASS ATTENDANCE**

The School of Education faculty has determined that the following policy will be in effect for the School of Education and will be adhered to by all professors who teach undergraduate courses. It is presumed that each student in a professional course will normally attend every session. The maximum number of cuts permitted is equated in hours, not in periods the class meets, in other words, a student may miss three hours of class time in a threecredit course.

**STUDENT ORGANIZATIONS**

The School of Education includes in its program opportunities for participation in student organizations related to professional education preparation. Students are encouraged to take an active part in these professional organizations, for such interest is interpreted as reflecting social and educational development. The organizations are Duquesne University Chapter of the Council for Exceptional Children, state and national student organizations in Special Education.

**HONOR AWARDS**

These awards, presented at the annual Honors Days Convocation, are open to undergraduates in the School of Education.

**EDUCATIONAL FOUNDATIONS AND PSYCHOLOGY**

101, 102 Introduction to Education I, II 2 cr each

101 provides instruction and hands-on experience with audio-visual, computer, and VCR materials. Includes field experience at selected and supervised schools. Introduces students to professional standards and competencies. 102 emphasizes foundational knowledge, behavioral methodology, and current trends in the profession. Includes field experience at selected and supervised schools. Introduces students to professional self-assessment.

202 Educational Psychology 3 cr

Examines affective and cognitive development, plan-
112 SCHOOL OF EDUCATION

203, 204, 205, 206, 207

Field Experience 1 cr each

Classroom and other school experience as an aide or observer, one credit each semester for a maximum of five semesters.

215, 216 Development Foundations of Education I 4 cr

See description for 217, 218

217, 218 Development Foundations of Education II 4 cr

Development Foundations I and II examine the effects that values, classroom interactions, approaches to various teaching and learning styles, recognition of individual differences, and various curriculum designs including IEP's and multicultural approaches have on the physical, cognitive, affective and social development of all students and the teacher. Concurrent field placements include case studies, directed observations, data collection and teacher aide experience.

311 Instructional Psychology/Instructional Computing 3 cr

Instructional Psychology is largely concerned with human learning as it occurs in "educational" contexts. The primary focus will be on student acquisition of knowledge and skill and how the competence is developed through the design of the conditions of learning. Instructional Computing, students will review the components and functions of computer hardware and software, learn to evaluate software for integration into the standard curriculum, and develop skills in using computers for writing, planning, and evaluating.

313 Human Development/Exceptional Child 3 cr

Cognitive, physical, psychological, and social development over the life span. Human Development focuses on age-level characteristics, developmental theories and principles, and learning processes and implications pertaining to the child and adolescent in the school. Students will demonstrate an ability to successfully accommodate exceptional children in the regular classroom by planning, developing and implementing effective educational programs.

315, 316 Curriculum and Instruction I 5 cr

See description for 317, 318

317, 318 Curriculum and Instruction II 4 cr

Curriculum and Instruction I and II focus on the presentation, analysis and demonstration of those generic competencies that directly apply to the design and implementation of effective teaching-learning practices in the classroom. The components specifically address such topics and techniques as educational taxonomies, instructional objectives, planning the lesson, classroom management, learning centers, materials utilization, evaluation of learning and grading. The field placement includes intensive teaching experiences on site.

340 Self-Development for the Classroom 3 cr

Focuses on a philosophical-psychological approach to self-development, using classroom activities to promote personal awareness in the teacher and student (Summer only).

351 Adolescent Development 3 cr

Examines the developmental processes, psychological, physical, and social, which affect student and student-teacher behaviors and relationships in the classroom (Alternate Spring and Summer).

410 Interpersonal Management Techniques for Educational and Organizational Leaders 3 cr

Focuses on four major concerns for maximizing learning and minimizing conflict, they are the teacher's personal awareness of feelings and emotions, interpersonal, societal, and educational values, understanding of group dynamics, and knowledge of managing classroom situations (Alternate Spring and Summer).

480, 481 Independent Study 1-3 cr

With permission of the instructor and approval of the Dean, seniors may pursue in-depth study of a subject area or engage in individual projects related to their professional goals.

485 Problems in Teaching Reading 3 cr

Reading difficulties in elementary and secondary school levels, the focus of classroom and clinical procedures in solving reading problems, diagnostic and corrective techniques, and materials for the classroom teacher, reading improvement programs, special unit on reading problems of the mentally retarded (Spring and Summer).

EARY CHILDHOOD EDUCATION

201 Orientation to Early Childhood Education 3 cr

Examination of the history of child development and practices of early education, culminating in an overview of theoretical issues influencing practice in the field today. Development of the student's observational skills, completion of on-site observations in early educational settings, defining the role of the Early Childhood Educator, and developing a personal philosophy (Fall semester only).

203 Child Development 3 cr

In-depth examination of the development of the child from birth-eight years in physical, intellectual, social and emotional areas of growth. Methods of recording and assessing growth of young children will be examined and utilized and a term project based on readings and observations will be required (Spring semester only).

307 Curriculum and Methods for Early Childhood Education with Practicum 4 cr

Study of curriculum methodology and implementation in nursery, kindergarten and primary settings. Students will design environments and enact activities for language development and reading, art, music, play, social studies, science and math for children 3-8 years. A weekly practicum in an early education classroom is an integral part of this course. Prerequisite: EC 201 and 203 (Fall semester only).

308 Curriculum and Methods for Early Childhood Education with Practicum 4 cr

Examination of social needs, program designs and curriculum implementation of day care services for children birth-8 years. Topics covered include research on working families, program design, environmental design, and assessment, comprehensive curriculum planning, staffing strategies, parent communication, and research on impact of day care on young children and their families. Weekly practicum required in a child care classroom. Prerequisite: EC 201 and 203 (Spring semester only).

309 Special Needs Practicum 1 cr

Classroom or other school experience as an aide or observer, with special needs populations.

320 Reading and Language Arts 3 cr

The nature of reading, the pertinent research in the field, the selection of materials, methodologies and teaching strategies are emphasized (Fall semester only).

321 Reading and Language Arts Practicum 1 cr

Diagnosis of needs, planning and teaching of age appropriate small groups of children in a supervised situation. Prerequisite: ED 320 (Spring semester only).

404 Nursery School Student Teaching and Seminar 6 cr

406 Primary Student Teaching and Seminar 6 cr

The student teaching experience involves the respective teacher in a Nursery School setting and in a primary classroom for eight weeks each. The student assumes teaching responsibilities, applies theory/practice and develops a personal teaching style; the cooperating teacher and college supervisor. Verification of student competency will be determined jointly by both the cooperating teacher and the college supervisor. Student teachers return to campus one afternoon each week for supervision, conducted by the college instructor. This seminar provides classroom discussion of varied student teaching experiences as well as analysis of the goals, program designs and curricula of the various early childhood programs in which students teaching is completed. Pertinent topics related to ongoing professional development will be included. No other credits may be taken while the student is involved in 404 and 406 without special permission of the Director of Early Childhood Education.

ELEMENTARY EDUCATION

231 Teaching Physical Education for Classroom Teachers 1 cr

232 Teaching Art for Classroom Teachers 2 cr

233 Teaching Health for Classroom Teachers 2 cr

234 Teaching Music for Classroom Teachers 2 cr

An introduction to the basic principles and concepts of teaching physical education, visual arts, health, and music to children of elementary school age, including exceptional children.

325 Teaching Reading in the Primary School 3 cr

Major emphasis is on the pre-school, readiness, and primary grades. Content deals with language, experiential, cognitive, and perceptual development in young children and their relationship to the beginning reading program. In addition, consideration is given to the basic reading skills which comprise the first three years of a developmental reading program. Techniques of individualizing instruction, evaluating and reporting pupil progress.

326 Teaching Reading in Intermediate and Middle Schools 3 cr

Focuses on the transitional period in a developmental reading program in which reading becomes a tool to be used in each content area. In addition to continuing reading skills in the developmental reading program, specialization in reading and study skills, necessary for students to function in social studies, science, language arts, mathematics, and other content areas, will be presented. Techniques of determining readability of materials, individualizing instruction, evaluating and reporting pupil progress are also studied.

330 Teaching Elementary Language Arts and Reading 3 cr

Presents psychological principles and historical perspective in the language arts, the foundation on which a good language arts program should be built. Four skills—listening, speaking, reading, writing—as acquired by the child, combined with knowledge of the evaluative process, teaching methods, and materials, provide a realistic approach to teaching language arts and reading experience.

331 Teaching Elementary Social Studies 3 cr

Emphasizes the design, delivery and evaluation of effective social studies plans and units. Higher level thinking processes, values and moral development, and classroom management are explored in small group simulations.
332 Teaching Elementary Mathematics 3 cr
Theories, techniques, practices, and content pertaining to mathematics are presented. Emphasis is on exploratory and systematic instructional styles, games as an instructional strategy

333 Teaching Elementary Science 3 cr
Study of theories, techniques, practices, and content of the science area. Accent is on discovery and inquiry instructional styles, organizing for learning

484 Children’s Literature 3 cr
A general survey of books and other printed materials for children, criteria for the evaluation and analysis of the children’s books, types of books available, considered in terms of interest, needs, and abilities of children

490, 491 Student Teaching—Elementary 6 cr
Student teaching in an approved elementary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493 Student Teaching—Secondary 6 cr
Student teaching in secondary education for students in the elementary or special education program who wish to complete requirements in two certification areas. Registration is concurrent with Ed 490-Elementary or Ed 490-Special Education

SECONDARY EDUCATION

215 Teaching Grammar and Composition 3 cr
Examines various ways to teach grammar, language, and composition, provides opportunity for students to review the basics of grammar and composition and to develop lessons for teaching those grammar areas at the elementary, secondary levels, and in special education (Alternate Springs)

216 Teaching Literature—Prose, Poetry, and Drama 1 cr
Focuses on planning and teaching techniques to prepare and present literature utilizing a genre, a chronological or thematic approach, the four sessions involve an approach to literature experience, teaching prose, teaching poetry, and teaching drama (Alternate Springs)

316 Teaching Secondary Mathematics and Science 3 cr
Designed to acquaint the student with methods and materials for teaching specific models, research and field-based activities are expected (Alternate Falls)

318 Teaching Secondary Foreign Languages 3 cr
Explores a variety of approaches for teaching foreign languages, grammar, structure, verbal exercises, and literature germane to the specific language to be taught will be discussed (Alternate Falls)

319 Teaching Secondary Social Studies 3 cr
This is a competency-based experience for social studies/history majors that develops evaluation skills, knowledge of curricula, media and technological experiences, and methods, expands planning and questioning skills (Alternate Springs).

490, 491 Student Teaching—Secondary 9-12 cr
Student teaching in an approved secondary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493 Student Teaching—Secondary 6 cr
Student teaching in secondary education for students in the elementary or special education program who wish to complete requirements in two certification areas. Registration is concurrent with Ed 490-Elementary or Ed 490-Special Education

497 Reading in Secondary Schools 3 cr
A survey course in the teaching of reading, appropriate for secondary education majors. Major emphasis is on methods of teaching reading, the materials for evaluating pupil growth in reading and reading in the content subjects (Fall)

SPECIAL EDUCATION

These courses are designed to prepare students for teaching pupils with mental and/or physical disabilities, including brain injured, emotionally and behaviorally disabled, learning disabled, mentally retarded, physically handicapped, and multiply disabled.

209 Foundations of Special Education 3 cr
A survey of the educational, physical, psychological, and social characteristics of exceptional persons, an overview of special education methods and programs, introduction of legislative and legal aspects (Fall).

211, 212, 213, 214 Field Experience 2 cr each
Classroom and other experiences in educational, social welfare, and vocational settings as an observer and participant. Enrollment with consent of Director of Student Teaching and School of Education faculty advisor. Students may choose 211 (Elementary) or 212 (Secondary) which involve the mildly handicapped, 213 which is with the severely handicapped, or 214 which is with prevocational/vocational pupils

231 Teaching Physical Education for Classroom Teachers 1 cr

232 Teaching Art for Classroom Teachers 2 cr

233 Teaching Health for Classroom Teachers 1 cr

234 Teaching Music for Classroom Teachers 2 cr
An introduction to the basic principles and concepts of teaching physical education, visual arts, health, and music to children of elementary school age, including exceptional children.

276 Methods of Special Education 3 cr
An introduction to management techniques utilized in programs for exceptional persons, information covering educational assessment procedures, design and implementation of individual educational programs and methods for individualizing instruction, examination of legislative and legal aspects (Prerequisite 209 or equivalent (Spring)

386 Teaching the Mildly Handicapped 3 cr
Evaluation, integration, and implementation of theoretically based methodologies, curricula, instructional techniques, and evaluation procedures for mildly handicapped, socially and emotionally disturbed (Prerequisites 209, 276 (Fall)

387 Teaching the Severely Handicapped 3 cr
Evaluation and integration of the various theoretical methodologies, curricula, instructional techniques, and evaluation procedures for severely handicapped persons labeled brain injured, learning disabled, mentally retarded, physically handicapped, socially and emotionally disturbed (Prerequisites 209, 276 (Spring)

477 Management of Behavior and Instruction in Special Education 3 cr
Studies and experiences in the management of problem behaviors and instructional programs. Topics include behavioral and affective interventions, emergency procedures, multidisciplinary group process and parent involvement, community resources, and technological applications in the special needs curriculum. Students will develop and implement Student Teaching Readiness Assessment and Plan (Fall)

490, 491 Student Teaching—Special Education 9-12 cr
A full semester of supervised classroom experience in a carefully selected school for mentally and/or physically handicapped pupils. Prerequisites: Senior status, good academic standing, completion of required professional courses, and recommendation of faculty.

493 Student Teaching—Special Education 6 cr
Student teaching in special education for students in the elementary or secondary education program who wish to complete requirements in two certification areas. Registration is concurrent with Ed 490-Elementary or Ed 490-Secondary Education

388 Vocational Education for the Handicapped 3 cr
Overview of pre-vocational, career, and occupational education program models for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites 209, 276 (Fall)

388 Vocational Education for the Handicapped 3 cr
Overview of pre-vocational, career, and occupational education program models for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites 209, 276 (Fall)

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Overview of pre-vocational, career, and occupational education program models for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites 209, 276 (Fall)
It would be helpful for prospective music majors to have a background in theory, piano and certain aural skills prior to entrance. If deficiencies exist in any of these areas, prerequisite courses may be required at the discretion of the audition committee.

At Duquesne, students also take advantage of the many performance opportunities afforded them by local music organizations. Students perform in the Pittsburgh Youth Symphony, the Pittsburgh Civic Orchestra, the Venetian and Symphony, the McKeever Symphony, and others.

The School of Music has well over 70 pianos. The Recital Hall is equipped with two Steinway concert grands. Piano majors practice in specially designated rooms that contain grand pianos, other practice rooms are supplied with studio upright pianos. Organ students have access to two Moeller organs and a Fischer practice organ, as well as pipe organs by Kilgen and Tellechea, and a Rodgers electronic theatre organ on campus are also available for recitals and for practice. Many orchestral and band instruments are available for instructional classes.

The Center for Music Technology houses a Music Learning Resource Center, an Electronic Piano Lab, and a Synthesizer and Recording Studio. Located in the Music Learning Resource Center is an Apple II lab for aura skills training, a large collection of Music Education resource materials, a record library, and several Macintosh/MIDI workstations. The Electronic Piano Lab, equipped with MIDI capable keyboards, is used for individual practice as well as for scheduled piano classes. The Macintosh-based Synthesizer Lab is equipped with a Kurzweil 250 sampler, Yamaha DX7, Roland MT-32, Korg M1, Yamaha RX5 Drum Computer, Ensoniq Mirage sampler, Proteus sampler and other MIDI synthesizers for recording studio equipment. Workshops, masterclasses, and special performances are often presented by visiting artists who have included Birgit Nilsson, Wynton Marsalis, John Mack, Rebecca Pennys, and Barry Green.

The School of Music is well equipped for the preparation of a well rounded professional musician with a background in theory, piano and certain aural skills prior to entrance. If deficiencies exist in any of these areas, prerequisite courses may be required at the discretion of the audition committee.

Admission

Students who wish to major in music should apply through the Office of Admissions. Following this an interview and audition should be scheduled through the Office of Admissions. Specific audition requirements are mailed to each student at his/her discretion of the audition committee.

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The School of Music is well equipped for the preparation of a well rounded professional musician with a background in theory, piano and certain aural skills prior to entrance. If deficiencies exist in any of these areas, prerequisite courses may be required at the discretion of the audition committee.
The Bachelor of Science in Music Therapy degree leads to certification as a registered music therapist. In order to receive the Music Therapy degree or its equivalency for certification, all Music Therapy students are required to take a prescribed number and sequence of courses in Music Therapy, and give evidence of competency in the field, as determined by the Music Therapy Department in accordance with the National Association for Music Therapy. Upon completion of the academic requirements, a six-month internship is required, which culminates in registration and eligibility for board examination.

### Major in Bass Guitar/Guitar (Acoustic and/or Electric)

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**Total Credits 132**
### Major in Piano

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**Credits**
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### Major in Voice

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**Credits**
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## MAJOR IN ORCHESTRAL INSTRUMENTS

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## BACHELOR OF SCIENCE IN MUSIC EDUCATION-CHORAL TRACK

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# Bachelor of Science in Music Education-Instrumental Track

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**Total Credits** 132

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# Bachelor of Science in Music Therapy

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**Total Credits** 133
### COURSE DESCRIPTIONS

#### PERFORMANCE

**Applied Music**
- **Credits**: 1-3 cr
- Private study of voice, piano, harpsichord, organ, guitar, or orchestral instruments

**Piano Accompanying**
- **Credits**: 1 cr
- This course is designed for the undergraduate with the purpose of affording the student instruction in the art of piano accompanying

**Vocal Coaching**
- **Credits**: 1-3 cr
- Individual work with pianist as a supplement to Opera Workshop and/or Applied Music

**French, Italian, German for Singers**
- **Credits**: 1-3 cr
- Rudiments of each foreign language offered on a rotating basis in the fall semester in preparation for the appropriate Dictum and Repertory course offered in the following spring

**Dictum and Repertory**
- **Credits**: 2 cr each
- Italian, German, French, and English offered on a rotating basis each Spring Semester

**Applied Music**
- **Credits**: 1 cr each
- Continuation of 134, these sequential courses are designed to develop students' competencies in the areas of intervallic relationships, melodic and rhythmic dictation as well as sight singing in traditional meters and tonalities. Prerequisite passing the entrance examination to the School of Music.

**Junior Recital**
- **Credits**: 0 cr
- The candidate for the Bachelor of Music degree must give a recital during the junior year

**Senior Recital**
- **Credits**: 1 cr
- The candidate for the Bachelor of Music degree must give a recital during the senior year. The recital will be presented to a faculty committee for approval at least one month prior to the date of the performance

### ENSEMBLE/CHAMBER MUSIC

Required for all students as laboratory work during most semesters of full-time enrollment. Non-music majors are invited to register for ensemble with permission of instructor.
Students enrolled will form a laboratory. A survey of the melodic, harmonic, and contrapuntal techniques created by composers in the twentieth century. Readings, analysis and short creative projects will be assigned.

**251, 252 History and Literature of Music** 3 cr each
The survey embraces two semesters which are arranged chronologically. These courses seek to provide a broad historical frame of reference within which the relationship of music to the development of man’s thought can be clearly seen, along with a survey and analysis of representative literature.

**335 16th Century Counterpoint** 2 cr
The course is devoted to a study of the polyphonic technique of the 16th Century. The class meets twice a week for lectures, analyses, written assignments, and listening. The species approach is employed.

**336 18th Century Counterpoint** 2 cr
A course study concerned with the contrapuntal technique of the period of J. S. Bach. Contents include lectures, written assignments, listening, and analysis. Prerequisites: Theory I, II, III.

**340 Orchestration** 2 cr
A study of the basic problems of scoring for individual instruments, particularly orchestral colors, the entire orchestra, and unique instrumental combinations. Analysis of the techniques of orchestration of selected composers of the 18th, 19th, and 20th centuries.

**341 Analysis** 2 cr
A course designed to acquaint the student with the formal structure of tonal music, from the smallest components to the most complex full compositions through analysis, counterpoint, and listening.

**351, 352 Composition** 2-3 cr each
A course in original creative writing. Open to all students with the approval of the teacher.

**CONDUCTING**

**375 Choral Conducting I** 2 cr
An introduction to basic conducting techniques with emphasis on proper conducting posture, the preparatory gesture, the release, basic beat patterns and styles, use of the baton, and development of the left hand. Course also includes instruction in score reading, analysis and preparation with emphasis on the standard choral literature. Class time will be divided equally between lecture—demonstrations and practical conducting experience in a laboratory setting.

**376 Choral Conducting II** 2 cr
Instruction and application of intermediate and advanced conducting techniques with emphasis on subdivision, accent and syncopation, subto dynamic change, tempo alteration, tenuto and fermata, asymmetrical meters, supermetrics, and specialized techniques for conducting recitative, contemporary music, and musical theater. Course will include score analysis and preparation, and choral techniques and methods while focusing on the standard choral literature. Class time will be divided equally between lecture—demonstrations and practical conducting experience in a laboratory setting.

**MUSIC EDUCATION**

**010, 011 Fundamentals of Piano, I & II** 2 cr each
This course introduces students to basic piano skills including scales, trills, cadences, sight-reading, and improvisation. The course is intended for students preparing for Piano for Music Education I but is also open to non-music majors.

**101, 102 Piano for Music Education, I & II** 2 cr each
This class provides students with functional competences in piano which meet the certification requirements for the Pennsylvania Department of Education. It is required of all music education majors. Entrance to the class is on the basis of placement testing.

**Advanced Piano Class**
For students who wish to focus on vocal or instrumental accompanying and open score reading. Required of non-piano majors in the vocal track and in music education. Prerequisite: completion of Piano for Music Education I. Also open to piano majors.

**105 Voice for Music Education I** 2 cr
For all vocal and instrumental track majors. Fundamental techniques of singing, including posture, breath support, tone, diction, interpretation. All students introduce a piece in a vocal or instrumental track emphasis. Weekly field observations and clinical experience with choral groups. Required with 301.

**302 Teaching Instrumental Music** 2 cr
A survey of methodology necessary for the development and the administration of, the band and orchestra program on the elementary, intermediate, and secondary levels. Practical application will be provided through field experience.

**303 Teaching Instrumental Music Lab** 1 cr
A laboratory experience to provide teaching and performance experiences with families of instruments. Required with 302.

**485 Music in Education** 3 cr
The course focuses on selected historical, philosophical, social, legal, and economic factors in American education, current issues are also studied. The role of music education within general education is discussed.

**MUSIC THERAPY**

**107 Music Therapy Orientation** 3 cr
An introduction to Music Therapy as practiced in...
a variety of rehabilitation settings. Observations followed by informal group discussions. Basic theory about the validity of music as therapy, the relationship of theory to practice. Intensive class participation will be required to prove qualification for further, in-depth study of the profession.

108 Music in Therapy 2 cr
An introduction to music methods utilized in therapy settings. Assessment, planning, implementation and evaluation of sessions which will be designed for a variety of populations will be emphasized.

124 Practicum 2 cr
Field placement in a clinical setting for a minimum of 15 hours per semester. Certified music therapists and other specially trained staff who work within the settings assist in the development and growth of the prospective music therapist.

307 Psychology of Music Teaching and Learning 3 cr
A study of physiological, psychological, and sociological aspects of music teaching and learning. Emphasis on current research.

308 Influence of Music on Behavior 2 cr
Reviews different treatment theories and their relationship to music therapy. Emphasizes the effects of music on behavior and total health. Develops a philosophy of music therapy with a background in holistic health.

309 Directed Study in Music Therapy 2 cr
Study topics from areas of music therapy, psychology of music, brain research and other expressive therapies are reviewed and discussed.

310 Recreational Music in Therapy 1 cr
Planning, demonstrating, and evaluating music activities for patient populations served by music therapists. Skills in leading group music activities, circle and square dances. Music Therapy Majors only. Competency in accompanying with guitar and/or piano is emphasized.

315 Piano Improvisation for Music Therapy 2 cr
Development of functional keyboard skills in improvisation on rhythm and dissonant chords as an aid in non-verbal communication with the handicapped client.

374 Music and Movement for the Exceptional Person 3 cr
A course of study and experience to train the student to use music and movement as a tool to promote therapeutic and educational growth. Focus on developmental needs correlated with appropriate materials and methods.

SACRED MUSIC

322 Sacred Choral and Solo Literature 2 cr
A survey of choral and vocal literature for the church with emphasis on practical materials for church choirs, soloists and congregations.

403 Service Playing 2 cr
The objective of this course is to develop the service playing skills necessary to play for church services of all denominations through a study of applied harmony, counterpoint, hymnody, anthem accompaniments and conducting from the console. Students unable to enroll for this course will study this material in their applied music lesson.

410 Church Music Practicum 3 cr
Seminar in practical aspects of church music, establishing the music program in a church, graded choir systems, children's choirs, instruments in workshop, contracts, cantor systems, worship commissions, etc.

420 Hymnody 2 cr
A study of the church's heritage of song, the psalms, the great hymns of the Medieval Church, the heritage of Luther, Calvin and their followers. English hymnody, American contributions, twentieth-century hymnody with special emphasis on the theological framework for each major development in the history of hymns.

421 Gregorian Chant 2 cr
The history, notation and modal system of Gregorian chant. Class participation in the singing of chant as prayer and current liturgical application.

431, 432 Organ Improvisation 2 cr each
A practical application of the basic tools of improvisation including harmonization of melodies at the organ, two and three part counterpoint, short ABA forms and chorale preludes with emphasis on their liturgical application.

451, 452 Organ Literature 2 cr each
A survey of organ literature and organ buildings as they relate to organ registration. The first semester treats organ music from the Renaissance through the Baroque. The second semester deals with the literature from 1770 to the present. Outside listening and readings will be required.

476 Organ Design and Maintenance 2 cr
A study of the basic concepts or organ construction with emphasis on the historical development of the organ and the mechanical operation of the pipes and console. Tuning, voicing, and esthetics of organ design will be discussed.

MUSIC TECHNOLOGY/SOUND TECHNOLOGY

141 Music and Technology 2 cr
An introduction to music technology utilizing the resources of the Synthesizer and Recording Studio.

145 Audio I 3 cr
Foundations of the recording process. Covered are all aspects of the recording chain and basic production procedures. Lab required.

164 Audio II 3 cr
An intensive study of the commercial multitrack recording process. Advanced production projects. Lab required. Prerequisite: Audio I.

149-151 Audio III 1-3 cr
Advanced studio, small group projects.

Introduction to Electronics 2 cr
A study of the fundamentals of electronics dealing specifically with theory and terminology. Prerequisites: Music and Technology, Audio I and Acoustics.

Electronics for Audio 2 cr
An introduction to fundamental modern electronic theory specifically dealing with DC and audio circuit design and construction. Prerequisite: Introduction to Electronics.

Maintenance I 2 cr
A study of fundamental equipment maintenance in the modern recording/study studio. Prerequisites: Music and Technology, Audio I and Acoustics.

Maintenance II 2 cr
Advanced maintenance, troubleshooting, grounding and interconnection of modern recording studios. Prerequisite: Maintenance I.

Mixing and Mastering 2 cr
An in-depth study of the elements of audio mixing and their implications for the different mastering processes. Various practices of mixing along with mixing for mastering are studied and practiced.

Current forms of mastering including LP, CD and cassette will be covered. Also included is exposure to the process of subcontracting mastering houses. Prerequisite: Audio II.

Recording Studio Arranging 2 cr
Musical skills needed for recording studio arranging, conducting, and composition. Focus on the various idiomatic styles (Jazz, Pop, Electronic, and Classical) for musical flexibility. Prerequisites: Music and Technology, Audio I and Acoustics.

Studio Design 2 cr
A study of the approaches to environmental acoustic design when dealing specifically with recording studios. Design and construction techniques are examined along with resources available to implement them. Prerequisite: Acoustics.

GENERAL

105 Seminar 0 cr
Registration for Seminar is required of all undergraduate Music majors during most semesters of full-time enrollment. Course matriculation guarantees availability for master classes, student club meetings, and guest lectures held during the Tuesday and Thursday “common hour” periods.

170 Enjoyment of Music 3 cr
An introduction to music appreciation especially designed for (but not limited to) non-music majors.
School of Nursing

Administration

Dean
Ruth C. Maszekiwicz, R.N., Ph.D
Associate Dean, Undergraduate Program
Joanne F. White, R.N., Ph.D
Associate Dean, Graduate Program
Theresa L. Carroll, R.N., Ph.D

HISTORY

Since it is the policy of the University to establish its schools under control of an already established school, the School of Nursing was originally organized in 1935 as a unit in the College of Liberal Arts and Sciences. On March 15, 1937, the Department of Nursing Education was given the status of a separate school with a Dean in charge.

On December 3, 1937, the State Board of Education of the Commonwealth of Pennsylvania approved the school and authorized Duquesne University to confer the degree of Bachelor of Science in Nursing. The degree of Bachelor of Science in Nursing Education upon graduates according to the appropriate curriculum. The program leading to the degree of Bachelor of Science in Nursing Education was designed to meet the specific needs of the registered nurse while the basic program leading to the degree of Bachelor of Science in Nursing, the first in Pennsylvania, was designed for the high school graduate. The School of Nursing continued to offer two separate programs leading to two separate degrees until 1964. In September of that year, a single revised professional nursing program was implemented for admission of both basic and registered nurse students leading to the degree of Bachelor of Science in Nursing.

In the Fall of 1982, a new baccalaureate nursing program, also leading to the degree of Bachelor of Science in Nursing, was instituted and was specifically designed to meet the educational and professional needs of the registered nurse to date, more than 3,000 students have graduated from Duquesne's School of Nursing.

SCHOOL OF NURSING PHILOSOPHY AND DEFINITION OF NURSING

The philosophy of the School of Nursing evolves from that of Duquesne University. This philosophy provides a framework for a personal philosophy of life based on the Judeo-Christian frame of reference and supports a commitment to the values which give meaning to life.

In making explicit the philosophy that underpins the theoretical framework of nursing at Duquesne University, the concepts of man and health are related to nursing as a human science. Man is a unique creation of God whose defining characteristics are rationality, volition, and sentience. Further, man is holistic and shares a mutually open existence with his environment.

Health is dynamic, contextual, and individual. It is experienced by the total person in all aspects of living. Active participation in one's own health is required for the individual to actualize his/her health potential. All choices in life impact on one's health.

The faculty of the School of Nursing defines nursing as an academic discipline and a service profession which focuses on health promotion for the individual within the family/group/community.

The nurse applies knowledge and theories from the discipline of nursing, the humanities, and the natural and behavioral sciences to the promotion of health. Health promotion occurs through the utilization of the nurse/client/family process as the nurse exercises his/her leadership abilities in care giving and health education.

The faculty believes that the academic discipline of professional nursing as a human science is primarily concerned with the health care of man and his family from conception to death. Nursing focuses on helping individuals and families to enhance the quality of living through the promotion of health. The nurse initiates interrelationships with clients and families to assist them in describing their health, evaluating alternatives, and mobilizing their resources for planning change. Central to nursing practice is the nurse/client/family process which is deliberate, systematic and individually designed. This is a shared process where decision making is focused on the freedom to choose within the context of the situation.

The nurse substantiates nursing practice through theories, concepts and research findings. The professional nurse is a creative and independent practitioner who finds satisfaction in initiating the process of nursing and evaluating plans for continued growth. The professional nurse promotes the discipline of nursing and provides direction for the future of nursing through systematic inquiry.

The learning process is one in which the teacher and learner plan experiences, share knowledge and evaluate results. The emergence of new knowledge is encouraged through continuous inquiry and research. The evolving responsibilities with the nursing profession are based upon trends, technology, and characteristics of the population for whom health care will be delivered.

The uniqueness of the Duquesne University Baccalaureate is founded upon an appreciation and understanding of the philosophical beliefs about man-environment, health, nursing, and learning, and is reflected in the graduate's practice of nursing.

DEGREE

The School of Nursing undergraduate program leads to the degree of Bachelor of Science in Nursing.

PROGRAM OF STUDY

The School of Nursing offers a program with a major in nursing leading to a baccalaureate degree in Nursing to qualified high school graduates, registered nurses, non-nursing baccalaureate graduates, and qualified transfer students. The program includes four years of study, and is designed to provide the student with the knowledge and the skills needed to practice as a professional nurse generalist upon graduation. The general and professional education acquired in this program provides a basis for the graduate to progress to positions of increasing responsibility and to undertake graduate study.

The curriculum is designed to provide a strong liberal arts and science base. The course offerings in the natural, biological and human sciences and the University core courses support the philosophy that provides the basis for the conceptual framework of the professional nursing program. Professional nursing courses, which constitute the nursing major, include theory and practice in the nursing care of individuals and families. Learning opportunities are provided in hospitals, in homes, and in the community.

The faculty of the School of Nursing conducts all professional nursing courses and also guides and directs the practicum learning experiences. A variety of hospitals and agencies cooperate with the School of Nursing to provide a wide selection of excellent practice settings.

Upon the successful completion of their program of studies, graduates will be eligible to write the NCLEX-RN examination for licensure in the state in which they wish to practice.

The faculty reserves the right to make changes in the curriculum and program requirements which are believed to be in keeping with the changing health needs of society and the best interest of the students. The School of Nursing is committed to quality professional nursing education. The undergraduate program of studies is fully approved by the State Board of Nursing and is fully accredited by the National League for Nursing.

ADMISSION REQUIREMENTS

ADMISSION OF HIGH SCHOOL GRADUATES

Students who are interested in applying for admission to the School of Nursing should request an application from the Office of Admissions, Duquesne University, Pittsburgh, PA 15282. The specific entrance requirements for admission are:

1. The applicant's high school curriculum must
SCHOOL OF NURSING

TRANSFER STUDENT ADMISSION
See the section on Admissions for further University requirements.

Admission criteria for transfer students
1. A cumulative Q P A of 2.5 from the transferring institution.
2. One unit of chemistry and one unit of algebra, which can be from either a secondary school or postsecondary institution.
3. Personal interview with a representative of the School of Nursing, and two letters of reference.

Provisions affecting Placement
1. No transfer student can be accepted into nursing practicum courses during the first semester of attendance at Duquesne University.
2. Only courses taken within the past ten years will be evaluated for transfer credit. For courses in the natural sciences, the limit is five years. This time limit may be waived in specific instances.

REGISTERED NURSE STUDENTS
Duquesne University School of Nursing also offers the registered nurse an opportunity to obtain the baccalaureate in nursing degree. Part-time or full-time enrollment is available to allow the registered nurse to continue to be employed while undertaking the course of study. Through the acceptance of transfer credits, CLEP testing, and challenge examinations, the School of Nursing strives to apply the registered nurse's previous learning experience to the requirements of the B S N degree. Specific information concerning the acceptance of transfer credits, eligibility for CLEP testing, and challenge examinations can be obtained by contacting the R N /B S N Program Chairman within the School of Nursing.

Admission Requirements—R N /B S N Program
Students who are interested in applying for admission to the R N /B S N Program should request an application from the Office of Admissions, Duquesne University, Pittsburgh, PA 15262.

- High school diploma or equivalent.
- Graduation from an accredited associate degree or diploma nursing program (2 S Q P A minimum).
- Verification of current licensure as a registered professional nurse in Pennsylvania.
- Present or past experience in nursing.

SCHOOL OF NURSING

- Verification of active malpractice insurance.
- Fulfillment of science and math prerequisites to the nursing clinical course.
- Personal interview with the R N /B S N Program Chairman in the School of Nursing.
- Felony conviction notification and compliance with the Standards of Personal Conduct Policy as indicated above.
- Evidence of physical and emotional health adequate to meet the demands of the programs as indicated above.

SECOND DEGREE PROGRAM
Applications holding a baccalaureate with a major other than nursing must follow transfer student admission procedures. They should also arrange for a personal interview with a representative of the School of Nursing.

TEMPORARY TRANSFER
With prior written approval, a nursing student may take courses during the summer at an accredited college or university other than Duquesne University. A student wishing to do this will become a temporary transfer student, providing he or she receives the necessary clearance from both institutions.

A student must bring to the School of Nursing an official copy of the transcript. The School of Nursing provides information on temporary transfer students to students prior to entrance into the clinical area. Each student must show evidence of current C P R certification prior to entering the clinical area.

STUDENT ORGANIZATIONS
Each nursing student is a member of the general student body and may select and participate in any of the campus organizations. There are numerous social sororities and organizations as well as professional organizations. These organizations exist for the promotion of the scholarly and professional interests of members

Other additional School of Nursing requirements include evidence of physical and emotional health adequate to meet the demands of the program and compliance with the standards of personal conduct as outlined in the School of Nursing Standards of Personal Conduct policy. Following notification of acceptance to the University by the Office of Admissions, the School of Nursing candidate must:

1. Submit the School of Nursing's required health form to the School of Nursing.
2. Submit a signed School of Nursing Standards of Personal Conduct Statement.

In specific instances, and at the discretion of the Committee on Admissions, the equivalent of these requirements may be accepted in lieu of the foregoing precise requirements. See the section on Admissions for other University requirements.
Association, Inc (NSNA). The purpose of SNAP is to assign responsibility for contributing to nursing education, to provide programs representative of fundamental and current professional interest and concerns, and to aid in the development of the whole person. Active membership is open to undergraduate students enrolled in state-approved programs leading to licensure as a registered nurse and registered nurses enrolled in undergraduate programs of nursing.

Class Organizations Each class is an officially recognized organization in the School of Nursing. As such, class elects its own officers and conducts such programs and affairs as its members deem desirable toward achieving its goals.

Sigma Theta Tau is the international nursing honorary society. The Duquesne University Nursing Honor Society was granted a chapter of Sigma Theta Tau, Epsilon Phi, in November of 1981. Membership is open to students, faculty, and alumni who meet the criteria for election.

Nursing Alumni Association Upon graduation, each graduate is cordially invited to join this organization as a School of Nursing Alumni.

HONOR AWARDS

In addition to graduation honors, these awards and others are presented at Honors Day.

The Mary W Tobin Gold Medal and The Dean John-Johnson Memorial Medal are awarded annually to two outstanding seniors chosen by the faculty. The Mary W "Tobin" Gold Medal is awarded by the Theta Chapter of Alpha Tau Delta National Professional Fraternity for persons in nursing. It was established in 1945 to honor Mary Tobin, the first Dean of the School, on the occasion of her retirement from the University. The Dean John-Johnson Memorial Medal, established in 1963 commemorates Dean Johnson's contributions to the growth of the School of Nursing as its second Dean.

Four new awards were presented for the first time in 1983. The first award on behalf of Miles Laboratories, Inc., is awarded annually to the outstanding graduating senior in the area of acute care nursing. The award is called the Miles Laboratories Award for Excellence in Nursing Practice in the Acute Care Setting. The second award, called the Lanza Award for Excellence in Home Health Nursing, and is sponsored by Lanza, Hospital Equipment for the Home. This award is presented annually to the graduating senior demonstrating outstanding ability in the area of community health. The third award is sponsored by the United States Air Force. This award, the Air Force Leadership in Nursing Award, is presented to the graduating senior best demonstrating outstanding leadership qualities (in general, contributions to the nursing program and/or class, and evidence of community service and commitment to the profession.

The fourth award is for excellence in scholarship, leadership and professional commitment, and is awarded to a graduating senior. This award is sponsored by Sigma Theta Tau International — Epsilon Phi Chapter.

Most recently, four new awards have been added. The Community Health Education Award, established in 1985, is awarded to recognize the graduating senior who demonstrates initiative, creativity, and teaching skills in promoting community health. The Faculty Recognition Award, established in 1986, is awarded to an outstanding graduating senior by faculty vote, and the Nursing Alumni Award, established in 1987, is awarded to a graduating senior for excellence in scholarship, professional commitment, and implementation of Duquesne’s philosophy. In 1989, Sigma Theta Tau International, Epsilon Phi Chapter, instituted an additional award to recognize a graduating registered nurse student for excellence in scholarship, leadership, and professional commitment.

SENIOR DIAGNOSTIC ASSESSMENT EXAMINATION

A senior diagnostic assessment examination is required of all seniors. The purpose of this battery of tests is to provide a mechanism for feedback to students to help in identifying strengths and weaknesses in preparation for the NCLEX-RN licensing examination.

GRADUATION REQUIREMENTS

General University requirements for graduation are in the Academic policies section of this catalog. General University requirements for graduation include:

1. Completion of 124 credits
2. A minimum cumulative over-all quality point average of 2.0
3. Successful completion of all clinical practicum courses
4. Completion of the required curriculum plan
5. Removal of I and F grades in all required courses

A candidate for the Bachelor’s degree must complete the last 30 credits toward the degree at Duquesne University Challenge credits are not included in this 30 credit requirement.

Submission of an application for the degree. No student is considered a degree candidate until he/she files an application for the degree on a form provided by the Registrar.

Degree requirements must be completed within 10 years after initial enrollment. At the end of the 10-year period, the student’s record is re-evaluated in terms of the curriculum in effect at that time, and the student is advised of any additional requirements for graduation. The responsibility for fulfilling degree requirements rests with the student.

RECOMMENDED COURSE SEQUENCE:

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<th>Semester</th>
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SCHOOL OF NURSING

University Student Handbook. The Student Handbook can be acquired at the student government office located in the student union.

School of Nursing Grievance Procedure

Grievance procedures must be initiated within 30 calendar days of the occurrence which gave rise to the grievance. With the exception of the grievance involving the student, any other party may request that another person be present during the discussions.

If difficulties arise between student and faculty, the student should first discuss the difficulty with the person directly involved.

If the matter is not satisfactorily resolved, the appropriate Department Chairperson should be consulted. If the problem persists, the Associate Dean of Undergraduate Programs should then be contacted.

If the problem is not satisfactorily resolved, a consultation with the Dean of the School of Nursing should be arranged, and the appeals committee in the School should be convened.

Should the problem still remain unresolved, a “Request for Hearing” form should be filed with the Vice President for Academic Affairs within 20 days of the appeal’s committee decision.

If the Vice President for Academic Affairs determines that a legitimate grievance exists, he will convene the academic due process committee.

In all cases, the decision of the academic due process committee is final. If the Vice President for Academic Affairs finds that a legitimate grievance does not exist, he/she will inform the student within 30 days of his/her determination.

REGULATIONS

Students in the School of Nursing are preparing themselves for entry into a respected health profession where the highest degree of character and sense of responsibility are basic requirements. As such, they are expected to conduct themselves, at all times, in a manner befitting this position and according honor to it. For these reasons, the School of Nursing insists on strict adherence to the following regulations.

1. Class Attendance

Attendance is expected for every class session of each course within the School of Nursing. Students are expected to attend the entire class session. Specific class attendance requirements (in relation to grading) will be stated in each course syllabus. Acceptable reasons for absence will be in accordance with the current Undergraduate Catalog statement of scholastic policies. Consideration of any other request for an excused absence will be at the instructor’s discretion.

A student who is unable to attend class because of serious illness, hospitalization, a serious accident, or other extenuating circumstances is responsible for notifying the appropriate faculty member or
SCHOOL OF NURSING

Department Chairman and the Associate Dean of the Undergraduate Program, School of Nursing. A student who is absent for cause is expected to complete all of the work in all courses. It is the student's responsibility to make up all assignments in all courses and to be familiar with any instructions which may have been given during the absence. Attendance is mandatory for all scheduled hours in the clinical area. This includes community clinical hours as well as those scheduled in the acute care area. Acceptable reasons for absence will be in accordance with the current Undergraduate Catalog statement of scholastic policies. The student is expected to notify the clinical instructor of the absence prior to the scheduled clinical time. The specific procedure for this notification will be at the discretion of the clinical instructor. Consideration of any other request for an excused absence will be at the instructor's discretion. Tardiness or unexcused absence(s) are serious offenses of professional responsibility and accountability that may result in failure to meet course goals and objectives.

Handicapped students requiring special assistance are urged to notify the class instructor before or at the first class.

2 Health Requirements: All School of Nursing students are required to conform to the health requirements of the School of Nursing.

3 Mathematics Competency: All School of Nursing students must demonstrate mathematics competency by means of a written examination prior to progression to Junior level clinical courses.

Curriculum Standards:

To progress to the upper division nursing practice courses, a minimum cumulative QPA of 2.0 is required with a minimum of a C grade in the natural and applied sciences (Chemistry, Biology of Microbes, Anatomy and Physiology I and II, Nutrition for Health Promotion, Basic Pharmacology and Pathology), and all freshmen and sophomore level required nursing courses. Providing a minimum C grade is achieved in Anatomy and Physiology I and II theory courses at least a minimum D grade is required in the Anatomy and Physiology I and II laboratory courses.

Students must achieve a C grade in all nursing courses except nursing electives. The clinical component of all nursing practice courses is graded on a pass-fail basis. The student must obtain a pass grade in the clinical portion and a minimum of a C grade in the theory portion in order to pass the course.

Students may repeat three clinical nursing courses one time. Students may repeat nursing didactic (non-clinical) courses one time.

The student is cautioned to seek regular advice from the faculty and to keep a record of credits earned and the calculated averages. The School assumes no responsibility for such errors appearing in student records which may prevent the student from being graduated.

The School of Nursing faculty reserves the right to withdraw any student from the nursing major who, in its opinion, has not progressed satisfactorily in nursing practice even though the quality point average meets required standards.

The faculty of the School of Nursing also reserves the right to make any changes in the curriculum that may seem necessary or desirable.

Course Descriptions:

Descriptions of courses in liberal arts and sciences may be found in the College of Liberal Arts and Sciences section, page 40. Descriptions of University core courses may be found on page 36.

100 Orientation to Professional Nursing 3 cr

222 Human Development Throughout the Life Continuum 4 cr

233 Introduction to Research in Nursing 1 cr

252 Nutrition for Health Promotion 3 cr

262 Health Promotion Through the Nursing Process 5 cr

272 Basic Communications in Nursing 2 cr

312 Pathology I

340 Foundations of Gerontic Nursing 4 cr

350 Physical Assessment of the Adult and Child 2 cr

360 Nursing Care of the Adult Client I 7 cr

370 Nursing Care of the Adult Client II 7 cr

380 Nursing Care of the Adult Client III 7 cr

410 Nursing Care of the Childbearing Family 5 cr

420 Nursing Care of the Child and Family 5 cr

430 The Research Process in Nursing 3 cr

455 Nursing Leadership and Management of Client Care 4 cr

475 Promotion of Health with Individuals/Families/Groups in the Community 4 cr

485 Trends and Issues in Nursing 3 cr

100 Orientation to Professional Nursing 3 cr

This course introduces students to the discipline of nursing as a human science, and provides the framework for explaining the practice of professional nursing according to the philosophy of Duquesne University School of Nursing. Students explore the assumptions about man and environment beginning with the valuing process and self-esteem as a means of valuing self. In addition, students examine beliefs about man, environment, and health and how they make a difference in the practice of nursing.

Professional nursing is explored from the historical aspect as it relates to present and emerging roles. The relationship of nursing research and theories is examined with a concentration on the nursing theories of Rogers, King, Orem and Watson.

Students begin to investigate how nursing theories serve as a basis for the practice of nursing.

222 Human Development Throughout the Life Continuum 4 cr

This course builds upon the major concepts of man, environment, health and nursing. The student studies the basic mechanisms involved in the pathogenesis of illness-related changes since the abnormal changes ultimately can be traced to underlying molecular, cellular and histological deviations from the homeostatic state. The mechanisms that disrupt this optimal state will also be elucidated. In addition, the basic mechanisms involved in the pathogenesis of various body systems and the body as a whole are emphasized, and contrasted with the similar mechanisms that support normal health. Prerequisites: Microbiology of Microbes, Anatomy and Physiology I and II.

312 Pathology 4 cr

This course is a theory course designed to acquaint students with the structural and functional changes that occur in various body systems, as well as the body's remarkable ability to compensate for these illness-related changes. Since the abnormal changes can ultimately be traced to underlying molecular, cellular and histological deviations from the homeostatic state, the mechanisms that disrupt this optimal state will also be elucidated. In addition, the basic mechanisms involved in the pathogenesis of various body systems and the body as a whole are emphasized, and contrasted with the similar mechanisms that support normal health. Prerequisites: Microbiology of Microbes, Anatomy and Physiology I and II.

320 Nursing Care of the Adult Client I 7 cr

Nursing Care of the Adult Client I is the first clinical nursing course offered at the Junior level. This course builds upon the student's knowledge of natural and human sciences, concepts from selected nursing theorists, Pathology and Physical Assessment which are taken concurrently with this course. The student is provided with the opportunity to apply the nursing process in caring for patients in a variety of acute medical-surgical settings. Basic concepts related with the integrity of biological, psycho-social, spiritual and environmental patterns of life are emphasized. Concepts of loss/grief, oncology and rehabilitation are integrated throughout the course.

Students explore the ways in which adult clients respond to alterations in health and hospitalization. Knowledge of how changes influence the adult client's unique experience of health, illness, and life style is integrated to provide holistic and individualized nursing care. Students also examine how different socio-cultural values influence health patterns, and utilize adult teaching/learning principles to meet the client's health education needs. Prerequisites: Health Promotion Through the Nursing Process, Basic Communications in Nursing, Nutrition for Health Promotion, Physical Assessment of the Adult and Child (concurrent), and Pathology (concurrent).

330 Foundations of Gerontic Nursing 2 cr

This course builds upon the knowledge of the concepts of human growth and development throughout the life continuum, upon foundational nursing...
courses, and upon all previous learning. The course is designed to explore the aging process from a holistic nursing perspective focusing on the older adult. Learners examine normal changes of aging, health assessment, and common health care problems of the older adult. Selected economic, legal, ethical, socio-cultural, and political issues are discussed and analyzed. Emphasis throughout the course is placed on health promotion of the older adult through the nursing process. Prerequisites: Human Development Throughout the Life Continuum, Health Promotion through the Nursing Process.

350 Physical Assessment of the Adult and Child 2 cr

This course builds on previously learned knowledge of normal child development. A systems approach is utilized to teach students how to perform a physical assessment. Students learn how to differentiate between normal findings and alterations indicative of actual or potential health problems. Students are provided with the opportunity to perform physical assessments in the laboratory setting and to utilize these skills in the clinical setting in Nursing Care of the Adult Client I, which takes place concurrently. An overview of psychosocial assessment of the child is also included.

This course enhances the student's ability to utilize knowledge of body systems for the purpose of planning a holistic approach to nursing care. Prerequisites: Anatomy and Physiology II, Pathology (concurrent).

360 Nursing Care of the Adult Client II 7 cr

This clinical nursing course offered at the Junior level builds on previously learned knowledge of Pathology, Physical Assessment, Nursing Care of the Adult Client I, and critical thinking skills. Students are provided with the opportunity to apply their learning in caring for the adult in a variety of medical-surgical settings. The family is viewed as the primary support system to the patient. Increasingly complex concepts related to the integrity of biological, psycho-social, spiritual and environmental health patterns are presented. Concepts of loss and grief, oncology and rehabilitation continue to be integrated throughout the course. Students explore the ways in which adult clients respond to long and short-term alterations in health, and examine the influence of more complex changes related to the client's experience of health. Students also explore the role of the nurse in providing supportive, therapeutic, and rehabilitative care, and participate in the referral of clients for these health care services. Students integrate previously learned and more advanced nursing knowledge reflecting the uniqueness of man's health experience to provide wholistic nursing care to the adult client. Prerequisites: Nursing Care of the Adult Client I, Physical Assessment of the Adult and Child, and Pathology.

370 Psychiatric-Mental Health Nursing Care of the Adult 3 cr

This clinical nursing course builds on previously learned communication theory. Abnormal Psychology and concepts from selected nursing theorists. The student is provided with the opportunity to care for clients in the Psychiatric-Mental Health setting and to examine how different socio-cultural values influence health promotion of individuals. The student identifies the role of the professional nurse as a collaborator in multidisciplinary treatment planning and explores community mental health resources utilized in the rehabilitation of clients with psychiatric-mental health problems. Prerequisites: Basic Communications in Nursing, Abnormal Psychology. Nursing Care of the Adult Client I.

410 Nursing Care of the Childbearing Family 5 cr

This course focuses on the clinical nursing care of the family with the emphasis on the childbearing and neonatal periods. Utilizing the nursing process the student will focus on the practice of maternal-infant health nursing based on selected nursing theories, knowledge of normal and selected altered patterns relative to the developmental processes of the childbearing family. Concepts of loss, grief, maternal and paternal role identity, body image and self-esteem are explored relative to the childbearing family. Changing family belief systems related to health promotion for mothers and their families are explored from an ethically, socio-cultural and political perspective. The student's role as a health educator is further developed through teaching the family. Growth in critical thinking and the ability to synthesize knowledge of childbearing in the performance of their professional roles. Prerequisites: Family Systems, Nursing Care of the Adult Client II, Psychiatric-Mental Health Nursing Care of the Adult.

420 Nursing Care of the Childbearing Family 5 cr

In this course, the student learns the role of the nurse caring for the child and family. Using the nursing process, as a framework, the student will assess the child and family using health and illness, addressing the biological, spiritual, environmental, and psycho-social patterns of the child and family. Norms and alterations in health patterns will provide the basis for discussion as they relate to the developmental level of the child. The concept of family in the present focus of health is identified as a major focus of the course. Prerequisites: Family Systems, Nursing Care of the Adult Client II, Psychiatric-Mental Health Nursing Care of the Adult.

430 The Research Process in Nursing 3 cr

This senior level undergraduate research course focuses on the role of the professional nurse as a consumer of research. Each step of the research process is examined. Application exercises reinforce didactic material. The critiquing process is utilized with current nursing studies. The advantages and disadvantages of quantitative and qualitative research are explored. Prerequisites: Fundamentals of Statistics, Introduction to Research in Nursing. Nursing Care of the Adult Client II.

455 Nursing Leadership and Management of Client Care 4 cr

This course provides students with the opportunity to synthesize previous learning and develop knowledge and skills relevant to the leadership and management roles of the nurse. Concepts of power, change and decision-making are examined. The foundation is being laid for exploring leadership styles and functions. Advanced clinical knowledge, clinical judgement and technical skills development encourage an environment in which the student performs as a beginning professional in both the practice and management dimensions of client care. Prerequisites: Nursing Care of the Childbearing Family, Nursing Care of the Child and Family.

475 Promotion of Health with Individuals/ Families/ Groups in the Community 3 cr

This course builds upon previous learning and synthesizes knowledge with a focus on the promotion of health with individuals, families and groups from within the community. The student investigates multidimensional health needs of culturally diverse population groups and seeks to identify high risk populations. Current health care and population trends require greater attention to the highly complex care and rehabilitative needs of individuals and families in the home. Various roles of the community health nurse are investigated with emphasis on the role of the nurse as health educator. Prerequisites: Nursing Care of the Childbearing Family, Nursing Care of the Child and Family.

485 Trends and Issues in Nursing 3 cr

This course builds upon all previous learning experiences and synthesizes knowledge with a focus on the promotion of health with individuals, families and groups from within the community. Various roles of the community health nurse are investigated with emphasis on the role of the nurse as health educator. Prerequisites: Nursing Care of the Childbearing Family, Nursing Care of the Child and Family.

101 Dosage and Solutions 1 cr

This course introduces students to fundamental concepts of drugs and their use for personal or work-related tasks. Microcomputer software and hardware in the context of personal use. Software systems that support computer uses such as spreadsheets (including graphics), word processing, database construction, and some programming languages as a laboratory experience to expose the student to all facets of computers for personal use. This content will also form the knowledge base for the computer applications to nursing as presented in the undergraduate and graduate computer applications course. Prerequisite: Computer Literacy.

204 Computer Literacy 2 cr

This course is a non-clinical nursing elective. Ways of Healing explores many of the ways in which clients and families deal with the process of healing which are not thought to be medically traditional. Belief systems are looked at and how they affect one's health experiences on the healing process. Students examine the mystery around unconventional or unexpected healing and look at this in relationship to one's belief systems which are a reflection of how one participates with one's own health. Students study, in depth, two ways of healing: biofeedback and visual imagery techniques. The application of these techniques to the nursing process is explored. Seven other ways of healing are explored through group presentations: psychic surgery, hypnosis, spiritual healing, acupuncture, acupressure, hex/hoodoo, and laying on of hands. Prerequisites: Orientation to Professional Nursing.

299 Nursing and Spirituality 3 cr

Nursing and Spirituality is a non-clinical nursing
elective Students explore the universal and timeless truth of the spiritual dimension of human nature Case histories in nursing are investigated which focus on spiritual needs encountered in the nurse/client/family relationship.

Students are encouraged to develop an awareness of their own spiritual dimension and its growth through nursing experiences. In addition, students discover the gifts they bring to the nursing situation when spiritual needs are recognized and shared (entered into) with the client (Spring only).

353 Health Care Ethics 3 cr
This course is designed to help students consider the purpose of ethics and the role of ethics in their own lives and in the health care setting. The students are helped to gain a more developed sense of their own beliefs and how they deal with ethical issues and ethical decision-making. In addition they are guided in the process of articulating and debating their reasons for various stances.

Various ethical systems, professional codes of ethics, and a model for ethical decision-making will be discussed. Through case study analysis, the students resolve ethical dilemmas and justify the decisions made.

Further, various issues of an ethical nature, that present themselves in the health care context, are discussed (Spring only) Prerequisites none

380 Critical Care Nursing 3 cr
This course builds on medical-surgical concepts learned in Nursing Care of the Adult Client I and II and concepts from selected nursing theorists. The student is provided with the opportunity to care for clients/families in the critical care setting. Students examine the ways in which life-threatening alterations in patterns of health affect critically ill clients/families. Students integrate in-depth knowledge of Anatomy and Physiology and Pathophysiology to provide wholistic nursing care of clients/families in the critical care setting. The student continues to utilize adult teaching-learning principles to identify health education needs and develop plans to meet these needs (Summer only and with special permission) Prerequisite: Nursing Care of the Adult Client II

399 Health Education 3 cr
This course focuses upon the nurse's role as health educator and allows the student to explore the dynamic world of health education in today's society. The major issues confronting the nurse as a teacher are emphasized together with the processes of valuing and change in health education. The learning needs of the client/family are carefully scrutinized. The student has the opportunity to write and implement a teaching plan, design an evaluation tool, and create teaching aids. Prerequisite: Health Promotion Through the Nursing Process

433 Introduction to Nursing Informatics 2 cr
This course introduces the student to nursing informatics, or computer applications to clinical practice, administration, research, and education in nursing. Hardware and software systems are presented in the context of nursing applications of computers for individual and organizational purposes. Opportunities are presented for the student to use software packages for word processing, spreadsheet design and execution, basic programming, and database management. Information to simulate uses of these computer applications in professional nursing. Examples of actual computer applications in nursing will be presented so that the student can appreciate the use of computer technology by nurses in their respective areas of clinical practice, administration, research, and education. Prerequisite: Computer Literacy

459 Transcultural Nursing 3 cr
Transcultural Nursing builds on the basic concepts of man, health, nursing, and environment, and their interrelationships as developed in the student's previous sciences, humanities, and nursing courses. Emphasis is placed on the development of Levinsky's model of transcultural nursing and transcultural health care systems. Various issues related to the nurse's role in the delivery of health care and the client's acceptance of health care are explored. Emphasis is placed on the assessment and analysis of selected cultural diversities as related to nursing practice. Methods utilized in transcultural nursing research that foster culture-specific nursing care are included. Prerequisite: Health Promotion Through the Nursing Process

466 Choosing the Living in Dying 3 cr
Choosing the Living in Dying is a non-clinical nursing elective. The focus of the course is on dying as an evolutionary life experience. Emphasis is placed on the quality of living throughout the dying process. The learners will expand their perspectives of the dying process and current issues in America related to that process. Meaning is enhanced through the sharing of thoughts, feelings and perceptions within the group process.

497, 498 or 499 Directed Study 1-3 cr
These courses are designed to provide students with a unique opportunity to pursue an area of interest in nursing that enriches and expands upon basic knowledge provided in the required program of studies. Students have the opportunity to generate objectives and behavioral outcomes related to the area of interest they wish to pursue, and to formulate and implement a plan of study to achieve these objectives. Prerequisite: Health Promotion Through the Nursing Process, minimum cumulative QPA 2.0
School of Pharmacy

Administration

Dean
Douglas H. Kay, Ph.D.

Associate Dean
Alvin M. Gainsky, Ph.D.

Assistant Dean for Administration
Stephen C. Morrison, M.A.

HISTORY

Plans for establishing a School of Pharmacy were initiated in 1911, when the charter of the University was amended and authority obtained to grant degrees in Pharmacy. On April 20, 1925, the final work of organizing the School of Pharmacy was completed. The first class was received September 21, 1925.

Duquesne University School of Pharmacy is housed in Richard King Mellon Hall of Science, whose design by master architect Merv van der Rohe won the "Laboratory of the Year" award for 1969 in the annual Industrial Research magazine. New science buildings across the country. The School's specialized facilities include the Hugh C. Muldoon Model Pharmacy, a learning resource center, a computer room with current microcomputers, a biochemistry laboratory, five additional teaching laboratories, a retail pharmacy laboratory containing basic pharmaceutical, manufacturing equipment and separate packaging and sterile product areas.

PHILOSOPHY AND OBJECTIVES

The School of Pharmacy, as an integral part of the University, embodies as its own, the mission and goals set forth by the University. The School of Pharmacy has many important missions, but the primary mission of the School is to prepare practitioners for life-long careers in pharmacy and allied health sciences. Academic training must build sufficient knowledge and skill to allow graduates to practice in the present environment and to grow and adapt as the practice environment changes.

The competency-based curriculum in pharmacy represents a composite of educational experiences that results in a well-educated and well-trained professional. An important part of the School's curriculum is to provide undergraduate students with a well-rounded and broad education which will enable a permanent interest in learning and stimulate qualified undergraduate students to continue their education at the graduate level.

In order to be a competent pharmacist, the student must become a therapeutic specialist who has knowledge of drugs and their actions and can apply this knowledge to improve patient therapy outcome and understanding. Further, the pharmacist must possess skills and knowledge to manage a professional practice. The comprehensive and specialized nature of the curriculum offers the pharmacy graduate a choice of occupations within the profession and its closely allied fields, as well as an adequate foundation for the continuation of studies on a graduate level in many areas.

Within the profession of pharmacy, a graduate may become a community pharmacist, hospital pharmacist, industrial pharmacy practitioner, consultant pharmacist, or a pharmacist in government service. Many pharmacists find employment as clinical trialists in industrial and research organizations, or in pharmaceutical companies as medical service representatives or in research, development, marketing, quality assurance, or marketing positions. Others become involved with the wholesaler sector of the drug distribution system. Graduates in pharmacy are well-qualified to become officers of law enforcement agencies. In recent years, pharmacists have entered the fields of nuclear pharmacy and drug information and/or poison control. Many pharmacists find employment as chemists or biologists in industrial and research organizations, or in pharmacy Descriptions of teaching. Additional study is required for some of these positions. A few pharmacists continue their study in other health professions leading to a second professional degree or an advanced degree in the basic pharmaceutical and medical sciences.

The School of Pharmacy directs the professional program leading to the degree of Doctor of Pharmacy. It is specifically designed to prepare graduates to assume the duties and responsibilities dictated by the clinical, educational, and administrative facets of their respective positions. Upon program completion, the graduate pharmacist will merge into the profession capable of promoting and enhancing rational drug therapy. In addition, the individual will be capable of functioning proficiently as both an administrator of pharmacy services and as a pharmacy educator. Utilizing personal experience and an established database, the graduate will be capable of participating in, and promoting, pharmacy research in the hospital and university setting.

The Graduate School of Pharmaceutical Sciences of the School of Pharmacy offers programs leading to the Doctor of Philosophy degree in pharmaceutical science, chemistry, pharmacology, and pharmacology. The Master of Science degree in the field of pharmaceutical sciences, pharmaceutical chemistry, medicinal chemistry, pharmacology-toxicology, and a joint degree program leading to a Master in Business Administration/Master of Science in Industrial Pharmacy and Humanities designations, as determined by the faculty of the School of Pharmacy. Follow 101 Thinking and Writing.

DEGREES

The School of Pharmacy offers a program leading to the undergraduate degree, Bachelor of Science in Pharmacy. Degrees of advanced degrees offered by the faculty of the School of Pharmacy are found in other publications available from the School of Pharmacy office.

PROGRAMS

PHARMACY

The School of Pharmacy offers a Bachelor of Science in Pharmacy degree upon completion of the undergraduate professional program. The first two years encompass many courses offered by the College of Liberal Arts and Sciences, in addition to several professional courses. The latter three years of study are offered by the pharmacy faculty, with electives being available from both faculty and all other schools of the University. Students are enrolled in the School of Pharmacy for all years. Transfer students are enrolled according to qualifications and seat availability, in the first, second or third year of the five-year sequence. Legal requirements of all states are met with regard to graduation from an accredited college of pharmacy. Licensure in the several states may be acquired by meeting specific additional requirements of each particular state in pharmacy.

Residency Requirements

The pharmacy curriculum has been designed to provide a sequence of courses leading to professional competence. The minimum time period in which this may be accomplished has been determined by the faculty to be three years of full-time residency. This residency requirement for the final years of the professional curriculum is in accordance with a policy statement ratified by the American Association of Colleges of Pharmacy and followed by all colleges of pharmacy in establishing minimum residency requirements, as well as guidelines for professional education. The residency requirement is applicable to all students regardless of advanced standing status.

Curriculum

A minimum of 30 credits in the combined general education areas of humanities and social sciences, in accordance with ACPE accreditation requirements, is required for graduation from the School of Pharmacy. Effective for the Class of 1992 (entering in Fall, 1987) and thereafter, Pharmacy students must meet the requirements of the University Core Curriculum. For Pharmacy students, seven required University Core courses satisfy 21 credits of the 30-credit ACPE General Education requirement for the B.S. in Pharmacy degree. The University Core courses and, where appropriate, the Social Science and Humanities designations, as determined by the faculty of the School of Pharmacy, follow 101 Thinking and Writing.

Across the Curriculum 3 crs
102 Imaginative Literature and Critical Writing 3 crs
131 Bases of Human Thought and Action 3 crs (Humanities)
141 Social, Political, and Economic Systems 3 crs (Social Science)
151 The Shaping of the Modern World 3 crs (Social Science)
161 The Arts and the Human Experience 3 crs (Humanities)
182 183, 184, 185, 186 Theology (choose one course) 3 crs (Humanities)

In addition to ACPE accreditation requirements on general education, the School of Pharmacy has ruled that general electives must be non-science, non-math, non-professional course work.

PHARMACY CURRICULUM

For the Class of 1992 (entering Fall, 1987) and thereafter

First Year

Fall Semester
111 General Biology I 3 crs
121 General Chemistry I 4 crs
101 Pharmacy Orientation 1 crs
102 Thinking and Writing 3 crs

Spring Semester
115 Calculus I 3 crs
110 Pharmacy Orientation 1 crs
14 8 16

Across the Curriculum (University Core)
3 — 3

115 Calculus I 3 crs
101 Pharmacy Orientation 1 crs
110 Pharmacy Orientation 1 crs
14 8 16

112 General Biology II 3 crs
122 General Chemistry II 3 crs
101 Thinking and Writing 3 crs

Critical Writing (University Core)
3 — 3
Theology (University Core) 3 crs
12 12 15
### Second Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>D*</th>
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<tr>
<td>205 Organic Chemistry I</td>
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<tr>
<td>201 General Physics I</td>
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<tr>
<td>131 Bases of Human Thought and Action (University Core)</td>
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<tr>
<td>151 Shaping of Modern World (University Core)</td>
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<tr>
<td>General Elective</td>
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<tbody>
<tr>
<td>206 Organic Chemistry II</td>
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<tr>
<td>141 Social, Political, Economic Systems (University Core)</td>
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<td>161 Arts and the Human Experience (University Core)</td>
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<tr>
<td>220 Human Anatomy &amp; Physiology I</td>
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### Third Year

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<tbody>
<tr>
<td>317 Human Anatomy &amp; Physiology II</td>
<td>3</td>
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<tr>
<td>301 Basic Pharmacoeconomics-Pharmacy Math I</td>
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<td>309 Biochemistry-Nutrition</td>
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<td>230 Pharmacy Law</td>
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<tr>
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<th>D*</th>
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<tbody>
<tr>
<td>319 Medical Microbiology-Immunology</td>
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<tr>
<td>310 Analysis of Drug Substances</td>
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<td>326 Pharmacy Administration</td>
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<tbody>
<tr>
<td>321 Pharmacology-Drug Mechanisms I</td>
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<td>305 Pharmacoeconomics-Biopharmaceutics III</td>
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<td>313 Medicinal Chemistry-Natural Products I</td>
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<td>325 Pharmacy Management General or Professional Elective</td>
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### Spring Semester

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<tr>
<th>D*—Didactic hours, L*—Laboratory hours, C*—Credit hours</th>
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<tbody>
<tr>
<td>Courses are to be completed in the designated sequence. Minimum credits for B.S. in Pharmacy degree—163. Sufficient elective courses must be taken to satisfy the minimum credit requirements. Changes may be made in some parts of the curriculum indicated as a result of faculty evaluation of the Pharmacy curriculum.</td>
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### Areas of Concentration

Six credits in Professional Pharmacy Electives is the minimum requirement for graduation. During the fourth year (earlier if possible) each pharmacy student is urged to select an area of concentration from one of the following areas: Community Practice, Institutional Practice, Industrial Pharmacy, Nuclear Pharmacy, or Pre-Graduate Study.

- **Independent Study**: Students in the School of Pharmacy may select professional elective coursework and may be used in any of the areas of concentration. Students may make their own selection of courses in consultation with their advisors.

### Fall Semester

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<tr>
<th>D*</th>
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<tbody>
<tr>
<td>522 Pharmacology-Drug Mechanisms II</td>
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<tr>
<td>306 Pharmacoeconomics-Pharmacokinetics IV</td>
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<tr>
<td>314 Medicinal Chemistry-Natural Products II</td>
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<tr>
<td>431 Behavioral Aspects of Illness General or Professional Elective</td>
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### Fall Semester

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<tr>
<th>D*</th>
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<tbody>
<tr>
<td>440 Therapeutics</td>
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<tr>
<td>323 OTC Drugs</td>
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<tr>
<td>430 Patient Counseling &amp; Education</td>
<td>1</td>
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<tr>
<td>333 Drug Literature Resources</td>
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<tr>
<td>324 Public Health-Emergency Treatment General or Professional Elective</td>
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### Spring Semester

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<tr>
<td>441 Practical Pharmacy I- Clinical Clerkship</td>
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<tr>
<td>432 Practical Pharmacy II- Community</td>
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<tr>
<td>433 Practical Pharmacy III- Hospital</td>
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<tr>
<td>434 Practical Pharmacy IV- Optional</td>
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### Fifth Year

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<tr>
<th>D*</th>
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<tr>
<td>482—Community Pharmacy Practice</td>
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<td>491—Hospital Pharmacy Management</td>
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<td>501—Manufacturing Pharmacy</td>
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<td>502—Radiopharmaceuticals</td>
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<tr>
<td>511—Advanced Pharmaceutics</td>
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<td>525—Advances in Drug Therapy</td>
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<td>539—Bionucleonics</td>
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<tr>
<td>540—Advanced Bionucleonics and Radiopharmaceuticals</td>
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<td>541—General Toxicology</td>
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<td>561—Clinical Toxicology</td>
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<tr>
<td>566—Clinical Toxicology</td>
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<tr>
<td>570—Drug Mechanisms I</td>
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<tr>
<td>572—Methods of Evaluation of Drug Action and Toxicity</td>
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### Description of Courses

Descriptions of these courses may be found in appropriate publications. Recently, the School of Pharmacy and the School of Business and Administration have initiated a combined degree program, B.S. in Pharmacy/Master in Business Administration.

### Admission

The School of Pharmacy admits students into the first, second, or third year of the pharmacy program. Application policies and procedures and general University entrance requirements are outlined in the Admissions section of this catalog. Students who wish to enter the first year in the B.S. in Pharmacy program are advised to submit applications to the University Office of Admissions as early in the intended year of matriculation as possible. In addition to meeting general University admission standards, prospective pharmacy students must satisfy more specific admissions criteria established by the School of Pharmacy. Prospective freshmen students are encouraged to meet with the Dean, Associate Dean, or the Dean's designee for a personal interview.
All transfer students must be interviewed by the Dean, Associate Dean, or Dean's designate in the School of Pharmacy, as well as by the University Office of Admissions. Students intending to transfer into the pharmacy program must have successfully completed the prerequisites for entrance into the second, third, or fourth year of the curriculum. Potential transfer students must maintain a minimum course work grade average requirements established by the School of Pharmacy. Advisors at the School of Pharmacy are available to meet with students to discuss the requirements necessary for possible future placement in the School of Pharmacy.

Transfer pharmacy students must complete a minimum of three academic years of residence in the School of Pharmacy. In extending circumstances and with the permission of the School of Pharmacy, Student Standing Committees, a waiver of the three years of residence required by the American Association of Colleges of Pharmacy will be sought by the faculty on behalf of the student. Failure to request and obtain such a waiver requires the pharmacy student to complete a minimum of six semesters in residence as full-time students.

Advanced credit for courses completed at other institutions may be allowed for those courses which appear in the Duquesne curriculum. No credit is allowed for any subject in which a grade lower than C was earned or for a course not equivalent to one among the University curricula. Once enrolled at Duquesne, students may not pursue courses at other institutions for transfer credit without specific permission from the Office of the Dean.

Advanced standing is conditional until the student completes a minimum of one semester's work (16 semester hours). If the student's work proves unsatisfactory, the student will be requested to withdraw.

Applicants who have completed advanced courses in high school are encouraged to take advanced placement tests (see Admissions section of this catalog) to determine if credit for some courses may be awarded for these examinations. Students are advised to investigate carefully the credit equivalency.

**Scholars Program**

Any student designated by the Admissions Office as a Chancellor's or Founders' Award recipient upon entrance to the University and to the School of Pharmacy, or who has obtained a cumulative average of 3.50, is named to the School of Pharmacy Scholars Program. Selection is made annually on the basis of academic standing. No application is required. Scholars are recognized annually and encouraged to investigate Advanced Placement, CLEP, and Challenge Examination opportunities, faculty research projects in which they may participate, and independent study and graduate-level course offerings.

**Special Fees**

**Laboratory**

Required laboratory courses scheduled by all schools of the University are subject to fees as published. Pharmacy laboratories require a fee of $40 per course. This is a prorated charge derived from the total costs of all laboratory operations throughout the professional years.

**Pharmacy Activities Fee**

Instituted by student request, this fee of $35 a semester for a minimum of six semesters, covers local and national Academy of Students of Pharmacy dues and journal subscription, laboratory coats, towels and name pin fees, class dues, and partial travel expenses for one required field trip to a pharmaceutical manufacturing firm. Payment is made at registration each semester. This prorated fee is assessed only to those students in the last three years of the pharmacy program.

**School of Pharmacy Fee**

All students enrolled in the undergraduate program of the School of Pharmacy are required to pay a fee designated by the School. This fee, which is assessed for each semester that a student is enrolled in the School of Pharmacy, assists with the special operating expenses of the School of Pharmacy.

**Regulations**

Students in the School of Pharmacy are preparing themselves for entry into a respected health profession where the highest degree of character and sense of responsibility are basic requirements. As such, they are expected to conduct themselves at all times in a manner befitting this position and according honor to it. For these reasons, the School of Pharmacy insists on strict adherence to the following regulations:

1. **Class Attendance**
   
   Regular class attendance in the School of Pharmacy is normally required for maximum educational advantage. The responsibility for all course material rests wholly with the student. Under no circumstances will class attendance be used as the sole basis for altering a grade in a course. This principle shall not modify the prerogative of each instructor to establish specific policies for attendance at tests, examinations, class lectures, deadlines for reports, and other specific school of course requirements.

2. **Academic Standards**

   All students who are admitted to the School of Pharmacy must maintain a 2.0 QPA (quality point average) in the required courses in the professional pharmacy curriculum. The school of the program with less than a 2.0 QPA in all courses and in professional courses A minimum cumulative 2.0 QPA in the pre-pharmacy science and math courses is required for entrance into the third year of the pharmacy program. A student who is admitted to the fifth year of the Pharmacy program without successful completion of all required courses in Pharmacy I, II, III, IV.

3. **Required Programs**

   Pharmacy students in the fourth year of the curriculum are required to participate in one industrial visit arranged by the School.

4. **Class Attendance**

   Pharmacy student entering studies in a hospital or other institutional setting may be required to conform to the health requirements of that institution.

**Student Organizations**

The Academy of Students of Pharmacy whose membership includes all pharmacy students registered as members of the University and the School of Pharmacy are organized to promote the advancement of the pharmaceutical sciences. Pharmacy students who have completed three years of work at the University and have achieved a 3.0 average in the course work are eligible for membership. A maximum of 20 percent of the class enrollment may be admitted to membership. Faculty members, graduate students in the pharmaceutical sciences, and Doctor of Pharmacy students may be invited to join.

**Elta Chapter of Phi Lambda Sigma**

National pharmaceutical pharmacy society, was chartered at Duquesne University in 1980. The society recognizes and encourages leadership in the profession of pharmacy. The society selects members who have completed at least two and one half years in the pharmacy program and have demonstrated exemplary leadership qualities. **Elta Chapter of Lambda Kappa Sigma**, an international pharmaceutical fraternity for women, was established at Duquesne University in 1932. The organization numbers among its members some of the most outstanding women in pharmacy. Its purposes are to promote the profession of pharmacy and to create a center of culture and enjoyment for its members.

**Beta Gamma Chapter of Phi Delta Chi,** an international fraternity for men, was chartered at Duquesne University in 1960. The fraternity endeavors to integrate academic, spiritual and social activities and thereby foster the highest professional and personal ideals among its members. Membership is open to students in pharmacy.

**Delta Epsilon Chapter of Kappa Psi Pharmaceutical Fraternity,** was chartered in 1967. The international fraternity strives to develop industry, sobriety, and fellowship and to foster high ideals, scholarship, and pharmaceutical research while supporting all projects advancing the profession of pharmacy. Membership is open to students in pharmacy.

**NARD Student Chapter of the National Association of Retail Druggists,** is a student organization of Retail Druggists, chartered in 1989, and open to all students enrolled in the School of Pharmacy. The purpose of the organization is to promote pharmacy as a profession and the role of the independent retail pharmacist in the American health care system, informing students of the ideals and issues pertinent to retail pharmacy practice and the opportunities and personal satisfaction to be derived from independent ownership.

**Class Organization**

Each of the five classes is an officially recognized organization in the School of Pharmacy. Each class elects its own officers and conducts such programs and affairs as its members deem desirable toward achieving its goals. All students are included in these organizations.
A book is presented annually to the graduate who has demonstrated the highest general average in all subjects during the first two years of the pharmacy program.

Roche Pharmacy Communications Award A personalized plaque is awarded annually to the graduating student who has shown exceptional ability in patient communication through course work and application.

Smith, Kline & French Laboratories Award A personalized plaque is presented annually by the Smith Kline & French Laboratories, Philadelphia, Pennsylvania, for superior achievement in Clinical Pharmacy by a graduating student.

Academy of Students of Pharmacy Award Annually a certificate of recognition is presented to the graduating student who has demonstrated through service, reporting and activity, an avid interest in organization work.

Syntex Preceptor of the Year Award An appropriately designed plaque is awarded annually by the Syntex Laboratories, Inc., of Palo Alto, California to the preceptor who, in the opinion of the Pharmacy Interns, best exemplifies professionalism, ethics, and clinical practice.

Upjohn Award A suitably inscribed plaque and $100 are awarded annually by the Upjohn Company, Kalamazoo, Michigan, in recognition of outstanding public service by a graduating student.

Pennsylvania Society of Hospital Pharmacists Award Annually an award of $50 is presented to the graduating senior who demonstrates outstanding ability and interest in the area of Hospital Pharmacy.

Lemmon Company Award A certificate and award of $50 to the graduating senior who has completed the degree program through unusual and extraordinary perseverance and determination in the opinion of the graduating class.

Pennsylvania Pharmacists Association Award A certificate of recognition and one-year membership in the PPA is awarded annually to the graduate who has shown most actively involved in pharmacy organizations.

J. Connetti Tucci Award An award is presented to the graduating student who has demonstrated excellence in pharmacy programs.

Sanofi Doctor of Pharmacy Award A commemorative plaque and monetary award which is provided by Sanofi, Inc., East Hanover, NJ, is awarded annually to an outstanding Doctor of Pharmacy graduate.

Mylan Award for Excellence in Pharmacy An award presented annually to an academically superior BS in Pharmacy graduate who has demonstrated the highest level of achievement in the provision of drug information services and of professional motivation and promise.

STATE LICENSING PENNSYLVANIA

A candidate for licensure as a Registered Pharmacist in the Commonwealth of Pennsylvania must meet the following requirements before he/she may be admitted to the licensing examinations which are conducted by the Pennsylvania State Board of Pharmacy.

1. Character—be of good moral character

2. Professional Training—have a degree in Pharmacy granted by a School or College of Pharmacy, which is accredited by the American Council on Pharmaceutical Education.

3. Practical Experience and Internship—any person enrolled as a student of pharmacy in an accredited college may at the end of the second year of college file with the Pennsylvania State Board of Pharmacy an application for registration as a pharmacy intern.

To insure profency in the practical aspects of pharmacy, the State Board shall by regulation prescribe the internship requirements which must be satisfactorily completed prior to sitting for the licensure examination and to issuance of a Pharmacist's License.

Specific information concerning practical experience requirements as well as all other requirements concerning licensure may be obtained from the State Board of Pharmacy, Department of State, Box 2649, Transportation and Safety Bldg., 6th Floor, Harrisburg, Pennsylvania 17120.

STATES OTHER THAN PENNSYLVANIA

According to law, the licensure of an applicant seeking to become registered as a pharmacist is under the sole jurisdiction of the state in which he/she seeks to practice. Although the requirements for licensure in the Commonwealth of Pennsylvania are similar to those of other states, differences may exist.

Space limitations preclude a complete listing of the requirements of other states and the District of Columbia. The candidate for licensure in another state is advised to consult the Board of Pharmacy in that particular state for complete and current information. Also, internship requirements in other states differ from those in Pennsylvania.

RESEARCH FOUNDATION

The Hugh C. Muldown and Pharmacy Alumni Foundation of Duquesne University, established in 1970 to celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy, is an increasingly valuable aid in helping to achieve the aims of the School of Pharmacy.

The foundation provides funds for improving the instructional and research facilities of the School, assists in the advancement of pharmacy by providing scholarship assistance to Pharmacy students and by supporting ◆ research in the School of Pharmacy. Contributions are solicited from graduates and others interested in the work of the Foundation. They may be addressed in care of the School of Pharmacy.

The courses of instruction are numbered in accordance with a plan uniform throughout the University. University courses numbered 100 are freshman courses, 200 Sophomore, 300 Junior, 400 Senior. Courses described in this section are required courses in the professional curriculum and those courses offered by the School of Pharmacy for the University service. Courses numbered 500 are graduate level courses in which qualified undergraduate students may be enrolled with the permission of the instructor of the course.
School of Pharmacy

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY AND PHARMACEUTICS

Chairman: Lawrence H. Block, Ph.D.

101 Pharmacy Orientation 1 cr
Introduction to the profession of pharmacy. Discussion of various aspects of pharmacy education and professional practice. Pharmaceutical organizations are discussed and evaluated. The pharmaceutical literature is reviewed and a brief history of pharmacy presented. Lecture, one hour

301 Basic Pharmaceutics 4 cr
A study of the basic physiochemical principles applicable to an understanding of drugs and the pharmaceutical systems in which they are contained. Subject areas include solubility and solutions, pH, diffusion, osmoticity, drug stability, packaging, storage and administration, physiochemical evaluation of pharmaceutical products, principles of the design and manufacture of drug delivery systems, the clinical applications of pharmaceutics, mathematical methodologies (algebraic and graphical) and biostatistical principles relevant to modern pharmaceutical practice are integrated into both the didactic and laboratory portions of the course. Laboratory emphasis is on practical and clinical application. Prerequisites: Calculus I, General Chemistry I and II, or their equivalents. Lecture, four hours

302 Basic Pharmaceutics II 4 cr
A continuation of Pharmaceutics I. Prerequisite: Pharmaceutics I. Lecture, three hours, Recitation, conference, and laboratory, four hours

303 Basic Pharmaceutics III 3 cr
A study of the phsyico-chemical, biological, and pharmaceutical factors which affect absorption, distribution, metabolism, and excretion of drugs in man. Emphasis is placed on the utilization of biochemical and pharmacokinetic knowledge in problems of bioavailability and bioequivalence of drug products and in the determination of appropriate drug dosage regimens. Prerequisite: Basic Pharmaceutics II. Lecture, four hours

305 Pharmaceutics-Biopharmaceutics 3 cr
A study of the physico-chemical, biological, and pharmaceutical factors which affect absorption, distribution, metabolism, and excretion of drugs in man. Emphasis is placed on the utilization of biochemical and pharmacokinetic knowledge in problems of bioavailability and bioequivalence of drug products and in the determination of appropriate drug dosage regimens. Prerequisite: Basic Pharmaceutics II. Lecture, four hours

306 Pharmaceutics-Pharmacokinetics 4 cr
A continuation of Pharmaceutics III with emphasis on pharmacokinetics and on drug delivery systems. Prerequisite: Pharmaceutics III. Lecture, three hours, Laboratory, four hours

309 Biochemistry—Nutrition 4 cr
A course designed to integrate basic biochemistry with the application to selected clinical cases. Emphasis is placed on studies of amino acids and proteins, structure and function, metabolism of carbohydrates, lipids and proteins as the source of energy derived from foods, certain aspects of nutrition. The function of enzymes, vitamins and hormones is presented in relation to their role in metabolic pathways. Attitudes toward nutrition and diet are presented. Lecture, three hours, Laboratory, three hours

310 Analysis of Drug Substances 4 cr
A survey course covering the basic principles of analytical chemistry, statistics as applied to measurement, the analytical process, problem solving and data interpretation. Examples used come from pharmaceutical manufacturing, clinical and biochemical analysis, pharmacokinetics, pharmacology and drug therapeutics. Prerequisites: General Chemistry I, II. Lecture, three hours, Laboratory, three hours

311 Medicinal Chemistry—Natural Products I 4 cr
Relationship between chemical structure and the biological action of natural and synthetic drug molecules. Emphasis is on underlying principles as well as on specific therapeutic agents. Organization is by pharmacological classification, with chemical properties relevant to mechanism of action and drug disposition (absorption, distribution, metabolism, and excretion) and chemical incompatibilities considered for each class. Prerequisites: Organic Chemistry I, II and Biochemistry. Lecture, four hours

312 Medicinal Chemistry—Natural Products II 4 cr
A continuation of Medicinal Chemistry I. Lecture, four hours

313 Independent Study and Research 1-2 cr/sem
To stimulate interest in furthering a student's education, the School of Pharmacy uses this course as a vehicle to provide the means whereby those who wish to be involved in a programmed self-study educational experience may do so. To accomplish this aim, the student in cooperation with a specific instructor chosen by the student, will develop a course of study that will realistically be able to fill the learning objectives stated by the student. The student and instructor will meet at stipulated regular times for guidance and evaluation of progress being made by the student. Contact School of Pharmacy office for restrictions on total credits allowed and on eligibility for registration

320 Human Anatomy and Physiology I 4 cr
A lecture course dealing with the structure and function of the various cells, tissues and organ systems of the body. Emphasis is on the complexities of regulation and integration of function of these organ systems. Prerequisites: General Biology I, II. Lecture, four hours

321 Human Anatomy and Physiology II 4 cr
A continuation of the Human Anatomy and Physiology I lecture series, with laboratory. The laboratory portion of the course deals with gross anatomy, histological study of tissues, and the clinical appraisal of physiological functions. Prerequisites: Human Anatomy and Physiology I, Lecture, three hours, Laboratory, three hours

324 Public Health-Emergency Treatment 3 cr
A discussion of public health measures such as immunization, water purification, sewage disposal, disinfection of individuals and objects, control of rodents and insects, and the relationship of these to the spread of disease. Health statistics, disaster preparedness, and the health effects of environmental pollutants are also discussed. In the first part of the course, the teacher conducts a series of lectures with laboratory. The laboratory portion of the course deals with emergency treatment of the human body. Special emphasis is placed on diseases of the respiratory, cardiovascular, and nervous systems. Prerequisites: Human Anatomy and Physiology I, Lecture, three hours, Laboratory, three hours

326 Pharmaceutics-Pharmacokinetics IV 4 cr
A continuation of Pharmaceutics with emphasis on pharmacokinetics and on drug delivery systems. Prerequisite: Pharmaceutics III. Lecture, three hours, Laboratory, four hours

DEPARTMENT OF PHARMACOLOGY-TOXICOLOGY

Chairman: Douglas Bricker, Ph.D.

2 Drug Abuse 1 cr
A course designed to present the pharmacological and toxicological properties of substances of abuse. The major classes of drugs are described with direct reference to toxic and adverse effects. The myths and misconceptions commonly attributed to some substances of abuse are clarified. The philosophy of the course is to present an objective picture of the "drug abuse era" in this country. The course is intended for all students beginning their collegiate studies admission to this course for students who have completed Pharmacology-Drug Mechanisms I or its equivalent is by approval of the instructor. Lecture, one hour

3 Basic Pharmacology 3 cr
A course dealing with the major classes of therapeutically active agents, designed for students with a limited background in biological sciences. Drugs are considered from a "disease state" point of view and include basic mechanisms of action. Important drug interactions as they relate to patient care are included. Not open to Pharmacy Students. Prerequisites: Six credits of biology, science, including physiology. Lecture, three hours

4 Social Diseases 1 cr
Cours, causes of disease, prevention, treatment and social effects of venereal diseases. Awareness and common sense should be awakened in students by the course. Prerequisite: Pharmacology-Drug Mechanisms I. Lecture, one hour

101 History of Pharmacy 2 cr
A survey of the soruses of science, medicine, and pharmacy from the earliest recorded events to the present with emphasis on the nineteenth and twentieth century pharmacy in the United States. Lecture, two hours

321 Pharmacology-Drug Mechanisms I 4 cr
A course in the mechanisms and pharmacodynamic actions of drugs. Side effects, toxicity, drug interactions and the rational for therapeutic use in relation to drug mechanism and actions are stressed. Prerequisite: Human Anatomy and Physiology I, II and Pathophysiology Lecture, four hours

322 Pharmacology-Drug Mechanisms II 4 cr
A continuation of Pharmacology-Drug Mechanisms I. Prerequisite: Pharmacology-Drug Mechanisms I. Lecture, four hours

323 OTC Drugs 2 cr
A course designed to familiarize students with the pharmacological and toxicological properties of over-the-counter drugs. The course will prepare the student to counsel the public on the appropriate use of OTC drugs, to select the proper nonprescription drug for a particular disease state, and to determine if treatment with a nonprescription drug is appropriate. Prerequisite: Pharmacology-Drug Mechanisms I, II Lecture, two hours

324 Public Health-Emergency Treatment 3 cr
A course designed to familiarize students with the pharmacological and toxicological properties of over-the-counter drugs. The course will prepare the student to counsel the public on the appropriate use of OTC drugs, to select the proper nonprescription drug for a particular disease state, and to determine if treatment with a nonprescription drug is appropriate. Prerequisite: Pharmacology-Drug Mechanisms I, II Lecture, two hours

326 Pharmaceutics-Pharmacokinetics IV 4 cr
A continuation of Pharmaceutics with emphasis on pharmacokinetics and on drug delivery systems. Prerequisite: Pharmaceutics III. Lecture, three hours, Laboratory, four hours

327 Human Anatomy and Physiology II 4 cr
A continuation of the Human Anatomy and Physiology I lecture series, with laboratory. The laboratory portion of the course deals with gross anatomy, histological study of tissues, and the clinical appraisal of physiological functions. Prerequisite: Human Anatomy and Physiology I, Lecture, three hours, Laboratory, three hours

328 Applied Pharmacology 3 cr
A lecture presentation of the cellular, organ and systemic changes associated with the human disease process. Also discussed are the physiological responses of the body's organ systems to the disease process and the contribution these responses make to the production of signs and symptoms that are normally associated with each disease state. Prerequisite: Human Anatomy and Physiology I, Lecture, two hours

329 Medical Microbiology—Immunology 4 cr
Covers the general characteristics and morphology of bacteria, the important staining techniques, methods of growing bacteria on artificial media, testing the effects of therapeutic agents on pathogenic bacteria, and immunology. It includes discussions of the important bacterial, rickettsial, viral, and protozoal diseases along with their modes of transmission, a preliminary summary of muscle and bone structure, the basic understanding of the endocrine system, and the identification of the major hormones. Lecture, one hour

330 Pathophysiology 3 cr
A lecture presentation of the cellular, organ, and systemic changes associated with the human disease process. Also discussed are the physiological responses of the body's organ systems to the disease process and the contribution these responses make to the production of signs and symptoms that are normally associated with each disease state. Prerequisite: Human Anatomy and Physiology I, Lecture, two hours

331 Medical Microbiology—Immunology 4 cr
Covers the general characteristics and morphology of bacteria, the important staining techniques, methods of growing bacteria on artificial media, testing the effects of therapeutic agents on pathogenic bacteria, and immunology. It includes discussions of the important bacterial, rickettsial, viral, and protozoal diseases along with their modes of transmission, a preliminary summary of muscle and bone structure, the basic understanding of the endocrine system, and the identification of the major hormones. Lecture, one hour

332 Pharmacology-Drug Mechanisms II 4 cr
A continuation of Pharmacology-Drug Mechanisms I. Prerequisite: Pharmacology-Drug Mechanisms I. Lecture, four hours
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**SCHOOL OF PHARMACY**

**DEPARTMENT OF PHARMACEUTICAL ADMINISTRATION**

Chairman Vincent J. Giannetti, Ph D

Faculty Professor Giannetti, Associate Professor Harris, Kristofik, Assistant Professor Wu

230 Pharmacy Law 3 cr

A course designed to acquaint the student with the philosophy of law and its relationship to pharmacy practice. Elements of business law and civil responsibilities of the pharmacist are also covered. Ethical issues in pharmacy practice and health care are discussed. Lecture, three hours

262 International Health Issues 3 cr

The course will explore factors that influence health care in diverse countries. Topics covered include a comparison of health services, the use of regional planning by groups of small countries, prevention and control of specific diseases with special emphasis on communicable diseases, primary health care, the role of international agencies from the perspective of developed and developing countries, the constitutional, administrative and financial influences on health care, health priorities in the context of the global economy. Lecture, three hours

481 Pharmacy Sales and Marketing 2 cr

An introduction to the pharmaceutical manufacturer's role in marketing pharmaceutical products. The concepts, elements, and functions involved in the distributive chain between the manufacturer of the drug product and the ultimate user are considered. Lecture, two hours, Practicum, one hour

482 Community Pharmacy Practice 3 cr

This course explores selected topics in the organization and operation of a pharmacy. Topics include organizing and financing a pharmacy, examining the role of the pharmacist in the practice, the use of a third party program, marketing pharmacy services, assessing automation and computerizing a pharmacy, and other current issues. The goal is to provide the knowledge and managerial skills necessary to succeed in a competitive marketplace. Lecture, three hours

483 Aging and Health Care 3 cr

A course designed to introduce the student to the field of gerontology. Emphasis will be on the aging process and the special health care needs of the elderly from a multidisciplinary viewpoint, including the behavioral sciences, physiology and pharmacology, and clinical pharmacy. Lecture, three hours

**DEPARTMENT OF CLINICAL PHARMACY**

Chairman Bruce Livengood, Pharm D

Faculty Associate Professors Eder, Freedy, Gudicic, Lech, Livengood, Mattei, Poirier, Rihn, Assistant Professors Goetz, Patricia Keys, Schatz, Instructor Karnack

333 Drug Literature Resources 1 cr

This course is intended to acquaint the student with various drug information resources and how to appropriately utilize these references in responding to information requests. The course will review the primary and secondary literature, indexing and abstracting systems, the systematic search process, principles of literature evaluation, and the approach for evaluating the common drug information questions. Lecture, one hour, Laboratory, one hour

440 Therapeutics 6 cr

A course designed to provide the student with the information necessary to demonstrate competency related to the therapeutic principles of selected disease states. Prerequisites: Pharmacology-Drug Mechanisms I, II, and Medicinal Chemistry-Naturals Products I, II. Lecture, six hours

441 Practical Pharmacy I—Clinical Clerkship 3 cr

A clinical clerkship process designed to provide the student with clinical experiences necessary to demonstrate competency related to the therapeutic principles of selected disease states. Prerequisites: Pharmacology-Drug Mechanisms I, II, and Medicinal Chemistry-Naturals Products I, II. Lecture, six hours

491 Hospital Pharmacy Management 3 cr

A course designed to introduce the student to hospital pharmacy resource management and to services frequently associated with hospital pharmacy. Lecture, three hours

**SCHOOL OF PHARMACY**

481 Pharmacy Sales and Marketing 2 cr

482 Community Pharmacy Practice 3 cr

483 Aging and Health Care 3 cr

484 Therapeutics 6 cr

491 Hospital Pharmacy Management 3 cr

and case studies complement the lecture and discussion material. Lecture, three hours

804 Drug Literature Evaluation 2 cr

The course will provide an overview of various issues of study design and the use of descriptive and inferential statistics. Lectures include a discussion of the structure and design of experimental drug evaluation, randomization, control groups and the role of statistics in experimental design. Principles will be applied by evaluating selected articles from the primary literature. The student will be expected to evaluate the appropriateness of study design, statistical tests and the extrapolation of results to clinical practice. Lecture, two hours

806 Drug Information Resources 2 cr

This course is structured to familiarize the student with the primary and secondary literature sources of pharmacology and medicine. The student is prepared to utilize the indexing, abstracting and select on-line computer systems associated with clinical practice. Each student participates in the activities of the Drug Information Center to allow for practical application of material presented in the classroom. Lecture, two hours

811 Drug Induced Diseases 2 cr

The adverse effects of drug utilization in various body systems are reviewed. Emphasis is placed on the physical and psychological impact of drug utilization, monitoring, evaluation and management. Discussion is directed toward the mechanism, incidence and clinical presentation of these consequences of drug therapy. Lecture, two hours

812 Clinical Pharmacokinetics 3 cr

The course is designed to discuss the major parameters affecting the clinical pharmacokinetics of specific drug entities. Lecture material will be applied in the design of patient-specific dosage regimens for actual patient cases. Computerized applications in clinical pharmacokinetics are an integral component of the case studies. Lecture-laboratory, three hours

814 Parenteral Therapy 3 cr

A lecture/laboratory course designed to present the principles of sterilization, aseptic processing and membrane filtration in the preparation of parenteral products and intravenous admixtures in pharmacy practice. Emphasis on the principles of fluid and electrolyte therapy, acid-base balance and total parenteral nutrition is included in lecture. Lecture, three hours, Pre-laboratory and laboratory demonstration

815 Clinical Oncology 2 cr

The course will provide insight into the pathophysiology, diagnosis, and treatment of cancer. The pharmacology role in the total medical management of the cancer patient is emphasized. Principles for clinical monitoring, palliative and symptomatic management, management of complications from
The School of Health Sciences at Duquesne University was established in 1990 to answer a critical need for health care professionals both in this region and across the nation. Duquesne University through its School of Health Sciences seeks responsibility for the excellent education of future professionals in the health care fields. The new School offers degrees in Physical Therapy (M.S.), Occupational Therapy (M.S.), Health Records Management (M.S.), and Athletic Training (B.S.).

The School of Health Sciences interacts with Duquesne’s eight existing schools — each with a strong reputation of its own. The School collaborates with the College of Liberal Arts and Sciences to make available vital core courses in the Biological Sciences and Chemistry. It shares the data management facilities and training of both the School of Business and Administration and the Department of Computer Science in its education of health records administrators. And Duquesne’s School of Education provides opportunities for collaboration with physical therapy, occupational therapy, and athletic training.

The first three years of any of the degree programs will consist of instruction in the core arts and sciences and pre-professional courses. And the remaining two years will be devoted to professional and clinical training. Duquesne University is proud of its association with Allegheny General Hospital, Mercy Hospital, St. Francis Hospital and South Hills Health System among others who serve as providers of unique clinical experiences for our students.

These health professions have become respected, satisfying, rewarding careers for thousands of Americans. Yet, as their services come into increasingly greater demand, the professionals themselves are finding that their ranks number far too few. The U.S. Bureau of Labor Statistics predicts that by the turn of the century there will exist some 200,000 vacancies in the health care professions. The areas of physical and occupational therapy alone are expected to require over 80 percent more trained professionals by the close of the decade. The need for these highly qualified individuals is clearly not in dispute.

Physical therapy is very succinctly defined by Webster as "therapy using exercise, massage, heat, etc. instead of drugs." The operative words here are, obviously, "instead of drugs." There probably doesn’t exist another profession which is so clearly in tune with today’s health conscious society.

Beyond this prosaic explanation, physical therapists assess and treat patients with a broad scope of physical disabilities. They work to prevent, detect, assess, correct, or alleviate prolonged movement dysfunction. Their work includes the administration, interpretation, and evaluation of tests, and, through consultation and education of their patients, they reduce or limit the incidence and severity of physical disability and pain.

Physical therapists are employed by hospitals, nursing homes, rehabilitation centers, home care centers, private practices, private clinics, schools, and sports medicine and fitness centers.

Students are admitted to the Physical Therapy program as freshmen and will achieve a Masters of Physical Therapy through a five-year curriculum. The demand for physical therapists has been estimated to be approximately an 87 percent increase by the year 2000. These U.S. Bureau of Labor Statistics were compiled by the Institute of Medicine in its 1988 study “Allied Health Services: Avoiding Crisis.” This 87 percent increase translates to some 55,500 jobs in the field.

OCCUPATIONAL THERAPY

For occupational therapists, there is a labor of love. Job descriptions indicate the need for a strong interest in people and a desire to help others. Occupational therapists assist those who are unable to care for themselves or who are unable to perform at work, at school, or at play.

Occupational therapists instruct their patients in the performance of some purposeful activity which will serve to prevent or alleviate movement dysfunction. Occupational therapists assess their patients’ abilities, prescribe treatment plans, monitor progress, make recommendations to continue or terminate treatment and make further referrals when improved functional ability is possible.

Occupational therapists work in hospitals, psychiatric institutions, rehabilitation centers, nursing homes, community agencies, schools, private practices, private homes, and industry.

The Occupational Therapy program at Duquesne begins in the freshman year. During the first three years, students are exposed to a wide variety of core arts and sciences and pre-professional courses. Their senior and fifth years are spent in the professional phase of the curriculum which includes clinical training at one of the participating area hospitals or health centers along with extensive didactic work.

The American Occupational Therapy Association...
SCHOOL OF HEALTH SCIENCES

Reserve Officers’ Training Corps

DEPARTMENT OF MILITARY SCIENCE
(ARMY OFFICERS’ COMMISSION PROGRAM)

PROGRAM
The Army Reserve Officers’ Training Corps (ROTC) Program has been a member of the “Duquesne Family” since 1936. It is a completely voluntary program which is open to male and female students at Duquesne. It provides students with the opportunity to earn a commission as officers in the U.S. Army, U.S. Army Reserve or Army National Guard. The program is structured to give the student a variety of practical experiences in leading and managing people and resources while learning about the military profession and the role it plays in our system of government. The program is normally completed in four years, but can be completed in two years with permission from the Professor of Military Science. The normal program is divided into two parts: the Basic Course and the Advanced Course.

THE BASIC COURSE
The Basic Course is usually taken in the freshmen and sophomore years, during which time students take ROTC courses as they would any other college courses. There is no military service obligation. The freshmen and sophomore courses follow an adventure, skill learning and leadership track which is designed to enhance self-confidence, provide new experiences, and place students in realistic leadership situations. Freshmen learn survival techniques, how to handle and fire a rifle, and how to navigate across-country using a map and a compass. Sophomores learn about leadership, management, military history and the role of the military in the United States. The Basic Course may be compressed into a one-year period if the student meets certain prerequisites.

Basic Course Curriculum

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<thead>
<tr>
<th>Freshmen (MS I)</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>MS 101 Survival Techniques</td>
<td>0-1 cr</td>
<td>MS 102 Individual Skills</td>
</tr>
<tr>
<td>Sophomores (MS II)</td>
<td>Spring Semester</td>
<td></td>
</tr>
<tr>
<td>MS 201 Leadership and Management</td>
<td>0-1 cr</td>
<td>MS 202 History of the U.S. Army</td>
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</table>

TWO-YEAR PROGRAM
The two-year program is designed primarily for transfer students and students who did not participate in ROTC as freshmen or sophomores. Any student with at least two academic years remaining (undergraduate and/or graduate) is eligible. Students may qualify for this program and enrollment in the Advanced Course by successfully completing a four-week summer camp at Fort Knox KY. This training is completed during the summer following the student’s sophomore year.

DIRECT ENTRY INTO THE ADVANCED COURSE
Students may receive placement credit for MS I and II and be granted direct entry into the Advanced Course if this placement credit may be granted for:
1. Completion of Army Basic Training or its equivalent in the Navy, Air Force, Coast Guard or Marine Corps
2. Attendance at a service academy for one or more years
3. Completion of equivalent level training in Navy or Air Force ROTC
4. Completion of three or more years training in Junior ROTC (any service) or NDCC

THE ADVANCED COURSE
After completing the Basic Course, students who have demonstrated officer potential and meet Army physical and medical standards are eligible to enroll in the Advanced Course. The Advanced Course is normally taken in the final two years of college. Therefore, at the beginning of the junior year, the student must decide whether he/she wishes to become an officer and enter the advanced phase of the program. Students who enter the Advanced Course receive a tax-free subsistence allowance of $100 per month during the school year. The junior year is training-oriented and prepares students for six weeks of rigorous field and leadership training that they receive at Fort Bragg, NC at the end of the academic year. The senior year further prepares the student to perform the duties of an officer. It covers such subjects as military law, administration, logistics, staff functions, professionalism, ethics, and military training. Leadership development is continuously emphasized.

Advanced Course Curriculum

<table>
<thead>
<tr>
<th>Junior (MS III)</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS 301 Military Skills Development</td>
<td>0-2 cr</td>
<td>MS 302 Military Skills Development</td>
</tr>
</tbody>
</table>
RESERVE OFFICERS' TRAINING CORPS

Military Science (MS) 201 Leadership and Management Techniques
This is an introductory course into basic management and leadership techniques and includes effective communications techniques, small group processes, leadership traits and styles, decision-making and problem-solving techniques. The course is also designed to provide the student with the tools for a self-analysis of his/her management capability and methods for improvement.

Military Science (MS) 202 History of the U.S. Army
This course introduces the student to the United States Army and provides an inside view of ROTC and the Army, to include its organization, missions, history, and functions. The course will discuss officer career fields, duties and responsibilities of junior leaders, additional education programs, pay, promotion, assignments, customs and traditions of the Army, and the significance of military courtesy and discipline.

THE ADVANCED COURSE
(Military Science Levels III and IV)
Military Science (MS) 301 and 302 Military Skills Development
These courses require a full school year to complete. In addition to the two hours per week of instruction and practical application exercises on campus, the student periodically attends training exercises off-campus during the summer following the completion of the junior year.

Military Science (MS) 401 and 402 Professional Seminar
To take these courses, the student must have satisfactorily completed MS 301 and 302. The courses meet two hours per week and are a systematic and comprehensive study of professional subject matters designed to facilitate the transition from student to officer. They are comprised of two modules: Module I (MS 401), Administrative/Staff Operations and Procedures, is taught in the fall semester, Module II (MS 402), Military Law, Justice, and Ethics, is taught during the spring semester.

LEADERSHIP LABORATORY
Military Science (MS) 500 Cadet Corps Laboratory
This class is scheduled both semesters, meeting once a week for two hours. The Cadet Commander uses the lab to disseminate information and to organize the activities of the Corps of Cadets.
Continuing Education

Administration
Division Director
Benjamin Hodes, Ph. D
Center of Continuing Education Director
Roberta Aronson, M.A., M.A., M.B.A
Office of Evening and Summer Programs Director
Darlene Zellers, M.A

CREDIT PROGRAMS

The Center for Continuing Education (434-5034) gives adult students access to undergraduate courses offered in the many schools and colleges within Duquesne University. Entry requirements are that the individual be twenty-one (21) years of age or older and have a high school diploma or GED equivalency.

Continuing Education students may pursue coursework for a variety of reasons:
- to earn a Bachelor of Professional Studies degree (B.P.S.)
- to pursue coursework as preparation for application to an undergraduate or graduate program
- to earn a Professional Certificate
- to take courses for self-enrichment

The Bachelor of Professional Studies Degree

The Bachelor of Professional Studies is designed for adult students who seek flexibility in a bachelor’s degree program. Students are provided the opportunity to customize plans of study to meet personal and professional goals. A strong foundation in both business and the liberal arts allows students to individually design two major areas of study, designated business and the liberal arts, which allows students to individually design two major areas of study, designated business and the liberal arts. A minimum of 120 total credits is required to complete degree requirements.

University Core Curriculum — 30 Total Credits

The University Core provides undergraduates with a common intellectual experience as the foundation for their college careers. Core courses focus on issues and values central to the tradition and mission of the University. These courses are not merely preparatory courses but lifelong learning.

General Core

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Thinking and Writing Across the Curriculum</td>
<td>3 Cr</td>
</tr>
</tbody>
</table>

CONTINUING EDUCATION

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Imaginative Literature and Critical Writing</td>
<td>3 Cr</td>
</tr>
<tr>
<td>109</td>
<td>College Algebra</td>
<td>3 Cr</td>
</tr>
<tr>
<td>111</td>
<td>Calculus I</td>
<td>3 Cr</td>
</tr>
<tr>
<td>115</td>
<td>Calculus II</td>
<td>3 Cr</td>
</tr>
<tr>
<td>131</td>
<td>Social, Political and Economic Systems</td>
<td>3 Cr</td>
</tr>
<tr>
<td>141</td>
<td>Shaping of the Modern World</td>
<td>3 Cr</td>
</tr>
<tr>
<td>151</td>
<td>The Arts and the Human Experience</td>
<td>3 Cr</td>
</tr>
<tr>
<td>161</td>
<td>Biology</td>
<td>3 Cr</td>
</tr>
<tr>
<td>172</td>
<td>Chemistry</td>
<td>3 Cr</td>
</tr>
<tr>
<td>182</td>
<td>Human Morality</td>
<td>3 Cr</td>
</tr>
<tr>
<td>183</td>
<td>Religious Tradition</td>
<td>3 Cr</td>
</tr>
<tr>
<td>184</td>
<td>Introduction to the Bible</td>
<td>3 Cr</td>
</tr>
<tr>
<td>185</td>
<td>Religion and Values</td>
<td>3 Cr</td>
</tr>
<tr>
<td>186</td>
<td>Roman Catholic Heritage</td>
<td>3 Cr</td>
</tr>
</tbody>
</table>

Theology Core

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>182</td>
<td>Human Morality</td>
<td>3 Cr</td>
</tr>
<tr>
<td>183</td>
<td>Religious Tradition</td>
<td>3 Cr</td>
</tr>
<tr>
<td>184</td>
<td>Introduction to the Bible</td>
<td>3 Cr</td>
</tr>
<tr>
<td>185</td>
<td>Religion and Values</td>
<td>3 Cr</td>
</tr>
<tr>
<td>186</td>
<td>Roman Catholic Heritage</td>
<td>3 Cr</td>
</tr>
</tbody>
</table>

CONTINUING EDUCATION

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>121/212</td>
<td>Introduction to Computers</td>
<td>3 Cr</td>
</tr>
<tr>
<td>122/222</td>
<td>Micro Computer Software</td>
<td>3 Cr</td>
</tr>
<tr>
<td>251</td>
<td>Legal Process</td>
<td>3 Cr</td>
</tr>
<tr>
<td>281/282</td>
<td>Probability &amp; Statistics I &amp; II</td>
<td>6 Cr</td>
</tr>
<tr>
<td>331</td>
<td>Business Finance</td>
<td>3 Cr</td>
</tr>
<tr>
<td>361</td>
<td>Principles of Management</td>
<td>3 Cr</td>
</tr>
<tr>
<td>371</td>
<td>Principles of Marketing</td>
<td>3 Cr</td>
</tr>
<tr>
<td>381</td>
<td>Intro to Decision Sciences</td>
<td>3 Cr</td>
</tr>
<tr>
<td>491</td>
<td>Executive Action Simulation or</td>
<td>3 Cr</td>
</tr>
<tr>
<td>492</td>
<td>Executive Policy</td>
<td>3 Cr</td>
</tr>
</tbody>
</table>

Personal Focus Areas — 30-42 Total Credits

In consultation with an academic advisor, students may pursue two focus areas consisting of integrated coursework from the School of Business and/or the College of Arts & Sciences. A wide range of business and liberal arts disciplines are available from which these Personal Focus Areas can be designed. A minimum of 15 credits is required to complete a focus area, two-thirds of which are included in the 200 level. Duquesne University’s Personal Focus Certificate Programs provide examples of integrated, professional oriented coursework that may be modeled as Personal Focus areas. A maximum of 36 credits from the School of Business may be applied to focus areas or electives.

Electives — 6-18 Total Credits

Electives provide the opportunity for students to select courses based upon their areas of interests. Communication courses are highly recommended. Consultation with an academic advisor is recommended to fully benefit from the wide variety of electives available.

Professional Certificate Programs

The Professional Certificate is a free-standing professional credential. Each program of study includes between five and nine (5-9) credit courses that comprise a focused area of professional knowledge. Candidates for the professional certificates usually have an Associate's or Bachelor's degree and typically enroll in a certificate program in order to enter a new profession or to advance in their current careers.

- Financial Analysis (Basic)
- Financial Analysis (Advanced in Securities Analysis)

Computer Science

This certificate is a nine-course, 25-27 credit program of the following courses:

- 105 Computer Programming I
- 106 Computer Programming II
- 200 Computer Organization and Assembly Language
- 300 Data Structures
- 325 Operating Systems and Computer Architecture I

Accounting (Basic)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>211</td>
<td>Intro to Accounting I</td>
<td>3 Cr</td>
</tr>
<tr>
<td>212</td>
<td>Intro to Accounting II</td>
<td>3 Cr</td>
</tr>
<tr>
<td>311</td>
<td>Intermediate Accounting I</td>
<td>3 Cr</td>
</tr>
<tr>
<td>312</td>
<td>Intermediate Accounting II</td>
<td>3 Cr</td>
</tr>
</tbody>
</table>

Accounting (Advanced)

This certificate is an eight-course, 24 credit program within the following courses:

- 211 Intro to Accounting I
- 212 Intro to Accounting II
- 311 Intermediate Accounting I
- 312 Intermediate Accounting II
- 350 Cost Accounting
- 411 Auditing

Management Information Systems (MIS)

This certificate is an eight-course, 24 credit program of the following courses:

- 181 Introduction to Computers
- 182 Microcomputer Software Applications
- 382 Information Processing with COBOL
- 385 Computer Systems
- 481 Systems Analysis and Design
- 482 Data Base Management
- 483 MIS in Organizations
CONTINUING EDUCATION

Marketing
This certificate is a six-course, 15 credit program of the following courses:
371 Principles of Marketing
373 Sales Administration
375 Physical Distribution Management
476 Product Management
Select one (1) of the following:
478 Industrial Marketing
475 Consumer Behavior
477 Strategic Marketing Planning

Corporate Communication (Basic)
This certificate is a five-course, 15 credit program of the following courses:
460-306 Business and Professional Communication
460-333 Advertising and PR Campaigns
460-456 Theory & Practice of Organizational Communication
460-475 Communication Research Methods
Select one (1) of the following:
480-387 Writing for Business and Industry
480-385 Professional and Technical Writing
460-430 Public Relations Practice
460-435 Advertising Practices

Corporate Communication (Advanced)
This certificate is a seven-course, 21 credit program including five courses from the Basic Certificate plus two of the following courses:
304 Persuasion
281 Visual Communication
432 Print Production and Graphic Design
Human Resource Management

Professional Communication Skills
This certificate is a five-course, 15 credit program of the following courses:
Choose one (1) of these two (2) courses:
460-207 Journalistic Writing
460-271 Basic Reporting and Writing I
Take the following three (3) courses:
460-306 Business & Professional Communication
480-333 Writing for Business & Industry
480-385 Professional and Technical Writing
Choose one (1) of the following:
460-304 Persuasion
460-432 Print Production and Graphic Design

Real Estate (Basic)
This certificate is a five-course, 15 credit program consisting of the following courses:
339 Foundations of Real Estate
357 Real Estate Law
431 Real Estate Finance and Mortgage Banking
434 Real Estate Investment Analysis
436 Residential Real Estate Valuation

Real Estate (Advanced)
This certificate is an eight-course, 24 credit program including the five (5) courses from the Basic Certificate plus three (3) of the following courses:
328 Urban Land Economics
438 Commercial/Industrial Valuation
439 Contemporary Topics Seminar
435 Property Management

NON-CREDIT PROGRAMS

The Paralegal Institute
As the need for legal services has increased over the past decade, the demand for paralegals has risen dramatically. Government studies show that the paralegal profession is the fastest growing profession in America today.

"Paralegals" are employees of lawyers who do research, drafting, organization of complex litigation and a variety of other work including that formerly done by lawyers. They work for private law firms, for legal services projects, for banks and corporations, and for the government.

Under the supervision of a lawyer, the legal assistant shall apply knowledge of the law and legal procedures in rendering direct assistance to lawyers, clients and courts, design, develop and modify procedures, techniques, services and processes, prepare and interpret legal documents, detail procedures for practicing in certain fields of law, research, select, assess, compile and use information from the law library and other references, and analyze and handle procedural problems that involve independent decisions.

In response to the demand for highly trained well qualified paralegals, the Center for Continuing Education at Duquesne University established the Paralegal Institute. The Institute offers a program of studies designed to accommodate students who wish to develop the specialized skills necessary to enter the paralegal profession. A certificate in Paralegal Studies is awarded at the successful completion of eight courses.

The Program is designed to provide a solid foundation of practical skills which will enable the certificate holder to discharge major responsibility in the design, installation and operation of employee benefit plans. Once qualified, the paralegal is equipped to work as an employee benefits specialist and to handle procedural problems that arise in the day-to-day operation of employee benefit plans, such as group insurance plans, profit sharing plans to group insurance plans, IRA's, VEBAs and fringe benefits.

The Curriculum consists of five (5) courses and leads to the awarding of the Certificate in Employee Benefit Plan Administration.

For those entering the field, the Program is designed to provide a solid foundation of practical skills which will enable the certificate holder to discharge major responsibility in the design, installation and operation of employee benefit plans. Once qualified, the paralegal is equipped to work as an employee benefits specialist and to handle procedural problems that arise in the day-to-day operation of employee benefit plans, such as group insurance plans, profit sharing plans to group insurance plans, IRA's, VEBAs and fringe benefits.

The Curriculum consists of five (5) courses and leads to the awarding of the Certificate in Employee Benefit Plan Administration. The Program is designed to provide a solid foundation of practical skills which will enable the certificate holder to discharge major responsibility in the design, installation and operation of employee benefit plans. Once qualified, the paralegal is equipped to work as an employee benefits specialist and to handle procedural problems that arise in the day-to-day operation of employee benefit plans, such as group insurance plans, profit sharing plans to group insurance plans, IRA's, VEBAs and fringe benefits.

Entry Requirements
A college degree is normally required for admission to the Benefit Plan Certificate Program. In certain cases, the Admission Committee may waive this requirement and consider other related factors such as previous experience.

Academic Standards
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

The Paralegal Institute
This is an educational institution associated with the Center for Continuing Education at Duquesne University and devoted to continuing professional education for those who work in the field of employee benefit plans.

Entry Requirements
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

Academic Standards
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

The Nurse Management Institute
The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education.

Entry Requirements
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

Academic Standards
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

The Nurse Management Institute
The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education.

Entry Requirements
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

Academic Standards
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The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education.

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Academic Standards
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Academic Standards
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The Nurse Management Institute
The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education.

Entry Requirements
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

Academic Standards
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

The Nurse Management Institute
The Nurse Management Institute is co-sponsored by Duquesne University's School of Nursing and the Center for Continuing Education.

Entry Requirements
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.

Academic Standards
Students must maintain a 2.5 grade point average for successful completion of the program and certificate.
**Part VIII:**

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**THE DUQUESNE CORPORATION**


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Joseph A. Katarnicz

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Vice President for Management, Business and Development

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Vice President for Student Life

Charles J. Tenner, C.S.Sp., Ph.D  
Secretary of the University

Chancellor

Nicholas Cafardi, J.D., J.C.L  
University Legal Counsel

*This information has been provided by the Office of the Secretary of the University.*
Administration and Faculty

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Carole A. Tarhi

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Ph. D., University of Georgia
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M. Ed., Indiana University of Pennsylvania
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Ph. D., University of Iowa
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M. A., Fordham University
Ph. D., University of Pittsburgh
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M. A., University of Virginia
Ph. D., City University of New York
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M. S., Bombay University
S. C., Johns Hopkins University
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Ph. D., Princeton University
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M. Div., St. Francis Seminary
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Ph. D., University of America
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Prinzivio Colombo
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M. A., Ph. D., University of Pittsburgh

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M. A., University of Pittsburgh
Rev. Michael Cahill, C. S. Sp
Associate Professor of Theology
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S. T. L., Gregorian University, Rome
B. S. S., Biblical Institute, Rome
Ph. D., Institut Catholique de Paris
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Ph. D., Montana State University
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B. S., National Taiwan University
M. S., Ph. D., Kansas State University
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Major Routes to the Duquesne Campus

Duquesne University is easily accessible by plane, bus, rail or car. The campus is a 10-minute walk from downtown where both Greyhound and Trailways bus and Amtrak train stations are located. If you are arriving by plane, the Greater Pittsburgh International Airport is located only 20 minutes from downtown Pittsburgh via bus, cab, rental car or limousine. For those arriving by car, major interstate and state routes lead to Duquesne from all points north, south, east and west. Interstate 79 runs north and south of the campus where it intersects with 279, the Parkway West. From the east, the Pennsylvania Turnpike and state routes 22 or 30 intersect with 376, the Parkway East. Both the Parkways East and West lead to downtown Pittsburgh.