DIRECTORY

ADDRESS—University,
600 Forbes Avenue, Pittsburgh, Pa 15282
Telephone Call specific number (see following)
for other offices, call 434-6020

ADMISSION—Director of Admissions,
Administration Building, First Floor
Telephone (412) 434-6220/6221/6222
(800) 456-0590 (Outside of 412 area code)

UNIVERSITY ACADEMIC ADVISEMENT
AND REFERRAL CENTER
Administration Building, Ground Floor
Telephone (412) 434-6394/6395

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) 434-6118/6119
School of Music, Room 313
Telephone (412) 434-6083
School of Nursing, College Hall, Room 637A
Telephone (412) 434-6340/6347
School of Pharmacy,
Mellon Hall of Science, Room 421
Telephone (412) 434-6380/6385
ROTC—Intramural Gym
Telephone (412) 434-6614/6615/6616

BOOKSTORE—Duquesne Union, Second Floor
Telephone (412) 434-6626

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) 434-6583/6584/6585

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) 434-5034

COUNSELING/TESTING CENTER—
Administration Building, Third Floor
Telephone (412) 434-6204/6208

STUDENT DEVELOPMENT—
Duquesne Union, Third Floor
Telephone (412) 434-6657/6658/6659

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) 434-6550/6552

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

INFORMATION CENTER—For University Events,
Duquesne Union, Third Floor
Telephone (412) 434-6632/6633

INTERNATIONAL EDUCATION ADVISOR—
Administration Building, Third Floor
Telephone (412) 434-6113

LEARNING SKILLS PROGRAM—
Assumption Hall
Telephone (412) 434-6614/6615/6616

PSYCHOLOGICAL COUNSELING—
Center for Testing and Research
Telephone (412) 434-6657/6658/6659

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)
434-6215 (Records)

RESIDENCE LIFE—Assumption Hall, First Floor
Telephone (412) 434-6655/6656

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

TESTING BUREAU—
Administration Building, Third Floor
Telephone (412) 434-6204/6208

Undergraduate Catalog

1991-1992
All Degrees and Programs Offered in the University

**SCHOOL**

- Bachelor's Degree
- Master's Degree
- Doctorate

**IMI**
- BACHELOR'S DEGREE
- MASTER'S DEGREE
- DOCTORATE

- Media Production
- Microbiology
- Organizational Communication
- Philosophy
- Political Science
- Print Journalism
- Psychology
- Public Relations
- Sociology
- Convergence in Sociology
- Criminal Justice
- Human Services
- Genealogy
- History
- Spanish
- Latin
- Mathematics
- Media Management
- Operations Management
- Performance Technology

**College of Liberal Arts and Sciences**

- Accounting
- Economic Science
- Finance
- General Business Administration
- Human Resource Management
- International Business Law
- Administration/Entertainment

**School of Business Administration**

- Bachelor of Science in Business Administration
- Finance
- Management Information Systems
- Marketing
- Quantitative and Decision Services
- Real Estate

**School of Education**

- Early Childhood Education
- Elementary Education
- Secondary Education
- Special Education (Mentally and/or Physically Handicapped)

**School of Health Sciences**

- Bachelor of Science in Health Sciences
- Athletic Training
- Health Records Administration
- Occupational Therapy
- Physical Therapy
- Physicians Assistant

**School of Music**

- Performance
- Vocal
- Music Education
- Theory
- Composition
- Jazz
- Musicianship
- Computer
- Secondary Education
- Technology

**School of Nursing**

- Bachelor of Science in Nursing

**School of Pharmacy**

- Pharmacy

**School of Law**

- Medical
- Chemistry
- Pharmacology
- Pharmacognosy
- Toxicology

**Master of Science in Education**

- Educational Administration
- School Counseling
- School Supervision
- School Administration
- Elementary Education
- Secondary Education
- Special Education

**Master of Science in Business Administration**

- Management Information Systems
- Marketing
- Quantitative and Decision Services
- Real Estate

**Master in Science in Nursing (M.S.N.)**

- Family Nurse Practitioner
- Midwifery
- Adult-Gerontology
- Children's Health Care

- Master's in Physical Therapy
- Occupational Therapy
- Health Records Administration
- Physical Therapy

- Nurse Practitioner
- Midwifery
- Adult-Gerontology
- Children's Health Care

**Doctorate**

- Clinical Psychology
- Human Services
- Genealogy
- History
- Spanish
- Latin
- Mathematics
- Media Management
- Operations Management
- Performance Technology

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**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.

Published annually by Duquesne University, 600 Forbes Avenue, Pittsburgh, Pennsylvania 15282
## Academic Calendars
### Fall 1991 — Summer 1992

### FALL SEMESTER — 1991
- **Classes Begin**: August 26 (Monday)
- **Labor Day Holiday**: September 2 (Monday)
- **All Saints Day Holiday**: November 1 (Friday)
- **Thanksgiving Holiday**: November 25-30
- **Immaculate Conception Holiday**: December 8 (Sunday)
- **Friday Class Schedule Followed**: December 10 (Tuesday)
- **Reading Day**: December 11 (Wednesday)
- **Final Exams**: December 12-18

### SPRING SEMESTER — 1992
- **Classes Begin**: January 9 (Thursday)
- **Martin Luther King Holiday**: January 20 (Monday)
- **Spring Break**: March 9-14
- **Easter Holiday**: April 16-20
- **Monday Class Schedule Followed**: April 28 (Tuesday)
- **Reading Day**: April 29 (Wednesday)
- **Final Exams**: April 30 - May 6
- **Commencement**: May 9 (Saturday)

### SUMMER SEMESTER — 1992
- **Summer Term Begins**: May 13 (Wednesday)
- **Memorial Day Holiday**: May 25 (Monday)
- **Ascension Holiday**: May 28 (Thursday)
- **Independence Day Holiday (Observance)**: July 3 (Friday)
- **End of 12 week term**: August 7 (Friday)
- **Assumption Holiday**: August 15 (Saturday)

### CALENDAR

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL INFORMATION</td>
<td>1</td>
</tr>
<tr>
<td>ADMISSION, FINANCIAL AID</td>
<td>6</td>
</tr>
<tr>
<td>REGISTRATION, SCHOLASTIC POLICIES</td>
<td>19</td>
</tr>
<tr>
<td>TUITION AND FEES</td>
<td>26</td>
</tr>
<tr>
<td>STUDENT LIFE PROGRAMS, SERVICES AND ORGANIZATIONS</td>
<td>30</td>
</tr>
<tr>
<td>CAMPUS MINISTRY</td>
<td>35</td>
</tr>
<tr>
<td>PROGRAMS AND COURSES</td>
<td>36</td>
</tr>
<tr>
<td>Core Curriculum</td>
<td>36</td>
</tr>
<tr>
<td>Integrated Honors Program</td>
<td>37</td>
</tr>
<tr>
<td>Concentrated Studies</td>
<td>38</td>
</tr>
<tr>
<td>English As A Second Language Program</td>
<td>38</td>
</tr>
<tr>
<td>Liberal Arts and Sciences</td>
<td>40</td>
</tr>
<tr>
<td>Business and Administration</td>
<td>91</td>
</tr>
<tr>
<td>Education</td>
<td>108</td>
</tr>
<tr>
<td>Music</td>
<td>116</td>
</tr>
<tr>
<td>Nursing</td>
<td>132</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>144</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>157</td>
</tr>
<tr>
<td>ROTC</td>
<td>164</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>167</td>
</tr>
<tr>
<td>DIRECTORIES</td>
<td>172</td>
</tr>
<tr>
<td>Directors &amp; Officers</td>
<td>173</td>
</tr>
<tr>
<td>Faculty</td>
<td>202</td>
</tr>
</tbody>
</table>

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 1991.

Please refer to the current schedule of classes booklet for detailed academic calendar dates and deadlines.
GENERAL INFORMATION

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.
The success of the various professional and major college sports teams has won for Pittsburgh the title of "City of Champions" and "Pittsburgh Pro" for 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 such participatory sports as tennis, golf, running, hiking, skiing, skating, and many others are available throughout the Pittsburgh area.

The Psychology Counseling Center houses the University's Center for Training and Research in Psychological Science. Formerly known as the Psy Center, a faculty operated by Duquesne's renowned Department of Psychology.

The University setting.

The Administration Building, "Old Main," was the first building constructed on the Duquesne campus, dedicated in 1885. Recently renovated, it houses the Executive Offices of the University, Office of Admissions, Registrar's Office, Campus Ministry, Business Offices, Counseling and Testing Center, University Academic Advisement and Referral Center, Financial Aid Office, and the offices of University Events, Development, and Public Relations. Joining the building is the University Chapel, which offers daily Mass.

A J. Palumbo Center, dedicated in 1988, 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 also has indoor recreational areas, racquetball 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 1956. A four-story structure with 280 student capacity, the facility has its own recreation area, and offers both single and double occupancy rooms. The Learning Skills Center is also housed there.

Canev Hall, the oldest classroom building on campus, was built in 1922 and completely renovated in 1968. A four-story structure with 280 student capacity, the facility has its own recreation area, and offers both single and double occupancy rooms. The Learning Skills Center is also housed there.

McCloskey Field, dedicated in the mid-1970s, and renovated in 1988, 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 enclosed tennis courts and two outdoor basketball courts, one of which is converted for street hockey in the winter months.

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

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

The Library Settling General Information.

The Library Resource Center, dedicated in 1978, is a modern, attractive five-story structure that signaled the growing achievement of the University's expansion and the Major Gift Building. A house in over 100,000 square 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 Halipenn Collection on Medieval Christian and Jewish intellectual and religious thought, the Silverman Center collection of world literature in phenomenology, and the Justice Michael A. Musmanno Collection.

The Library provides access for approximately 1,000 patrons, including graduate study carrels and conference facilities. 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, Gerad Socius, were cited by the Pittsburgh Chapter of the American Institute of Architects for creative design in their renovation and expansions of the University's library structure, an old savings 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 1990, the Library began 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-ROM disks from any one of the 15 points. It is expected that the Center will be operational by September 1990.

The Parking Garage, dedicated in the fall of 1987, is located at Forbes Avenue at Hooper Street and provides the University with 775 parking spaces. The eight-story garage is equipped with an elevator and walk-way 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 the I D Center for the University.

Richard King Mellon Hall of Science, an attractive, four-story structure dedicated in 1968, houses the departments of biological sciences, chemistry, physics, and the School of Pharmacy designed by one of the world's most renowned architects, Mies van der Rohe, the building won the "Laboratory of the Year" award in 1969. Instructional facilities include two large amphitheatre-style lecture halls with seating capacities of 175 each, well-equipped laboratories, and a science computer facility.

The Music School, dedicated in 1967, has 73 pianos,
PHYSICAL FACILITIES

Including 56 steamways, 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 school 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 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, and parking and graphics department. Rockwell Hall is also home to the Rockwell Center for Music Technology, which houses a Music Lab, a Synthesizer and Recording Studio, features state-of-the-art synthesizers, sequencers, samplers, and audio equipment.

St. Martin's Hall, dedicated in 1964, is a tw-story, three-story coed dormitory with its own laundry. The residence is equipped with state-of-the-art synthesizers, sequencers, samplers, and audio equipment.

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

Catholic Educational Association of Pennsylvania
College Entrance Examination Board
Council for Advancement and Support of Education
International Federation of Catholic Universities
Middle States Association of Collegiate Registrars and Admissions Officers
National Association for Independent Colleges and Universities
National Association of College Admission Counselors
National Association of College and University Business Officers
National Association of Foreign Student Administrators
National Association of Student Personnel Administrators
National Association of Student Financial Aid Administrators
National Catholic Educational Association
National Commission on Accrediting
Pennsylvania Association of Catholic College Admissions Officers
Pennsylvania Association of Colleges and Universities
Pennsylvania Association of Student Financial Aid Administrators
Pittsburgh Council of Higher Education

College of Liberal Arts and Sciences
Accreditation
American Chemical Society
Membership
American Association for Higher Education
American Association for State and Local History
American Conference of Academic Deans
American Historical Association
American Society for Journalism School Administrators
Association of American Colleges
Association of Departments of English
The Historical Society of Western Pennsylvania
National Collegiate Honors Council
Organizations of American Historians

School of Business and Administration
Accreditation
American Assembly of Collegiate Schools of Business
Accreditation Council
Membership
Association for University Business and Economic Research
Middle Atlantic Association of Colleges of Business Administration

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
Colleges for Teacher Education
International Council on Education for Teaching
The Pennsylvania Association of Colleges and Teachers 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 available through evening study:

- Bachelor of Science in Business Administration
- Bachelor of Arts in Psychology
- Bachelor of Arts in Sociology
- Bachelor of Science in Business Administration Concentrations in Accounting, Economics, Finance, Human Resource Management, International Business, Law, Administration, Management, Management Information Systems, Marketing, Real Estate

The Bachelor of Professional Studies is designed for adults 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 facilities and guidance in the use of computing and communications equipment for the University's instruction, research, and administrative programs. The Center reports administratively to the Vice President for Academic Affairs.

The present facilities include a Digital Equipment Corporation VAX 8200 and a Sperry 1100/27 mainframe computer with state-of-the-art education and administrative applications. The systems provide support for the BASIC, FORTRAN, COBOL, LISP and F77 programming languages, as well as Statistical Package for the Social Sciences, Interactive Financial Planning System, and MINITAB Labs. The systems are distributed throughout the campus to provide students with access to more than 200 microcomputers and terminals. Additional microcomputers have been added to the labs in 1989/90. 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 recordkeeping.

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 laboratory provide initial training in computer systems.
laboratories are available for consultation regarding use of the facilities. During 1986/87 the university approved a long-range plan for computing and communications on the campus. The current mainframe computers will be replaced by more powerful systems, microcomputer labs are to be installed in every major campus building, and a fiber-optics network will be installed to provide campus-wide communication and to provide gateways to national and international networks.

The current mainframe computers will provide campus-wide communication and to provide access to catalog files through workstations on campus or from the home.

Part II: Admission and Financial Aid

Admission

OFFICE OF ADMISSIONS
The Office of Admissions is located on the first floor of the Administration Building
Telephone (412) 343-6220, 343-6221, 343-6222
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 (Note: 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. This offers the candidate the advantage of knowing 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 15282. It may be submitted at any time during the candidates' senior year up to July 1 for 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. No application will be processed for consideration by the Committee on Admissions unless accompanied by the required fee.
3. Request the secondary school principal or guidance counselor to submit a transcript of the candidate's academic record. A recommendation is requested.
4. Complete the required SAT or ACT examination during the spring of junior year and/or fall of senior year. It is the personal responsibility of each candidate to have test scores forwarded to the University.
5. An interview is highly recommended for prospective students. Auditions are required for School of Music applicants.
6. Students interested in being considered for University Scholarships should submit their application by January 15 of their senior year.

7. Early Decision Deadline (for students who have Duquesne as their first college choice) is November 15. Notification will be by December 15. If accepted under the Early Decision Plan, commuting students are asked to submit a non-refundable tuition deposit of $500 within two weeks. Resident students are asked to submit a $250 non-refundable deposit.
8. Notification of decisions for regular admission begins once Early Decision applicants have been notified. If accepted, students are asked to submit a non-refundable tuition deposit of $100 for commuters or $250 for resident students by May 1 of their senior year.

It is the responsibility of the applicant to arrange to have all supporting credentials on file with the Office of Admissions and Financial Aid Office prior to the deadline dates.

EARLY ADMISSION
Although the University believes that most students profit from four years in the secondary school, the Early Admission plan is open to outstanding students. This is a plan whereby unusually able and mature candidates who have completed less than four years of a secondary school program may apply for graduation from high school after their junior year. The high school diploma is awarded following successful completion of their freshman year in college. Two separate interviews are required. Further details may be obtained by telephoning or writing to the Admissions Office.

APPLICATION—OTHER CATEGORIES
It is the responsibility of persons who apply for evening study, or as international students, readmission students, transfers, or for the Summer Session to arrange to have all supporting credentials on file with the Office of Admissions and the Financial Aid Office prior to the deadline dates.

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.

Since 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 at Duquesne University.

All accepted international students, whose native language is other than English, are administered an English Language Placement Test upon arrival. If additional assistance with English language proficiency development is indicated, then the student is referred for appropriate ESL coursework on either an intensive or semi-intensive basis.

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.

Eligible international 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 Test of English as a Foreign Language (TOEFL) may qualify for conditional waiver 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 applicants should submit the following items:
(a) Duquesne University Undergraduate International Application Form,
(b) Completed Undergraduate Admission Affidavit of Support Form along with required accompanying financial resource certifications. (NOTE: Limited scholarships are available to undergraduate international students),
(c) Certified copies of all academic records of secondary and any post-secondary study,
(d) Letter of recommendation, and
(e) Application fee in the amount specified on the application form.

Duquesne University is authorized under federal law to enroll nonimmigrant alien students. However, no immigration documents can be issued until all
application materials, including financial resource certification, have been received. In order to complete on-campus arrival orientation, 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 completion 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
USA
Telephone 412-434-6113  FAX 412-434-5178

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 Post-graduate 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.

READMSSION

Any student who withdraws from the University must apply for re-admission through the Office of Admissions and must submit an application for re-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 the transcript.

The College of Liberal Arts and Sciences and School of Education award 60 semester hours of credit to accepted transfer applicants who have an Associate Degree in Arts from a regionally accredited two-year institution.

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 3.0 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 which 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 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 DUQUESNE STUDENTS

Any Duquesne University undergraduate student who was granted continuance at the close of the preceding Spring Semester is authorized to register for the Summer Session courses who were discussed 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 the 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, must be admitted to the Summer Session. A tear-out admissions application and registration form for the summer session is provided in the announcement of summer offerings, which may be obtained from the Summer 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 advanced placement. 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. For current information about the minimal score acceptable for each subject and the credits granted, consult with the University's Director of Testing Bureau or the College Level Examination program, Box W7, Princeton, New Jersey 08540.

Information about equivalent University courses for which qualifying students may receive credit may be obtained from the University's Director of Testing Bureau or the Assistant Dean for Administration, College of Liberal Arts and Sciences.

CREDIT HOUR BANK

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 program.

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.

ADMISSION AND FINANCIAL AID

American history, and can be obtained by contacting the office of Admissions.

The special examinations for which the College of Liberal Arts and Sciences will award credits, with an acceptable score, are:

1. General Examinations, Humanities, social sciences.

2. Subject Examinations, American government, American history, 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-dated 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 loans 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, and 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 normally designed 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 excellent sources of information. Students should avoid the error of disqualifying themselves for specific forms of aid based on locational or demographic factors. If the student continues to be an ROTC Scholarship recipient, additional amounts may vary. Continued academic achievement is normally reflected by a cumulative Quality Point Average of 3.50 and above. Renewal amounts may vary relative to the level of need.

Scholarships/ROTC Awards Merit based awards are given to high school seniors who are also recipients of 4-year ROTC Scholarships and who will reside in campus dormitories. These awards are not need based and may be renewed yearly, provided the student continues to be an ROTC Scholarship recipient. Students who are incoming freshmen Awards are made to incoming high school seniors who are also recipients of 4-year ROTC Scholarships and who will reside in campus dormitories. These awards are not need based and may be renewed yearly provided the student maintains a minimum cumulative Quality Point Average of 3.00.

Incentive Grants Awards are made to incoming students in specific areas of study. Awards are renewable provided the student maintains a minimum cumulative Quality Point Average of 2.75 and continues enrollment in the original school and major.

Supplemental Educational Opportunity Grants Federal grant assistance is available to full or half-time undergraduate students with exceptional financial need. It should be noted that due to limited fund-
Financial Aid

Loan Fund Established through the
Stanley K. Power Trust of the Pittsburgh Foundation
Awards to needy full-time students who are residents of Allegheny County. Repayment of four-fifths of amount borrowed within ten years of graduation or termination of studies at 0% interest.

Student Employment Two programs of employment are 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 as aid 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 monies available to full-time undergraduate students in a part-time position depends upon the student’s qualifications for performing successfully in the job.

Student employment is limited to maximum of fifteen working hours a week when classes are in session. Students working under either program may not retain outside jobs during academic periods. 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 loan aid through the University are required to apply for a Pell Grant. Necessary forms may be obtained through the Office of Financial Aid Office or the High School Guidance Office.

State Grant Assistance

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 an office at the Financial Aid Office, or the University Financial Aid Office, or the Pennsylvania Higher Education Assistance Agency (PHEAA).

State grant awards are available to financial aid applicants who demonstrate need. Repayment begins six months after graduation or termination of studies at 0% interest.

Stafford Loans (Formerly Guaranteed Student Loans)

This program provides long-term, low interest student loans available through the cooperative efforts of federal and state governments and participating private lending institutions. These loans are available to students enrolled in an institution of higher learning on at least a half-time basis. They are provided by commercial lending institutions in every state. To apply, the student should inquire at a local lending institution where the student or parents have an account. Subsidized loans are need-based and require a needs analysis document. Furthermore, a loan must be submitted to establish eligibility for a subsidized loan. The maximum amount that an undergraduate student may borrow for any academic level is $2,625 for each of the first two levels, $4,000 for each remaining undergraduate level. A four to six-week processing period should be anticipated.

Parent Loans for Undergraduate (Supplemental Loans for Students)

Loans are available to parents of DEPENDENT undergraduate students. INDEPENDENT undergraduate students may apply themselves. The maximum amount that can be borrowed for any academic level is $4,000. Repayment begins 60 days after disbursement of funds. Applications and information are available through banks and other lending institutions.

Other Possibilities

In addition to mass programs of aid previously described, financial assistance may be obtained from a wide variety of sources. Sources and application procedures and requirements differ greatly. It is not possible to provide specific information. In general, the student seeking potential sources of aid may inquire 1) of high school guidance counselors, 2) parents’ employers, or labor unions, 3) fraternal, social, religious, or professional organizations, 4) major organizations utilizing the skills of the field for which the student is preparing, and 5) specific departments within the University.

Aid from Departments and Schools

College of Liberal Arts and Sciences

The Eleanor Polia Capone Memorial Award is an annual scholarship available to a freshman entering Duquesne University who is pursuing the field of communication. The award is established annually by partners in the Pittsburgh Foundation for Communication junior/senior students who demonstrate outstanding academic promise, concurrent financial need, and are preparing for a career in the newspaper or broadcasting fields. It is administered by the faculty of the Department of Communication.

Colecchia Scholarship Award The award honors Frances Jahrling Chivers and is available to Junior or Senior English majors. Application is made by Chair of English Department. Selection is made by representatives of Chivers family and Financial Aid Office.

School of Business and Administration

Accounting Scholarships. Twenty $1,000 scholarships are awarded annually to students whose major area of concentration is accounting. Ten are awarded to juniors and 10 to seniors. The scholarships result from an endowment funded by the “Big Six” accounting firms as well as local accounting firms. Applications are available in the Office of the Dean.
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 be new students to Duquesne. To apply, contact the School of Education. For renewal requirements and procedures 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 performances as well as leadership contributions by School of Music students.

Robert Menardi 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.

Anne Patton and George Locher Award: Is awarded on an annual basis to an outstanding performer in the Music School.

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 Voyerich Memorial Scholarship Fund, Matty and Ed Shiner Scholarship Fund, Alfred d'Auberge Award and Paul Sialek Memorial Fund.

**SCHOOL OF NURSING**

Behan Scholarship: The R J Behan Annual Nursing Scholarship is a $500 scholarship awarded annually to a nursing student who has demonstrated 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 awarded 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.

Baxter 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.

Chisolm Loan Fund: A revolving loan fund established in 1946 through the generosity of Frances P. Chisolm 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.

Peter and Dorothy Manzione Memorial Fund: A revolving scholarship, donated by Rosetta and Geraldine Manzione, was established by a memorial 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 member of the Pharmacy major, attained a minimum quality point average and have an interest in and demonstrated support of the University's Athletic Program. Applications are available in the Office of Financial Aid.

**ADMISSION AND FINANCIAL AID**

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

Gray Drug Fair, 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. Applications are available to WOANRD 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 and need and a demonstrated interest in community pharmacy practice.

Beveracqua Scholarship Fund: A memorial scholarship fund to honor Rosemarie Beveracqua, R S S, 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, 611 College Avenue 4th Floor, Pittsburgh, Pennsylvania 15261.

Rite Aid Scholarship: Scholarships are available from earnings on a fund started by a bequest to the School of Pharmacy in 1970. The fund 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 established by Fred Schiller, Pittsburgh pharmacist, in memory of the late Emanuel Spector, for worthy and qualified students in the School of Pharmacy. The revolving fund makes available tuition loans on varying amounts depending on the applicant's need and general ability.

John Cloherty 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: Maintains a revolving loan fund for needy and deserving students in their last five semesters for payment of tuition, fees, and books.

Burrows Wellcome Educational Grants: Scholarships are awarded to Pharmacy students in the School of Pharmacy.

Rite Aid Scholarship: Scholarships from the Rite Aid Corporation are available to students entering the final year of the pharmacy program. Selection is based on financial need, demonstration of normal progress, and good standing in the pharmacy program. Awards are based on financial need and participation in the organization.

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

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 Parks Loan Fund. Loan funds available to Pharmacy students for the final two years of the B.S. in Pharmacy degree program.

Con E. Craven Educational Grants. These grants are 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 of our pharmacy program. Assistant Professor of Pharmacy in his name by the Schering Corporation. A scholarship award will be granted to a student entering the fourth or fifth year in 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. Pfanneschlag, Jr Memorial Scholarship Fund. A scholarship fund was established by the family and friends of Alfred J. Pfanneschlag, 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 scholarship student recipient will be based on demonstrated academic 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 need and a demonstrated interest of 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, P57, 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 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 sources of funding available.

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. Emphasis will be on performance in science. Inquiries should be directed to the Office of Financial Aid.

DUSSO Scholarship Fund. Anually the Duquesne University Student Scholarship Organization sponsors scholarships to help make it possible for deserving students to attend Duquesne. Applicants must be enrolled on a full-time basis, show proven academic ability, be of good moral character, and demonstrate financial need. Application materials may be obtained through the SGA office and must be filed by April 1.

McClaskey Memorial Scholarship Fund is awarded to students who have demonstrated scholarly ability and character, and volunteer service to the community. Applications are to be made directly to the Office of the Dean of Students.

Vma 1 Henri Tintel 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 or cultural relations. Inquiries should be directed to the Office of the Dean of Students.

Nathan and Harry Daly Scholarship. This is an annual award that is to be made to "such deserving person or persons from Butler 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.

Elizabeth Eise McDonough Scholarship Fund. This award was established to assist needy students from Allegheny County to continue their educational endeavors at Duquesne University. Recipients are selected on the basis of both academic achievement and financial need. Interested students should apply through the Financial Aid Office.

Minnie Hyman Scholarship Fund. A gift from the Hyman Family Foundation. Awards are based on academic criteria and need. The amount of the awards varies. Recipients are selected by the Financial Aid Office.

The American Council on Education. This scholarship is available to members of the American Association for Higher Education who have demonstrated academic achievement as a secondary consideration. Recipients are selected by the American Council on Education. Interested students should apply through the Financial Aid Office.

James H. and Margaret Lavelle Ferry Memorial Scholarship Fund. 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. Recipients are selected by the University. Interested students should apply through the Financial Aid Office.

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

John Joseph Mongillo Memorial Scholarship Fund Awards are based on financial need. The fund was established through a gift to the University from Marie Locher in memory of her brother, John Mongillo. Interested students should apply through the Financial Aid Office.

Century Club Scholarship Fund. Awarded to needy students in their final undergraduate year. QPA of 3.5 or higher is required. Applications available from Financial Aid Office.

Monsignor Michael J. Conroy Endowed Scholarship Fund. Awarded to needy, full-time undergraduate students who are a child of a member, or a member, of Our Lady of Grace Parish. Eligible students must apply through Our Lady of Grace Parish and the Financial Aid Office.

Hungarian Heritage Endowed Scholarship Fund. Awarded to student in the College of Arts and Sciences or the School of Music, based on need and academic achievement. Order of selection will be (1) Student from Hungary, (2) Student studying in Hungary, (3) Student studying Hungarian, (4) Student of Hungarian Heritage, and, (5) A needy and worthy student of any cultural derivation if there are no students who qualify under the first four categories. Applications available from the Financial Aid Office.


Mary H. & Peter Lofus Scholarship. Awarded to needy and deserving students. Applications available from Financial Aid Office.

Eberhardt Memorial Fund. Awards to honor Melville Alexander Eberhardt, based on academic achievement.
FINANCIAL AID

Clergy/Religious Discount Members of University-recognized Christian and Jewish Religious, 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 study.

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.

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. Summer 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 confirms 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.

The financial obligation for class places reserved by a registered student who does not subsequently attend cannot be canceled unless written notification of the decision not to attend is given to the Registrar before the first class day. Notification received on or after the opening day of classes is subject to the official withdrawal policy. Withdrawal from room and board reservation contracts is to be made in accordance with the provisions of the contract. See Room and Board—Withdrawal Refund, page 28 of this catalog.

Exceptions 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).

The opportunity to cross-register is open to each full-time student enrolled in a PCHE college or university.

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 preregistration 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 announced in the Academic Calendar (published in the Schedule of Classes Booklet).

All schedule changes must be approved by the academic advisor and processed with the Registrar. Schedule changes requests processed with the Registrar during the late registration must also have the signatures of the instructors whose courses 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.

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. Members institutions of PCHE are

- Carlow College
- Carnegie Mellon University
- Chatham College
- Community College of Allegheny County
- Duquesne University
- LaRoche College
- Pittsburgh Theological Seminary
- 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 designee from the home college or university must be obtained prior to acceptance of the student. The student's advisor or dean is responsible for ensuring the student's eligibility for the course in which she wishes to enroll.

Full credit and grade will be transferred, the academic regulations of the home 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 institutions 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 Session at A & T or the schools 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**

Pack 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 later than 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**

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 must carefully examine their records for accuracy and immediately report errors in writing 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).

In order that parents of students may receive from University officials information concerning the college attendance academic record of their child, it is required by the Family Educational Rights and Privacy Act of 1974 (FERPA) (Public Law 93-380, as amended, section 99, 31 (b) that either the parents must prove financial dependence of their child upon them according to the dependency test as defined in section 152 of the Internal Revenue Code of 1954, or the child must grant a waiver of rights given by FERPA.

Students wishing to waive the requirement of FERPA relating to the release of academic information to parents must complete the waiver obtainable at the office of the academic advisor.

**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 should consult with the academic advisor about any questions of an academic nature.

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 INTERCOLLEGIAL ATHLETICS**

The academic progress of student athletes engaged in intercollegiate competition is monitored by the ASIA. The ASIA office also provides 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, 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 for audit.

Courses eligible for auditing are determined 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. Students are advised to consult with the offices of the Deans for the most current listings. 1) No courses in the School of Law are available for audits, 2) No 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.

**CANCELLATION OF COURSES**

The University makes every reasonable effort to offer courses as announced in the Schedule of Classes booklet and the summer session tabloid. It reserves the right, however, to make changes or cancel courses in the academic schedule because of insufficient enrollment or for any other equally valid reason.

**CLASS ATTENDANCE**

Regular class attendance is essential for maximum educational advantage and is strongly encouraged. The responsibility for all course material rests wholly with the student. Students may be required to attend class at any time of the day.

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 session as it pertains to the course and school.

The student who is unable to attend class because of serious illness, hospitalization, a serious accident or other extenuating circumstance 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 'I' grade is to be replaced by a passing grade, the work must be completed by the time stated in the
ACADEMIC POLICIES

Academic Calendar (published in the Schedule of Classes Booklet) Failure on the part of the student to remove the temporary grade results in conversion of that grade to an ‘F’ recorded on the transcript.

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

1 Full-time Student: A student with an academic schedule of at least 12 credits is considered a full-time student. With this status a student is entitled to the benefits of various activities. A student may not change status during the semester without the permission of the academic advisor and the Dean of the student’s school.

2 Part-time Student: Anyone who carries under 12 credits is regarded as a part-time student.

3 Post-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 by previous experience or exposure have acquired mastery of the knowledge in certain courses. An application fee of $30.00 is charged for each course credit. Application forms may be obtained from the Office of the Registrar.

Since policies vary among the Schools, students who feel they may qualify for credit by examination should consult the Dean of the School in which they are enrolled for specific information about courses open to this examination procedure.

UNDERGRADUATE GRADING SYSTEM

The following is the officially recognized method of 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

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

COMPUTATION OF THE QUALITY POINT AVERAGE

Quality Point Average is the ratio expressed to the decimal thousands of the sum of course credits for which the grades of A, A+, B+, B, B-, C+, C, C-, D+, D, D-, E, and F were received to the sum of quality points earned. The Quality Point value of these grades are:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>=40</td>
</tr>
<tr>
<td>A-</td>
<td>=37</td>
</tr>
<tr>
<td>A+</td>
<td>=34</td>
</tr>
<tr>
<td>B</td>
<td>=30</td>
</tr>
<tr>
<td>B+</td>
<td>=27</td>
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<tr>
<td>B-</td>
<td>=24</td>
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<tr>
<td>C</td>
<td>=21</td>
</tr>
<tr>
<td>C+</td>
<td>=20</td>
</tr>
<tr>
<td>C-</td>
<td>=19</td>
</tr>
<tr>
<td>D</td>
<td>=16</td>
</tr>
<tr>
<td>D+</td>
<td>=15</td>
</tr>
<tr>
<td>D-</td>
<td>=14</td>
</tr>
<tr>
<td>E</td>
<td>=11</td>
</tr>
</tbody>
</table>

Grades S, P, U, N, I, and W are independent of the Quality Point System. Courses credited F, U, N, I, and W do not earn credit, and if required, 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 is 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 taken on this elective pass/fail basis.

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 may be readmitted by the appropriate 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: 1.50 to 1.74 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 within four semesters, these guidelines prevail:

Academic Warnings: 1.85 to 1.99 QPA (Letter or warning may be sent by appropriate Dean)
Probation: 1.75 to 1.84 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 1.75 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

Students who have attempted 61 or more 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.
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 non-curricular 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 Athletes 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 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 preceding 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 QPA at all times in order to be academically eligible to compete in inter-collegiate competition. QPAs 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 courses 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 its 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 QPA 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 appropriate form through the advisor.

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 3.5 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 QPA, the Magna Cum Laude citation may be raised to Summa Cum Laude

**UNIT OF CREDIT**

The unit of credit is the semester hour. i.e., one credit equals one semester hour. One semester hour of credit is granted for the successful completion of one hour a week of lecture or recitation, or at least two hours a week of laboratory work, for one semester of 15 weeks.

**TRANSFER WITHIN THE UNIVERSITY**

It would be in the student's advantage to discuss the proposed transfer with an academic advisor of the new school no later than two weeks prior to preregistration. The advisor will then be responsible to effect the change.

**WITHDRAWAL FROM A COURSE**

First semester freshmen may withdraw from courses with the approval of their advisor up to the period of final examinations and receive a grade of "W" by processing the proper form.

If a student, other than a first semester freshman, wishes to withdraw from a course, he/she may do so with the approval of an academic advisor and by processing the proper form up to the date announced in the Academic Calendar for withdrawal with a "W" grade.

If a student wishes to withdraw from a course after the date announced in the Academic Calendar, the student must seek approval of the Committee on Student Standing of the student's School. The student will be notified of the Committee's decision. If approval is granted, the student then notifies the appropriate form through the advisor.

A student who is not granted approval of the request and withdraws from the course unofficially will receive a "F" grade for the course.
### 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 1991-92 term only, unless otherwise indicated.

#### TUITION

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Tuition</td>
<td>$305.00</td>
</tr>
<tr>
<td>Graduate Tuition</td>
<td>$322.00</td>
</tr>
<tr>
<td>Auditors</td>
<td>Same as students taking courses for credits</td>
</tr>
</tbody>
</table>

#### FEES

<table>
<thead>
<tr>
<th>Fee Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application (non-refundable)</td>
<td>$20</td>
</tr>
<tr>
<td>Matriculation Deposit (non-refundable)</td>
<td>100</td>
</tr>
<tr>
<td>Residence Hall Pre-Payment (non-refundable)</td>
<td>150</td>
</tr>
<tr>
<td>Change of Schedule</td>
<td>$5</td>
</tr>
<tr>
<td>Credit by Examination</td>
<td>Same as above</td>
</tr>
<tr>
<td>Orientation (New Students)</td>
<td>$30</td>
</tr>
<tr>
<td>Late Registration</td>
<td>$25</td>
</tr>
<tr>
<td>Removal of I Grade</td>
<td>$5</td>
</tr>
<tr>
<td>Registration Correction Fee</td>
<td>$15</td>
</tr>
<tr>
<td>Continuing Registration Fee</td>
<td>$50</td>
</tr>
</tbody>
</table>

*Undergraduate Business and Administration Student when carrying 12 or more credits: $5
can be used.

*Undergraduate Music Student when carrying 12 or more credits: $3

*School of Pharmacy Undergraduate Fee: $110

*Undergraduate Pharmacy Student Activities (for Third, Fourth, and Fifth Year Students): $200

*University Fee: $20 per credit

*Charged on each semester registration

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### 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 1991-1992 academic year.

<table>
<thead>
<tr>
<th>Course Type</th>
<th>费</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology (each laboratory)</td>
<td>$60</td>
<td></td>
</tr>
<tr>
<td>Chemistry (each laboratory)</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Education 232, 315, 317</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>English 439, 379</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>*English Language Placement Testing (ESL)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Music-Applied 2 or 3 credits</td>
<td>330</td>
<td></td>
</tr>
<tr>
<td>Music-Applied 1 credit</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Music-Class Piano</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Music-Class Methods</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Music-Ensemble</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Music-Seminar</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Pharmacy 301, 302, 306, 309, 317, 319</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Physics (each laboratory)</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Speech 301, 204, 206, 208, 220, 251, 263, 264, 302, 311, 351</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Graduate Biology With Laboratory</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Graduate Chemistry 520, 561</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Graduate Modern Languages 051 &amp; 052</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Graduate Psychology 571</td>
<td>15</td>
<td></td>
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<tr>
<td>Graduate Pharmacy (each laboratory) 501, 502, 521, 522, 539, 540, 541, 542, 565, 671</td>
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<tr>
<td>Graduate Education 512, 692, 693</td>
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<td></td>
</tr>
<tr>
<td>Graduate Education 515, 516, 517, 518</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

*English Language Placement Testing (ESL) fee is a one-time fee

**Laboratory Breakage Fee**

One breakage card per semester will cover laboratory breakage in Chemistry.

### Summer and Special Session Tuition and Fee Charges

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Tuition</td>
<td>$305.00</td>
</tr>
<tr>
<td>Graduate Tuition</td>
<td>$322.00</td>
</tr>
<tr>
<td>University Fee</td>
<td>$20 per credit</td>
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</table>

### Graduation Fees

<table>
<thead>
<tr>
<th>Degree</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor Degree</td>
<td>$300.00</td>
</tr>
<tr>
<td>Master Degree</td>
<td>40.00</td>
</tr>
<tr>
<td>Doctor of Pharmacy Degree</td>
<td>40.00</td>
</tr>
<tr>
<td>Junior Doctor Degree</td>
<td>85.00</td>
</tr>
<tr>
<td>Doctor of Philosophy Degree</td>
<td>55.00</td>
</tr>
<tr>
<td>Thesis Binding Fee—Doctoral Dissertation</td>
<td>93.50</td>
</tr>
<tr>
<td>Thesis Binding Fee—Master Thesis</td>
<td>83.50</td>
</tr>
</tbody>
</table>
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 determined by 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 acts to terminate attendance in conformity with this policy even though absences from classes were observed and recorded before the Effective Date of Withdrawal.

When a student's attendance is involuntarily terminated in a semester because of personal disability arising from injury or illness, any remission of tuition beyond the limits prescribed by the withdrawal refund policy is subject first to the approval of 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, 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 Change of Schedule period.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Percent of Remission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the Semester</td>
<td></td>
</tr>
<tr>
<td>First Week</td>
<td>80%</td>
</tr>
<tr>
<td>Second Week</td>
<td>80%</td>
</tr>
<tr>
<td>Third Week</td>
<td>40%</td>
</tr>
<tr>
<td>Fourth Week</td>
<td>20%</td>
</tr>
<tr>
<td>After Fourth Week</td>
<td>None</td>
</tr>
<tr>
<td>Within the Summer Session—Based on a Six Week Session Standard</td>
<td></td>
</tr>
<tr>
<td>First Week</td>
<td>60%</td>
</tr>
<tr>
<td>Second Week</td>
<td>20%</td>
</tr>
<tr>
<td>After Second Week</td>
<td>None</td>
</tr>
</tbody>
</table>

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.

The University requires that a prepayment of $150, which is applicable to the following semester’s room and board account, accompany all applications for room reservations or renewals. This prepayment is non-refundable.

Reservations are made on a semester basis — August to December, January to May. Rooms may be occupied no earlier than noon of the day preceding the beginning of the orientation or registration periods.

Room assignments are made on a first-come, first-served basis. Therefore, it is extremely important for the student to return his/her housing application immediately upon receipt of it. Over-crowded conditions have occurred in the past and students have been temporarily assigned three to a room or in lobbies. Therefore, students returning their applications after all rooms have been assigned will be housed in temporary housing, be placed on a waiting list, or not assigned a space in the residence area.

All students occupying rooms in the University residence halls are required to take their meals at the Resident Dining Hall. Charges are for four meals a week, with meals served commencing with the evening meal of the day before the first day of classes. A commuter meal plan and a 14-meal plan for sophomores, juniors, and seniors are also available.

Residence Halls are closed during vacation periods (Thanksgiving, Christmas, and Easter).

All resident students must present evidence of health and accident insurance coverage, such coverage is available through the University.

The University reserves the right to modify these charges if exigencies require such action.

Regular Session—Room and Board (20 meals a week, includes cleaning public damage, health services fees, residence council fee, and telephone maintenance fee):

- Single for each semester: $2728.50
- Double for each semester: $2251.75

Summer Sessions—Room and Board:

- 6 Weeks: $1052.10 (Single Room and Board)
- 8 Weeks: $1402.80 (Single Room and Board)

ROOM AND BOARD—WITHDRAWAL AND REFUND

A resident student must notify the Assistant Director of Residence Life in advance of the planned withdrawal. No refund of room charges will be made where withdrawal occurs after the opening of classes. In the event of withdrawal, board will be refunded at the rate of 70% per cent of the balance remaining on the student’s meal plan, up until mid-semester. After the mid-semester point, no refund will be made. No reduction of charges nor refund of payments to which a student may have been otherwise entitled will be made if withdrawal is not in accordance with the official withdrawal procedure.

FINANCIAL MATTERS

All charges for tuition, fees, room, and board, less financial assistance authorized by the Financial Aid Office, are payable at registration. For your convenience, MasterCard and VISA can be utilized to pay tuition and fees.

BILLING PROBLEMS

Take the billing statement to the office indicated for an explanation or correction concerning these billing matters:

- Balance Forward, Credits, Payments Deposits—Accounts Receivable Office
- Student Finance Program, Deferred Payment Plan—Accounts Receivable Office
- Housing Reservations and Housing Charges—Office of the Assistant Dean of Residence Life

CASHING CHECKS

A student may cash a check up to a maximum of $50 at the Cashier's Office on the Ground Floor of the Administration Building between 9:00 A.M. and 4:00 P.M. Monday through Friday, except during registration, with a valid ID Card for the current semester.

BAD CHECKS

It is the policy of the University to charge bad checks to the student who cashes them regardless of the maker. A $300 service charge will be assessed on checks that are returned from a bank for lack of funds. Payment of registration or room and board with an NSF check will result in cancellation of the registration.
**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 partake 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 two organizations, including those pertaining to a student’s eligibility for a varsity team, 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 tennis, volleyball, street hockey, basketball, softball, indoor/outdoor soccer, coed wiffle ball, and aerobics.

### OFFICE OF COMMERATIVE AFFAIRS

Whether living with relatives or commuting from their own apartment, the Office of Commuter Affairs offers valuable service 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 and information in forming carpools. Parking passes are available in the Office.

**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 programming, assistance with adult tutoring, and 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 commuter’s plan activities, provide information and support encouragement. Students should be contacted by their C.A. prior to entering their first semester.

**Other Services Include**

Suggest/Complaints in Action, Commuter Update, Student Handbook distribution to commuter students and distribution of commuter ID 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 Fall and Spring semesters when the Office is open Monday through Thursday, 8:30 a.m. to 6:00 p.m. and Friday until 4:30 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 which provide individual students and groups with opportunities or personal, intellectual and social growth. Chief among these programs and services are 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 the experience necessary to develop mature, effective members of society. The Union staff provides advice and assistance for all phases of campus programming and establishes goals for, as well as producing and presenting, a balanced range of cultural, educational, recreational and social 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 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 its members the opportunity to develop effective skills in coordination, communication, organization, and group process.

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

### RESIDENCE LIFE

The Office of Residence Life is committed to creating an environment in which all 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 freshman 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 UARC, located on the ground level of the Administration Building, provides academic advisement services to all entering freshmen and undeclared majors at all schools except Pharmacy.

In addition, the Center advises new transfer students in the College of Liberal Arts and Sciences and the School of Music. Each entering student is assigned an academic advisor who assists them in the exploration of their academic goals, their academic and career development, in choosing courses and programs related to their goals. Advisors are student advocates who help their students to form and clarify their values, interests, abilities, and goals. They also assist students in decision-making, skills, implementing choices, and problem-solving. The Advisement and Referral Center maintains a close relationship with support services on campus in order that students may be provided with a holistic approach to their educational, professional, and life goals.

### CAREER PLANNING AND PLACEMENT

Students and graduates of Duquesne University have available to them all 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 the career resources early. The Center is encouraged to seek opportunities to enhance the quality of services.

The individual with well-defined career goals may seek employment advice including resumes, letters of recommendation, and interview techniques; job application and interview techniques; job referrals and credentials. The graduating student may be interested in campus interviews with visiting employers.

Graduate or student graduates 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 educational and those seeking practical experience to augment college training. Part-time and summer jobs are available on and off-campus.
in the community are also available. Students interested in campus employment should contact the Human Resources Department.

COUNSELING AND TESTING CENTER
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 an occupation, 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 licenses, teacher certification, premarital, pre-employment Nominal fee.
- Routine gynecological assessment and treatment of 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 illness, 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.
- Prepaid All Graduate and part-time students. First aid and referral services without charge. All the benefits of on-going primary care such as physician visits, allergies injections, starter doses of medication, 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, refined 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 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 on-going 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 the academic assistance efforts, the Learning Skills Center delivers diagnostic and prescriptive services individualized developmental 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. Counseling interviews provide 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 conferences or a series of interviews 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 SGA 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 Residence Hall Association and are encouraged to attend meetings, functions etc. sponsored by the group.

It is the aim of the Residence Hall Association to serve as a link between the resident students and the administration. Aside from the council activities, representatives of the Residence Hall Association serve on university committees.

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.
There are more than 90 student organizations at Duquesne University. The Office of Programs and Activities provides administrative support to all recognized student organizations. These organizations sponsor a wide variety of professional, service, charitable and social programs. The purpose of these nationally-affiliated organizations is to provide a high standard of service to the university and local communities. At the same time, the organizations are developing a leadership quality among members. Many of these organizations belong to Inter-fraternity Council or Panhellenic Council. These professional organizations exist to provide opportunities for career development and the exchange of ideas pertinent to students' academic pursuits. The Office of Programs and Activities provides administrative support to all recognized student organizations. These organizations sponsor a wide variety of professional, service, charitable and social programs.

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 complete 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. 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.

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 oversee such events as concerts, dances, art exhibits, lectures and ski trips. Membership is open to all students.

SERVICE ORGANIZATIONS
The purpose of these organizations is to provide a high standard of service to the university and local communities. At the same time, the organizations are developing leadership qualities among members. Many of these organizations belong to Inter-fraternity Council or Panhellenic Council.

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

PERFORMANCE GROUPS
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 Tamburitz family of stringed instruments, indigenous to the folk cultures of Southeastern Europe. The group exists for the dual purposes of preserving and perpetuating the Eastern European cultural heritage in the United States and offering scholarship opportunities to deserving students in music, voice and dance. The Ensemble performs 80 shows each year and travel 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, tragedies. Any Duquesne student is eligible for membership.
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.

**IHP COURSES**

The IHP curriculum consists of the following courses.

101 Logic and Rhetoric 3 cr

Clear and disciplined thinking, reading, speaking and writing.

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 basic Calculus courses (111 or 115), or Fundamentals of Statistics (120).

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 age 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 (171, 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 wold 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 laboratory 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 applications. These developments are, for example, artificial gravity, solar energy, and the Strategic 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: 181, 182, 183, 184, 185, 186, 187.

182 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, its biblical and historical development, and including applications to some contemporary issues.

183 The Judeo-Indian 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 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, its biblical and historical development, and including applications to some contemporary issues.

184 Introduction to the Bible 3 cr

An introduction to the methods of investigation necessary to understand the sacred books of Jews and Christians. An examination of the historical, literary, and theological aspects of a select number of key biblical texts and a discussion of their contemporary relevance.

185 Religions East and West 3 cr

A study of some of the world's great religions which are thought to be particularly representative of humanity's religious experience, namely, the traditional Hindu and Buddhist traditions, Chinese traditions, and the Islamic path.

186 Roman Catholic Heritage 3 cr

An introduction to the fundamental beliefs of Roman Catholicism and their expression in literature and the visual arts. After a brief presentation of the relation of religion and culture, Roman Catholicism is studied in various historical periods. Origins of Christianity, the Patristic Age, the Middle Ages, Scholasticism and the Renaissance, the Reformation and the Counter-Reformation, and the Modern and Contemporary Eras.

187 Christian Understanding of the Human Person 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, its biblical and historical development, and including applications to some contemporary issues.
ENGLISH AS A SECOND LANGUAGE PROGRAM

**Basic-Level Courses 0-3 cr**
- Basic ESL Grammar 4
- Basic ESL Pronunciation/Oral Skills 4
- Basic ESL Writing 4
- Basic ESL Aural Comprehension 4

**Intermediate-Level Courses 0-3 cr**
- Intermediate ESL Grammar 4
- Intermediate ESL Pronunciation/Oral Skills 4
- Intermediate ESL Reading 4
- Intermediate ESL Writing 4
- Intermediate ESL Aural Comprehension 4

**Advanced-Level Courses 0-3 cr**
- Advanced ESL Grammar 4
- Advanced ESL Oral Proficiency 4
- Advanced ESL Reading 4
- Advanced ESL Writing 4

**Course Descriptions**

### Basic-Level Courses
- **Basic ESL Grammar**: An overview of English grammar focusing on the structure of English sentences. (4 cr)
- **Basic ESL Pronunciation/Oral Skills**: Practice in improving pronunciation and oral skills through speech exercises. (4 cr)
- **Basic ESL Writing**: Development of writing skills through grammar, vocabulary, and practice. (4 cr)
- **Basic ESL Aural Comprehension**: Concentration on listening comprehension, including note-taking. (4 cr)

### Intermediate-Level Courses
- **Intermediate ESL Grammar**: Advanced grammar study and application. (4 cr)
- **Intermediate ESL Pronunciation/Oral Skills**: Oral proficiency development. (4 cr)
- **Intermediate ESL Reading**: Study of reading comprehension and vocabulary expansion. (4 cr)
- **Intermediate ESL Writing**: Development of writing skills focusing on style and content. (4 cr)
- **Intermediate ESL Aural Comprehension**: Advanced listening skills. (4 cr)

### Advanced-Level Courses
- **Advanced ESL Grammar**: Advanced grammar study in context. (4 cr)
- **Advanced ESL Oral Proficiency**: Advanced speaking skills. (4 cr)
- **Advanced ESL Reading**: Advanced reading skills in context. (4 cr)
- **Advanced ESL Writing**: Advanced writing skills. (4 cr)

**Special Purpose Courses**

- **ESL Special Topics**: Advanced topics in English as a second language. (4 cr)
- **ESL Special Purposes Reading**: Advanced reading skills. (4 cr)
- **ESL Special Purposes Writing**: Advanced writing skills. (4 cr)

**Extra-Departmental Courses**

- **Study Skills**: Skills for academic success. (1 cr)
- **Post-Graduate Study**: Further academic study. (1 cr)
- **New Student Seminar**: Orientation for new students. (1 cr)

**Supplementary Courses**

- **Placement Testing**: Assessment of English proficiency. (var cr)
- **Prerequisite Intermediacy-Level Courses**: Preparation for upper-level courses. (125 through 129) or Placement Testing.

**Prerequisites**

- **Basic ESL**: Required for all students. (var cr)
- **Intermediate ESL**: Required for all students. (var cr)
- **Advanced ESL**: Required for all students. (var cr)

**Program Overview**

The ESL program offers a comprehensive curriculum designed to improve students' language skills in English. The program includes courses in basic language skills, intermediate language skills, and advanced language skills, with options for special purposes and academic preparation. Students are assessed through placement testing to determine their level of proficiency and are placed into appropriate courses. The program also offers opportunities for advanced study and special purposes, including research and academic preparation.
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 1913 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 complete the major in biology, biochemistry, chemistry, computer science, microbiology or physics receive the B.S. degree. Students who complete the major in classical, 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 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.

COLEGE 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).

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 for the 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 the Dean.

Residence Requirement

The last 21 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 in Education (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.

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 chairperson
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 FII, students will be awarded the B. A. Degree from Duquesne 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 (12-16 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)
- 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**
- 381 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)

(Student may substitute 301-302 Introduction to Probability and Statistics (Prerequisite Calculus I))
- 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 Information courses (6 cr)

C. **Management Sequence**
- Bus 361 Principles of Management (3 cr)
- Two advanced management courses, general or human resource (6 cr)

D. **Marketing Sequence**
- Bus 371 Principles of Marketing (3 cr)
- Two advanced marketing courses (6 cr)

E. **Finance Sequence**
- Bus 331 Business Finance (3 cr)
- Two advanced Business Finance courses (6 cr)

F. **Accounting Sequence**
- Bus 311 Intermediate Accounting I (3 cr)
- Bus 312 Intermediate Accounting II (3 cr)
- One advanced accounting course (3 cr)

**G. Quantitative Prerequisite - Substituted 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)

H. **International Business Sequence**
- Bus 341 International Business (3 cr)
- Two advanced international business courses (6 cr)
- Appropriate Modern Language “for business” at 306 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 (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 Statistics I and II), especially math and computer science majors, will be permitted to take an additional 9 credits in Business and Administration.

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 advisement 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 for Continuing Education.

**INTER-SCHOOL MINORS**

Inter-school minors are available in Education and Music. For complete details, students should consult the Education Department or from the Center for Continuing Education. Further information may be obtained from the appropriate department or from the Center for Continuing Education.

**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 early identification of 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 for 30 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 all requirements and a total of 90 credits with a 3.5 average may apply for the bachelor/master's program. After successful completion of the master's program, the student will receive 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 a minimum 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 at 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

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 perimeters 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 Greek 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 century to the present. Emphasis is upon the United States and upon the interaction of and confrontation between artists and photographers.

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 finds in the Greco-Roman world beginning with the rediscovery of the treasures of Mycenae and ending with the expansion of Roman influence into Britain, Spain, 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. Focuses on the development of gothic vaulting systems, monumental architectural sculpture, stained glass, fresco and panel painting, and illuminated manuscripts in England, France, Italy, and Germany.

315 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 art of times 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.

370, 371, 372, 373, 374, 375, 376, 396 Special Studies in Art History 3 cr


431 Directed Readings 1-3 cr

Permission of Department

441 American Architecture 3 cr

Construction, style, building types, and concepts of city planning in American architecture from the 17th century to the present. Field trips to important monuments in the Pittsburgh area are scheduled. (Offered in alternate years)

443 American Decorative Arts 3 cr

Decorative arts of the Pilgrims to the Bauhaus are examined in context. Historical, formal, technological, and cultural field trips to Carnegie Institute and other area collections are scheduled. (Offered in alternate years)

478 Internship 3 cr

Practical experience in art related areas introduces the student to the many opportunities in the field. Permission of the Art History faculty and completion of the Art History minor is required.

DEPARTMENT OF BIOLOGICAL SCIENCES

Chairperson H. Bernard Hartman, Ph.D

Professors Frank Baron, Ph.D Peter Castric, Ph.D Howard Ehrlich, Ph.D H. Bernard Hartman, Ph.D Ans Sideropoulos, Ph.D Tita Subhas, Ph.D Steven Thomas, Ph.D

Associate Professors Kenneth Boyd, Ph.D Assistant Professor John F. Stola, Ph.D

Research Assistant Professor Olushola Adeyeye, Ph.D Adjunct Faculty Jagdish P. Bhatnagar, Sc.D Spyros D. Kominos, Sc.D 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 term 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.
DEPARTMENT OF BIOLOGICAL SCIENCES

CHAPTER OF COLLECTIVE ARTS AND SCIENCES

1. REQUIREMENTS FOR THE MAJORS

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 I, General Chemistry I, Organic Chemistry, and three credits in Computer Science. Credits counted in courses 201, 202, 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.

1. The 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 experiences. Central to this program is the opportunity for training with research-active faculty.

2. The Microbiology Major has been designed to provide an introduction to the essential areas of microbiology and in-depth studies of the major specialties in the field of Microbiology. The program in microbiology also provides undergraduates a variety of research opportunities in different important microbiological problems. This major requires 203, 202, 304, 403, and 406 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.

2. 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 major courses numbered 200 or above. 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.

3. NON-MAJOR COURSES (not for Biology Major credit)

201 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 how such of them cause disease. Lecture

201 Biology of Microbes Laboratory 1 cr

Illustrates methods of observation, growth, and identification of microbes as well as methods of controlling these organisms using sterilization techniques, disinfectants and antibiotics. Prerequisites: Biology 201 (or concurrent registration). Laboratory

206 Environmental Biology 3 cr

This course deals with the biological background for environmental concerns that consider population, energy, land use and pollution, as well as legal aspects of the amelioration of environmental abuses. Lecture

207 Anatomy and Physiology I 3 cr

Studies designed to provide students with a background in the areas of the human body structure and function. Prerequisites: some previous exposure to introductory biology and chemistry is desirable. Lecture

208 Anatomy and Physiology Laboratory I 1 cr

Laboratory includes examination of the micro and gross anatomy of the body, physiological experiments, and exposure to certain basic clinically important measurements and techniques. Prerequisites: Anatomy and Physiology Laboratory I (or concurrent registration). Laboratory

209 Anatomy and Physiology II 2 cr

Continuation of 207. Lecture

210 Anatomy and Physiology Laboratory II 1 cr

Continuation of 208. Laboratory

220 Sex and Sexuality 3 cr

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

230 Stress and Adaptation 3 cr

A study of the biological effects of acute and chronic stress stimuli of various origins, and the neuro and hormonal regulations associated with the adaptation of stress. Lecture

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.

111, 112 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. 111 is prerequisite to 112. Lecture and laboratory

203 Introductory 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. Lecture and laboratory

207 Genetics 4 cr

A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including their implications 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, Lecture

232 Vertebrate Microstructure 4 cr

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

244 Animal Development 4 cr

A comparative study of the morphological and physiological aspects of animal development emphasizing the importance of genetics to man. Prerequisites: 111, 112. Lecture and laboratory

250 Plant Development 4 cr

A study of tissue and organ structure and the relationship of that structure to function. Prerequisites: 111, 112, and 223 or permission of instructor. Lecture and laboratory

306 Plant Physiology 4 cr

A study of the growth requirements and regulatory mechanisms of important plant types, with emphasis upon environmental control. Prerequisites: Biology 111, 112. Lecture and laboratory

312 Animal Physiology 4 cr

Examination of the physiological mechanisms of body function in animals, including consideration of adaptation to environmental stimuli, control systems, and the manner in which various organ systems contribute to the maintenance of physiological homeostasis. Prerequisites: Biology 111, 112. Lecture and laboratory

322 Immunology and Virology 4 cr

The course will include such topics as parasitology, immunology, with emphasis on host-parasite interactions and patterns of infectious diseases in populations. Prerequisites: 111, 112, and Organic Chemistry. Lecture and laboratory

334 Medical Microbiology 3 cr

A systematic coverage of medical microbiology and its role in clinical medicine. Emphasis is placed on current concepts of infectious disease and microbial genetics as it pertains to pathogenicity. Special attention is given to host-parasite interactions and to the interpretation and significance of laboratory findings in the diagnosis and treatment of human microbial disease. Prerequisites: 111, 112, and 203 or equivalent.

395 Special Topics 1-3 cr

Treatment of topics of current or special interest in biology. Lecture, laboratory or combinations

398, 399 Undergraduate Research 1, 2 cr each

Opportunity for selected students to work in the laboratory on research problems under the direction of a faculty member. 398 is not a prerequisite to 399. Maximum of four credits. Registration by permission of instructor.

400 Biotechnology Laboratory Techniques 3 cr

A course to familiarize the student with a variety of biological and biochemical techniques including electrophoresis and chromatography of proteins and nucleic acids, radio-isotope techniques, and enzyme purification. These techniques are useful in such areas as medical and industrial biotechnology, science education and biological research. Prerequisites: Organic Chemistry or permission of the instructor. Lecture and laboratory

401 Research Skills 3 cr

This course provides students who have an interest in research with exposure to a variety of important skills which are often inadequately covered in conventional courses. "Hands-on" experience with the techniques offered in a number of useful laboratory techniques including small animal surgery, usage of various types of physiological research equipment, and basic electronic and instrument troubleshooting. In addition, the student will have the opportunity to emphasize necessary methodologies for the design, evaluation, and presentation of research including experimental design, applied statistical methods, computer usage, and the writing of scientific papers. Laboratory/lecture

403 Cell and Electron Microscopy 3 cr

A basic course in cytology and electron microscopy of prokaryotic and eukaryotic cells. The structure and development of cellular systems, their organelles and other subcellular structures, their activities and interrelationships at various levels of organization are studied. Laboratory stresses techniques and methodology appropriate to investigations in the field. Lecture and laboratory

405 Molecular Genetics 3 cr

A course providing the fundamentals to the rapidly growing field of molecular genetics. Emphasis is on gene structure and function in prokaryotic and eukaryotic systems. Free DNA is considered. A detailed discussion of gene structure, template functions of DNA, mechanisms involved in DNA duplication, transcription, translation, nature of the genetic material, genetic fine structure and collinearity, genetic regulation including mutagenic aspects of pollutants, DNA repair and molecular aspects of the process of tumor induction. Restriction nucleases, plasmids, genetic engineering, gene cloning and nucleotide recombination are described. Prerequisite: a course in microbiology or lecture.
### DEPARTMENT OF BIOLOGICAL SCIENCES

#### 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 transposition 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, work 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 references 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 reactions, complement, 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 of energy metabolism, and the role of microenvironments will be examined. Prerequisites: Organic Chemistry 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 organotrophy (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. Prerequisite: Organic Chemistry and a course in microbiology or permission of the instructor. Lecture.

#### 431 Biology of Fungi
- **3 cr**
  - Comparative, structural, and physiological differences 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 basic biological needs. This course focuses on the diversity of physiological mechanisms which different animals employ, and the high level of physiological and biochemical adaptation and specialization. Prerequisite: permission of the instructor. 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 understanding of the diversity of mammalian physiology. Prerequisite: a course in mammalian physiology. Lecture and laboratory.

#### 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 regulations 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. Lecture.

#### 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
- **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 intracellular 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. Laboratory.

#### 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. Prerequisite: a course in animal physiology course (or concurrent registration), or 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 case history method will be used as applicable to specific urban centers. Prerequisite: permission of the instructor. Lecture and laboratory.

### DEPARTMENT OF CHEMISTRY

#### 300 Experimental Organic Chemistry
- **4 cr**
  - Methods of organic chemistry will be demonstrated. Special emphasis will be placed on various reactions and the isolation and characterization of products in the laboratory. Prerequisite: permission of the instructor. Lecture and laboratory.

#### 322, 324
- **3 cr**
  - Biochemistry Major.

#### 524 In addition, Chemistry 526 may be taken as an elective.

#### Biochemistry Majors
- All students must take 322, 324, and Mathematics 215.

#### 421
- **4 cr**
  - In addition, Chemistry 526 may be taken as an elective.

### REQUIREMENTS FOR THE CHEMISTRY AND BIOCHEMISTRY MAJORS

Thirty-two semester hours are required. All students must take 121, 122, 211, 212, 312, 321, and 421, Mathematics 115, 116, Physics 201, 202 or 211, 212, Biology 111, 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 322, 324, and Mathematics 215.

Biochemistry Majors: All students must take 401, 524. In addition, Chemistry 526 may be taken as an elective.

Students planning to enter a graduate chemistry department may take 322, 324.

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, 543, 544, 545, 546, 547, 548, 572, Mathematics 216 or 308, Biology 505, Pharmacy Sciences 539 and Physics 306, one of these must be...
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 broadest aspects 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.

REQUIREMENTS FOR THE MAJORS
The Department offers four major programs: Classical Latin, Classical Greek, Classical Languages (knowledge of both Latin and Greek required), and Classical Civilization (no knowledge of Greek/Latin required). Credits applied to any major must be at the 200 level or above.

1) The Classical Latin major requires at least eighteen credits in Latin as well as six credits in ancient history or ancient literature courses in English.
2) The Classical Greek major requires at least eighteen credits in Greek as well as six credits in ancient history or ancient literature courses in English.
3) The Classical Languages major requires at least twenty-four credits in Latin and Greek in addition to six credits of ancient history or ancient literature courses in English. The Survey of Sanskrit Literature (211-212) may be substituted for the credits of either Latin or Greek if the student desires.
4) The Classical Civilization major is an individually designed program of twenty-four credits of ancient literature, history, art, and archeology. Students majoring in Classical Civilization create programs with the close advice and the approval of the Classics Department to fit their backgrounds, interests, and career objectives. Majors should formulate programs with balanced history and literature components. They are strongly encouraged to fulfill the College language requirement in either Latin or Greek. All courses in Greek or Latin at the 200 level or above apply to the Classical Civilization Major.

REQUIREMENTS FOR THE MINOR
The Department offers a minor in Latin (a minimum of 12 credits above the 100 level), a minor in Greek (a minimum of 12 credits above the 100 level), and a minor in Classical Civilization with concentrations in Greek Literature, Roman Civilization, Ancient History, and Ancient Art and Literature (12 credits above the 100 level) with approval of the Department and advisors.

ORIGINA 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.

103, 104 Elementary Classical Greek 4 cr each
Study of the fundamentals of Greek grammar and syntax combined with frequent exercises in translation from Greek authors.

111, 112 Basic Sanskrit 3 cr each
A study of the fundamentals of Sanskrit grammar and syntax combined with exercises in translation. Some previous foreign language experience is desirable.

113, 114 Elementary Ecclesiastical Latin 3 cr each
Study of the fundamentals of Latin grammar and syntax as represented in Scripture and Church Fathers.

201, 202 Intermediate Classical Latin 3 cr each
Selections of major Latin author(s).

203, 204 Intermediate Classical Greek 3 cr each
Selections of major classical Greek author(s).

207, 208 Biblical and Patristic Greek 3 cr each
Selections from biblical and Christian Greek literature.

211, 212 Survey of Sanskrit Literature 3 cr each
Selected readings from major Sanskrit texts including: the Mahabharata, Hitopadesa, Kathasaritsagara, Manasadharmasatra, Rgveda, and Meghaduta.

213, 214 Intermediate Ecclesiastical Latin 3 cr each
Selections from Biblical and Christian Latin literature.

The following will be taught as Latin or Greek courses or, for those students who are qualified as combination Latin and Greek courses.

Each course will cover an individual author or group of authors or a genre. Each course may be repeated as long as a different author or work read.

301 Pre-Fifth Century 3 cr
The Iliad, the Odyssey, the Homeric Hymns, Hesiod, Pindar, and Greek lyric poetry.

302 Fifth Century 3 cr
Herodotus, Thucydides, Aeschylus, Sophocles, Euripides, and Aristophanes.

303 Sixth Century 3 cr
Greek orators, Plato, Aristotle, Xenophon. Menander.

304 Alexandrian Period 3 cr
Apollonius Rhodius, Theocritus, Callimachus, and the lesser Alexandrian authors.

305 Roman Republic 3 cr
Plautus, Terence, Cicero, Lucretius, Catullus, Caesar, and Sallust.

306 Augustan Literature 3 cr
Livy, Vergil, Horace, Ovid, Propertius, and Tibullus.
DEPARTMENT OF CLASSICS

CLASSICS COURSES IN ENGLISH (NO GREEK OR LATIN REQUIRED)

121 General Etyymology
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
Introduction to Greek and Latin elements of scientific terminology

123 Classical Mythology
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
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
An introduction to Roman innovations in architecture, sculpture, and painting. The background of Roman art in comparison to Greek and Egyptian civilizations is investigated, and the impact of Roman art in forming Christian Art, Renaissance Art and Neo-Classicism is analyzed

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

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

231 Ancient Epic
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
Survey of Greek and Roman prose fiction with special emphasis on the nature and development of narrative techniques. Readings from Homer, Herodotus, Xenophon, Apollonius of Rhodes, the Greek Romances, Lucian, Petronius, and Apuleius

233 Ancient Satire
Investigation of the satirical element in classical literature with special reference to the writings of Lucian, Lucretius, Horace, Persius, Martial, and Juvenal

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

244 History of Ancient Medicine
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
An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon

246 Hellenistic History
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
Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus

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

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

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

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

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

300 Seminar
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 Robott, M A
Richard Thomas, Ph D
Frank Thornton, M F A
Paul J Traudt, Ph D

Assistant Professors
Jason Berger, Ph D
James J Johnston, M A
H Allen White, Ph D
Sheryl Williams, M A

Lecturers
Edward Barr, M Ed
Jane Beckwith, M F A
Ronald Burke, M B A
Sondra Chester, M A
Lloyd Corder, Ph D
Donald Eveszky, Ph D
Ronald Curschmann, Ph D
John Erwin, M F A
Kenneth Goodman, Ph D
John Hacht, B A
Daniel Smatko, M A
Rick Thurman, B A
Robert Tothman, M B A
Victor Vrabel, B A
Patrick Wood, M A

Professors Emeriti
Paul Krakowski, 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 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-in-use ("pragmatics"), has been the unit of study. The discipline traces its roots to Socrates through his student, Plato, and Plato's student, Aristotle's Rhetora, 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 possibly 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) (134a 3-13)

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 study is 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 in its many forms, such as newspapers, films, television, and other mass media. The underlying theme is man as a communicator, in a communicative mode, serving the environment in order to bring about change or to reinforce stability, in other words, language-in-use ("pragmatics"), has been the unit of study. The discipline traces its roots to Socrates through his student, Plato, and Plato's student, Aristotle's Rhetorica, written in the 4th century B.C., established the rationale for the study of communication.

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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

REQUIREMENTS FOR THE MAJOR

A minimum of 33 credits in communication is required. (To encourage a broad liberal education, the maximum allowable credits in the department is 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 postgraduate or career aspirations.

“Balance” is achieved by taking a range of courses representing different perspectives, levels, and types. In order to fulfill the one required course in each of these four areas, courses are also categorized as either “Advanced” (number 300-499) or “Introductory” (number 100-299). Students must take at least two introductory and two advanced courses. Courses 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. 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 degrees in media, 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

Advertising 111, 271, 333, 433, 436, 475
Broadcast Journalism 111, 271, 367, 467, 476, 494
Communication— Academic Preparation 457, 475, 486, 494

For “Preprofessional” and “Other” see advisor.

Corporate Communication 281 or 432, 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, 445
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
Examines how 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 physiological, the sociological, the rational, and the religious perspectives for their insights into interpersonal 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 the 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 nongraded 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 and nonverbal 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 toward 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 is 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 through media. Emphasis will be placed on 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
Approaches 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 we acquire it?” are answered 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. Taught off-campus in a 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 phonetics Breath control Volume control Pitch control Vocal stress—melody—expression.

171 Dynamics of Mass Communication 3 cr
Provides an introduction to the history, economics, politics, regulation, and social impact of the mass media—with special emphasis on television. Required for all Communication Majors.

182 Basic Photography 3 cr
Introduces students to the use of photography as a tool. Emphasizes the fundamentals of camera work, light, filters, film developing, 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.

203 Workshop 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 continued 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
Introduces the theories of visual perception and their practical application to the production of visual materials. Topics will include framing, dominance, gestalt theory, additive and subtractive theories of color, symmetry, etc. As a result of this course you should know and be able to apply theories of visual perception to production media.

282 Color Photography 3 cr
Investigates 35 mm slide photography and its application to audio visual production. Each student will learn to develop and mount 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. Required 111 and 182.

285 Television Criticism 3 cr
This is a genre criticism course from both journalistic and academic perspectives. Gene, 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
Studies the profound practical implications of persuasion as the keynote of public decision-making and influence. It is the most important choices in both public and private life. Includes practical persuasive writing and speaking. Especially recommended for students of advertising, marketing, pre-law, and public relations.

305 Evidence 3 cr
Designed for students of exposition, discussion, persuasion, and argumentation who must support assertions with evidence and defend judgments with probable cause in the many aspects of public 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, coupling 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, considering histories, economies, ethnic differences and enmities, religious differences, political systems—issues which have to be understood in order to give the reader/listener/viewer an intelligent rendering of the news.

271 Basic Reporting and Writing I 3 cr
Teaches the fundamentals of news reporting and writing. Students practice in laboratory exercises and by covering beats and special events outside of class.

281 Visual Communication 3 cr
Introduces students to the theories of visual perception and their practical application to the production of visual materials. Topics will include framing, dominance, gestalt theory, additive and subtractive theories of color, symmetry, etc. As a result of this course you should know and be able to apply theories of visual perception to production media.

289 Color Photography 3 cr
Investigates 35 mm slide photography and its application to audio visual production. Each student will learn to develop and mount 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. Required 111 and 182.

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305 Evidence 3 cr
Designed for students of exposition, discussion, persuasion, and argumentation who must support assertions with evidence and defend judgments with probable cause in the many aspects of public
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 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.

Prerequisites: "B" grade or better in 306 Business and Cable Programming or permission of course supervisor.

353 Radio and Television Announcement
3 cr
Applies principles of effective speaking to broadcasting. Includes proofing and preparing materials for on-the-air performance, reading aloud from scripts and teleprompter, pacing for clarity and effectiveness, developing tonal variety, establishing an image of friendly authority for broadcasting the news/sports/weather and commercials. The course relies on lab work.

355 Acting for the Camera
3 cr
An introduction to the art of acting, beginning with characterization and applying whatever performance techniques are required for the role, e.g., dialect, body language, voice, etc. Scenes will be studied first in traditional live theatre approach, then adapted to the studio setting.

367 Radio-TV Principles & Writing
3 cr
Studies and applies writing principles and practices for radio and television in a lecture-laboratory course. Topics include copywriting, continuity, and newscast writing. Prerequisites: 111 and 271 or department approval.

368 Broadcast and Cable Management
3 cr
This course introduces students to the basic management operations of a contemporary broadcast or cable facility. Operating divisions including sales, engineering, news, research and finance will be covered. Current regulatory policies as they impact on day-to-day operations will be included.

Recommended before student takes 368, 396, 370, 435, or 475.

369 Broadcast and Cable Programming
3 cr
This course introduces the students to various programming service in the electronic media. Topics will include role of the programmer, ratings research, television network-affiliate relations, independent television, public television, cable systems, commercial radio, public radio, syndication, "new" programming outlets (e.g., DBS, LPTV, etc.)

Prerequisite: 368 or permission of instructor.

370 Broadcast and Cable Promotion
3 cr
Using marketing theory, broadcasting principles and promotion techniques, 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 rules and regulations restricting gimmicks, lotteries, and co-ops attendant to promotional campaigns. The student will prepare an entire campaign after assessment of an assigned product and goals. The student will utilize in-house, purchased and/or traded radio, and television spots in conjunction with print and public relations devices to persuade/educate the viewer/listener as to the attraction of the product.

Prerequisite: 368.

371 Basic Reporting and Writing
3 cr
Teaches the process of gathering news stories, such as business, government, and courts, and introduces students to in-depth, analytical coverage of public issues. Applies practice in off-campus stories and laboratory exercises. Computers used. Prerequisite: 271.

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

382 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.

Prerequisites: 111 and 182.

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 proposition of policy, evidence and reasoning, debate format, rebuttal, types of debate. Recommended 304 or permission of instructor.

404 Intercultural Communication
3 cr
Investigates similarities and differences between perceptions of reality held by cultural groups and the ways in which such perceptions affect the communication process. Theory is presented and then applied to specific examples of orientation training for international executives.

419/519 Mass Communication & Everyday Life
3 cr
Course examines theories and research in the field of mass media (notably television) and society. Topics include social learning theory and mass media, prosocial television, cultivation theory and news, politics, and agenda setting, functions and effects of pornography, mass media depictions of women and minorities.

421/521 Sex Roles and Communication
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.

427/527 Communication Management
3 cr
Introduces the communication professional to the principles of management. Planning, budgeting, financing, organizing, acting and controlling are covered. The course contributes to the formulation of effective communication policy for all types of institutions.

430 Public Relations Practices
3 cr
Provides students with the opportunity to develop writing skills for various public relations audiences, including the media. The objective is to teach students how to use various writing techniques to persuade people to respond to a specific message. They will learn how to analyze the audience and then create the right message, using the proper language.

Prerequisite: 333.

432/532 Print Production and Graphic Design
3 cr
Examines the print communication of business, industry, professional, and non-profit organizations. Students practice the writing, designing, and editing of brochures, newsletters, annual reports, magazines, and other internal and external publications.

Prerequisites: 271 or graduate standing.

433 Advertising Practices
3 cr
Teaches copy writing and design of a marketing plan for consumer advertising. Major campaign compiled. Lecture-laboratory. Prerequisite: 333.

436/536 Marketing Communication
3 cr
Covers the principles and practices of marketing communication. Emphasizes promotion area of the marketing mix, including advertising, sales promotion, public relations and personal selling.

437 Broadcast Sales
3 cr
This course explains the multi-faceted dimension of sales within contemporary business environments—with special emphasis on the tools for broadcast sales. Topics include researching and prospecting clients, preparing and using call plans, developing and maintaining rapport with clients, closing the deal, etc. Focus on radio specifically, but content is generalized to television, media advertising and marketing.

441 Interactive Video
3 cr
Investigaes 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.

454/554 Theory & 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.

455/555 Theory and Practice of Group Communication
3 cr
Studies communication processes in small groups. Topics include group formation, structure, decision-making, norms and roles, status structures, group-think, interaction models, conflict, bargaining and negotiation, and research methods.

456 Theory & Practice of Organizational Communication
3 cr
Investigates the scope and function of communication processes in organizations. Topics covered include organizational theory, Japanese management styles, supervisor/subordinate communication patterns, managerial styles, informal communication, network analysis, organizational climate and culture, motivation and satisfaction, and communication audits.

457/557 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 more completely and philosophically 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 Surrealists, Plato, Aristotle, Weaver, Burke, Geiss, and others.

458/558 Communication 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 insights into the shift in contemporary assumptions about reality which characterize the "modern" and the "post-modern" worldviews.

Covers the
Television
472 Writing Editorials, Critiques, field trips Prerequisites of programs, such as documentaries, editorials, and laboratory course Covers scripting for special types
Ong, and Hudson
rhetorical-communication theories of the Sophists, economic and social developments that have local are the main core of the course Prerequisite fic continuity, commercials, and promotion-publicity
are the main core of the course Prerequisite
of the Economics Department for advisement

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 think systematically about issues that arise 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 career opportunities in strategic planning, government, banking, etc.

Requirements for the Major
Twenty-four credit hours are required for a major in Economics. These courses must include Principles of Economics 221 and 222, National Income Analysis 321, and Price and Production 322. The Extraneous 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 courses must include Principles 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. Comparative 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 Department Honors Committee, complete English 212, 213, and two 300-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 Honor 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.

103 Freshman Honors English
   - 3 cr
   - This is an Honors counterpart to Core 102, developing writing skills and introducing literary types and forms. Participation by invitation only. This course fulfills the Core 102 requirement.

201, 202 English Literature Survey
   - 3 cr each
   - Representative masterpieces of English literature in their literary and historical contexts.

203 Advanced Writing
   - 3 cr
   - Designed to build upon writing skills learned in Core 101 and 102 centered chiefly on development of style and accuracy.

205 American Literature Survey I—Beginning to Civil War
   - 3 cr
   - Representative selections from major American authors treated in both their literary and their historical contexts.

206 American Literature Survey II—After Civil War
   - 3 cr
   - Representative selections from major American authors treated in both their literary and their historical contexts.

207 The Novel
   - 3 cr
   - Introduction to various types of novels and to critical analysis of fiction.

208 Poetry
   - 3 cr
   - Appreciation of British and American poetry: critical analysis of traditional and experimental poetic form, consideration of philosophical and social concerns of poetry.

209 Drama
   - 3 cr
   - A historical survey of major dramatic forms through a selection of representative works by major playwrights from the classical tradition of Greece and Rome to the Theatre of the Absurd.

210, 211 World Literature
   - 3 cr each
   - A survey of major literary works of the Western world from Homer to Cervantes (210) and from Moliere to Camus (211) with emphasis on continental traditions. The course explores both the thematic preoccupations of Western writers and the development and evolution of literary forms.

212, 213 English Literature
   - Honors
   - 3 cr each
   - Honors counterparts to 201, 202. Major British writers from Chaucer to Eliot. Participation by invitation only.

300 Honors Seminar
   - 3 cr
   - Special areas treated in these seminars will vary, and students must be enrolled in the scheduled courses each semester. Enrollment in the Honors Seminar is by invitation of the Honors Committee of the Department of English.

308 Applied Linguistics
   - 3 cr
   - Practical uses of structural linguistics in the teaching of composition and literature.

370, 371, 372, 373, 374, 375, 376, 377, 378 Special Studies in English or World Literature
   - 3 cr each
   - Two or three courses in this sequence are offered every semester by the English Department to meet the current interests of both the students and the faculty. Examples of courses regularly offered are Science Fiction, The English Bible and Literature, Comparative Literature, Modern Comparative Drama, Modern Short Story, Far Eastern Literature, Introduction to Film, The Literature of Mystery and Detection, Christian Literature and Art, Shakespearean Tragedy and Comedy, and Middle English Prose, A History of English Literature.

380, 381, 382, 383, 384, 385, 386, 387, 388, 389 Writing Workshops
   - 3 cr each
   - Courses in this sequence are offered each semester in a workshop format designed to develop students' creative and technical writing skills.

406 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.
English Literature 
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
435 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

436 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 Wordsworth, Tennyson, Browning, 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 cultural/historical approach to the theological, 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, Summs, Rowson, Child, and Sedgwick

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

465 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-World War I, 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 Maler, Bellow, Styron, O'Connor, Morrison, 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.

469 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 213 or 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.

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).

History of the United States to 1877
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 Justinian.

249 Egyptian Civilization 3 cr
A survey of Egyptian history and culture from the pre-dynastic period to the establishment of Egyptian 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 influences, in the area.

255 History of Asia 3 cr
A survey of Asian civilization from ancient times to the present day, western colonialism, the role of the nationalist movement, and the establishment of modern states.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>350 History of Medicine</td>
<td>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.</td>
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<tr>
<td>350 History of Science</td>
<td>A survey exploring the significance of scientific developments within the historical and social context of Western culture.</td>
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<tr>
<td>351, 312 World History and the Historian</td>
<td>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.</td>
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<tr>
<td>350 Colonial America</td>
<td>The exploration and settlement of the British North American Colonies to 1763.</td>
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<tr>
<td>350 American Revolution</td>
<td>A survey of the major events, persons and movements in American history from 1763 to 1790.</td>
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<tr>
<td>350 Contemporary Central America</td>
<td>An examination of the causes of revolution, as well as the major social, economic, and political crises confronting the Central American region.</td>
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<tr>
<td>350 History of Western Law</td>
<td>Primary emphasis will be placed on the rise of custom to parliamentary development in England into Common Law.</td>
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<tr>
<td>350 History of American Law I</td>
<td>This course deals with the development of law, legal philosophy, and legal institutions in America from the colonial period to the Civil War.</td>
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<tr>
<td>350 History of American Law II</td>
<td>This course deals with the development of law, legal philosophy, and legal institutions from the Civil War to the present.</td>
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<tr>
<td>350 Church History I</td>
<td>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.</td>
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<tr>
<td>350 Church History II</td>
<td>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.</td>
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<tr>
<td>350 American Church History</td>
<td>Emphasizes the historical development of major religious traditions in America, both Catholic and Protestant. Special attention will be given to &quot;the life of the mind&quot; of Christianity in America, the frontier expansion of religion, the often-controversial interaction between the Church and American culture, the place of religion in the creation of the American character, and the unique separation of church and state.</td>
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<tr>
<td>350 War in Modern Society</td>
<td>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 interaction between international conflict and social, political, and technological change.</td>
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<tr>
<td>350 Family and Society in History</td>
<td>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.</td>
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<tr>
<td>350 History of the American Presidency</td>
<td>Primarily an investigation and evaluation of personal, political, contemporary, and historical—of each president with some attention to the growth of the office.</td>
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<tr>
<td>350 Constitutional History of the United States</td>
<td>An analysis of the Supreme Court and constitutional development, stressing the major controversies in the field.</td>
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<tr>
<td>350 Political Party</td>
<td>The origins, development, and contemporary modes of American thought, including major &quot;climates of opinion,&quot; diverse movements, and selected scientific, political, religious, social, and artistic topics.</td>
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<tr>
<td>350 Modern Mind</td>
<td>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.</td>
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<tr>
<td>350 Current History</td>
<td>What are the major forces affecting our lives today? Where do they come from? Where will they lead? Resources will be current media such as newspapers, TV, etc.</td>
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<tr>
<td>350 History of Inner Asia</td>
<td>The history of Inner Asia from Genghis Khan's Mongol Empire to Mikhail Gorbachev's Soviet Empire.</td>
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<tr>
<td>350 Europe and International Politics, 1870-1970</td>
<td>A study of global international relations since 1870, with emphasis upon the evolution from a European centered world to global politics.</td>
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<tr>
<td>350 Psychohistory</td>
<td>Examines the interrelationships between psychology and the political, social, and cultural development.</td>
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<tr>
<td>350 Women in History</td>
<td>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.</td>
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<tr>
<td>350 Historical Geography</td>
<td>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? Emphasize also on geography as an intellectual discipline and cultural phenomenon.</td>
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<tr>
<td>350 Europe Industrialism and the Masses</td>
<td>A historical analysis of Europe in the last two centuries with particular attention to the relationship between technological and social change and its impact on politics and culture.</td>
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<tr>
<td>350 The Rise of Urban America</td>
<td>Using Pittsburgh as a case study of city growth and change, industrialization, immigration, and renewal in the twentieth century.</td>
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<tr>
<td>350 The American Frontier</td>
<td>An examination of man's attempts to create new societies, concentrating upon ecological issues, frontier experiences, and utopian ventures.</td>
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<tr>
<td>350 United States 1945 to the Present</td>
<td>A discussion of selected contemporary issues, foreign and domestic, which illustrate the identity crisis in the United States.</td>
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<tr>
<td>350 Reform in Modern America</td>
<td>The study of the progressive reform movements in the United States since the Civil War.</td>
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<tr>
<td>350 Economic History of the United States</td>
<td>Investigates the economic development of the United States, emphasizing its impact on social and political issues as background for current economic problems.</td>
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<td>350 Medieval Europe</td>
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<td>350 History of Papacy</td>
<td>3 cr</td>
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<td>350 Renaissance to Reformation</td>
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<td>350 Reformation and Revolution</td>
<td>3 cr</td>
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<td>350 19th Century Europe</td>
<td>3 cr</td>
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<td>350 20th Century Europe</td>
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<td>350 American Painting</td>
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<td>350 American Architecture</td>
<td>3 cr</td>
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<td>350 American Decorative Arts</td>
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<td>350 Origins of Modern Science</td>
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<td>350 Imperial Russia</td>
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<td>350 Soviet Russia</td>
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<td>350 Hapsburg Empire</td>
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<td>350 Ottoman Empire and Balkans</td>
<td>3 cr</td>
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<td>350 Amer Tech &amp; Material Culture</td>
<td>3 cr</td>
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<td>350 Explorations in Psychohistory</td>
<td>3 cr</td>
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<tr>
<td>350 The American Character</td>
<td>3 cr</td>
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<tr>
<td>350 Family and Society in U.S.</td>
<td>3 cr</td>
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<tr>
<td>350 American Popular Culture</td>
<td>3 cr</td>
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<tr>
<td>350 Specialized Areas and Topics</td>
<td>3 cr</td>
<td>An intensive study of the American experience before and after the War for the Union.</td>
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<tr>
<td>350 Science and Society in the Twentieth Century</td>
<td>The economic, social and cultural consequences of the rise of modern science.</td>
<td>3 cr</td>
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<tr>
<td>350 Revolution in the Modern World</td>
<td>An analysis of the major political and social revolutions since 1789, the nature of the revolutionary phenomenon, and the inevitable counter-revolutionary trend.</td>
<td>3 cr</td>
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<tr>
<td>350 European Fascism</td>
<td>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.</td>
<td>3 cr</td>
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</tr>
<tr>
<td>350 The American Frontier</td>
<td>An historical view of man's attempts to create new societies, concentrating upon ecological issues, frontier experiences, and utopian ventures.</td>
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<tr>
<td>350 United States 1945 to the Present</td>
<td>A discussion of selected contemporary issues, foreign and domestic, which illustrate the identity crisis in the United States.</td>
<td>3 cr</td>
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</tbody>
</table>
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'Amico, Ph D
Donato DeFelice, M S
Rosaline Lee, Ph D
Charles Loch, M A
Mark S Mazur, Ph D

Assistant Professors
Daniel Barbash, M A
Adam Drozdek, Ph D
Abbay Gaur, Ph D
Hershel Sacks, Ph D
Lali Shashani, Ph D
Donald Simon, Ph D

Lecturers
Timothy Kelly, M A , M S
Edward Markolf, M A
Lansa Shrihman, 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 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 comprehensive programs leading to a major or minor in mathematics, offerings are designed to serve the professionally 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, 300, 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 ) 6 cr

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

COLLEGE OF LIBERAL ARTS AND SCIENCES

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 related 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 additional hours numbered 200 or above. Suggested concentrations include:

- Computer applications 235, 300, 301, 306, and 308
- Logic and foundations 300, 311, and 330
- Scientific applications 215, 216, 306, 308, and 420
- Statistics 301-302, 325, and 425

102 Trigonometry 1 cr

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

Factoring, radical 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, improper integral 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 111 or 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

Systems of linear equations, vectors and matrices, determinants, vector spaces, linear transformations, inner products, eigenvalues, and eigenvectors Prerequisite 116

380 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)
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
Prerequisite 215, 300, and 306

403 Topology 3 cr
Topological spaces, homeomorphisms, connectedness, compactness, regular and normal spaces, metric spaces, convergence, and separation axioms
Prerequisite 215, 300, and 306

415 Advanced Calculus I 3 cr
Functions, convergence of sequences and series, limits, uniformity and uniform continuity, derivatives, the mean value theorem, and Taylor's formula
Prerequisite 302, 305, 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 conformal mappings
Prerequisite 215, 300, and 306

425 Experimental Design 3 cr
Analysis of variance, multway analysis of variance problems, Latin square designs, factorial designs, crossover designs, split plot designs, analysis of unbalanced data
Prerequisite 325

COMMERCIAL 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 programmer, 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 422

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 scientific 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 computing, 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, basic I/O, control structures, subprograms, arrays, data description, 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

201 Assembly Language Programming 3 cr
Prerequisite 105

211 System Programming and Design 3 cr
An introduction to the interaction between software and hardware components in an integrated system

300 Data Structures 3 cr
Methods for organizing data and an introduction to the design of algorithms and the efficient implementation and manipulation of data structures

308 Numerical Analysis 3 cr
Numerical techniques for solving problems involving linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations

410 Artificial Intelligence 3 cr
Knowledge representation and natural language processing, search strategies, design and applications of heuristics, and applications to practical problems in areas such as psychology, medicine, science and architecture

418 Formal Languages and Automata 3 cr
Introduction to formal languages and their relation to automata The Chomsky hierarchy of classes of grammars Normal forms Recognition of languages by automata Parsing classes of context-free languages Decidability problems

425 Operating Systems and Computer Architecture I 3 cr
An introduction to the organization of various types of operating systems and to basic computer architecture

445 Operating Systems and Computer Architecture II 3 cr
An introduction to the organization of various types of operating systems and to basic computer architecture

450 Computer Organization 3 cr
Microprocessors as components of systems, VLSI processor and co-processor architectures, addressing and instruction sets, I/O interfaces and supervisory control, VLSI architectures for signal processing, integrating special purpose processors into a system

475 Theory of Programming Languages 3 cr
Syntactic and semantic problems in defining program languages Problems of language implementation Global properties of algorithmic languages including scope of declaration, storage allocation, grouping of statements, and control of evaluation

DEPARTMENT OF COMPUTER SCIENCE

COLLEGE OF LIBERAL ARTS AND SCIENCES
445 Systems Analysis and Software Design 3 cr
Introduction to analysis, 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

480 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 Professor approval 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 Colecchia, Ph.D.
Carla E. Lucente, Ph.D.
Gregorio C. Martin, Ph.D.

Associate Professors:
Mark Frisch, Ph.D.
Margaret R. Hince, Ph.D.
Eugenia Skwarecki,
Doctor of Modern Languages and Literature

Assistant Professor:
Donald E. Kellander, M.A.
Anne Maer, M.A.
Roslyn Raney, Ph.D.

Instructor:
Marie L. Cziczo, M.A.

Lecturer:
Rev Joseph L. Varga, C.S.Sp., M.Ed.

Professor Emeritus:
Printho Colombo, Ph.D.

The Department of Modern Languages and Literatures offers courses in French, German, Italian, 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 conversational 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 of 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 majors in 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.

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 303 (306) as 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) Var cr
The student will participate, under the supervision and guidance 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, 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.

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 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 120. Utilizes techniques allowing the student to complete one-year's work in one semester. Prerequisites: 120, 122 or equivalent.

239, 240 Readings in Modern French Authors 3 each
Selections from modern works of literature. Does not carry credit toward a major or minor. Prerequisite: 202 or equivalent.

301 French Conversation and Composition I 3 cr
Prerequisite: 202.

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 application to phonemic analysis of French.

322 Theatre de L'Avant-Garde 3 cr
The "avant-garde" theatre since 1950 such as Ionesco, Beckett, Genet, Schehade, Vian, Pinget.

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
Analysis and discussion of selected works of A. Camus, J.P. Sartre, and G. Marcol.

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 17th Century French prose and poetry. Will also include a play of Corneille, Racine, and Moliere.

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 Sceate des lumieres, 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 one other writer of the period, such as Prevost, Beaumarchais, Benjamin de Saint-Pierre, etc.

360 French for Business 3 cr
Spoken and written language of business French. Conventions of letter writing, import, export, and commercial transactions.

460 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 Roland through the 19th Century 3 cr
An overview of the Chanson de Roland, with emphasis on Marivaux, Beaumarchais, Bernard de Saint-Pierre, etc.

463 19th Century to Modern Period 3 cr
An overview of the literature of the 19th and 20th Centuries.

465 17th Century French Theatre 3 cr
An overview of the theatre of the grand siecle. Emphasis on Corneille, Moliere, and Racine.

466 18th Century French Theatre 3 cr
An overview of the major dramatists of the century, including Marivaux, Voltaire, and Beaumarchais.

467 19th Century French Poetry 3 cr
The major poetic movements of the 19th Century.
DEPARTMENT OF MODERN LANGUAGES AND LITERATURES

Romanticism, Parthenasim, Symbolism, with a special emphasis on Baudelaire

467 19th Century French Novel 3 cr
Selected novels from the 19th Century, from Romanticism to Naturalism

468 19th Century French Theatre 3 cr
Beginning with the influence of the Revolution on French literature, through the literary movements of the century Emphasizes works written for the stage and current in criticism and directing

469 20th Century French Poetry 3 cr
Ambivalence of modern French poetry after Baudelaire Will consider Apollinaire, Valery, Breton, Aragon, Eluard, Coteau, Supervieille, Saint-Jean Perse

470 20th Century French Novel 3 cr
A study of the major works, authors, and movements of the 20th Century

471 20th Century French Theatre 3 cr
From Jules Romains to Ionesco and the Theatre of the Absurd

472 Sartre and Camus 3 cr
Contrastive study of Sartre and Camus and their works

480 Directed Readings Var cr
Readings of literary texts under close faculty supervision, for majors only and only with written permission of the Department Variable credit

German

101 Elementary German I 3 cr
Fundamentals of oral and written German Three hours of class and one hour laboratory per week

102 Elementary German II 3 cr
Fundamentals of oral and written German Three hours of class and one hour laboratory per week Prerequisite German 101

115 German for Musicians 2 cr
Specially designed for majors in music to provide them with those skills in German to meet their professional requisites Registration limited to students in the School of Music

120 Intensive German. 6 cr
A different approach allowing the student to complete one year's work in one semester Six lecture hours and one-hour laboratory each week

121 Modern German Novel 3 cr
A study of the works of major writers of this era Such as Klopstock, Lessing, and Kant

122 Commercial German 3 cr
Spoken and written language of business German Conventions of letter writing, import, export, and commercial transactions

480 Directed Readings Var cr
Reading of literary texts under close faculty supervision, for majors only and only with written permission of the Department Variable credit

Italian

101 Elementary Italian I 3 cr
Fundamentals of oral and written Italian Three hours of class and one hour laboratory per week

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 requisites 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 Italian 202

320 A P Chekov 3 cr
Chekov's stories studied against the social, political and philosophical background of his time

321 19th Century Russian Short Story 3 cr
The development of the short story from Pushkin to Chekov The aim of this course is to develop critical analysis of selected works focusing on their philosophical content and political environment Course conducted essentially in Russian

322 Commercial Russian 3 cr
Spoken and written language of business Russian Conventions of letter writing, import, export, and commercial transactions

323 Russian Folklore 3 cr
Emphasis on rituals, epics, ballads, and fairy tales

324 Contemporary Russian Literature 3 cr
Study of short stories of Soviet writers Representing ideological positions and evolutionary trends from the revolution to Solzentsyn Course conducted essentially in Russian

Spanish

101 Elementary Spanish I 3 cr
Fundamentals of oral and written Spanish Three hours of class and one hour laboratory per week

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 Spanishe 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
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
Tita Subhas, DVM, Ph D

Medical Director
Ronald B. Pellegrini, M D

Duquesne University, in collaboration with The Mercy 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 the 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, specialized instrumentation and monitoring of mechanical devices during advanced life support procedures.

Perfusion Technologists are the knowledge and application of perfusion technology, which is the preparation of medical equipment during cardio surgical procedures, such as open heart surgery, cardiac catheterization and dialysis.

CURRICULUM

Pre-Professional

The Pre-Professional phase is completed during the first two years, consisting of a sequence of core courses in Biology (112, Chemistry (121, 122, 201, and 202), and Swahili (101, 102), and advanced courses in Anatomy and Physiology (207 and 209). In addition, students must complete the University Core curriculum requirements.

101 Perfusion Technology Orientation 1 cr

Professional/Clinical

The Professional/Clinical curriculum is two years in length, including summer semesters. Upon successful completion of Pre-Professional requirements, students are admitted into the Professional/Clinical phase. Post-Baccalaureate students who meet Pre-Professional curricular requirements may be admitted directly into the Professional/Clinical phase. The Professional/Clinical curriculum includes

301 Introduction to Perfusion Technology 3 cr

Students will be introduced 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 modern techniques 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 Techniques 3 cr

Lectures and demonstrations relating to perfusion technology in the use of extra-corporeal devices and monitoring instrumentation in controlled in vivo and in-vitro 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.

322 Applied Perfusion Technology 3 cr

Lectures and demonstrations relating to circulation as it pertains to the clinical use of extra-corporeal technology and monitoring instrumentation in cardiovascular surgery will be presented. Other applications related to technology will be discussed.

325 Cardiovascular Pharmacology 2 cr

A survey of pharmacology emphasizing cardiovascular 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.

326 Cardiovascular Pathology and Physiology 2 cr

An understanding of pathological conditions that exist in all organ 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 acid-base physiology, hemodynamic monitoring and
measurement, blood gas analysis, coagulation, electrolyte balance, and 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 instruments utilizing supportive long term cardiovascular surgery. Major areas of experience will include: heart-lung bypass for adults, adult coronary artery bypass, pulsatile flow devices, red blood cell concentration and hemodilution, and pharmacologic intervention. Monitoring techniques will include: hemodynamic measurements, temperature monitoring, blood gas analysis, electrophysiology, coagulation status, fluid-electrolyte balance, bubble detection, and level-sensing. A sufficient number and variety of clinical perfusions to 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, heparin and cardiac transplantation, renal dialysis, and hypothermia.

460 Clinical Practicum in Circulatory 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 pharmacologic intervention. Monitoring techniques will include: hemodynamic measurements, temperature monitoring, blood gas analysis, electrophysiology, coagulation status, fluid-electrolyte balance, bubble detection, and level-sensing. A sufficient number and variety of clinical perfusions to satisfy the recommendations of the American Board of Cardiovascular Perfusion will be completed.

DEPARTMENT OF PHILOSOPHY

Chairperson
Eleanore Holveck, Ph D

Professors
Charles D. Keyes, Ph D
Donald Polansky, Ph D
Roland Ramirez, Ph D
Tom Rockmore, Ph D
John Scanlon, Ph D

Associate Professors
Eleanore Holveck, Ph D
Robert Madden, Ph D
Wilhelm S. Wurzer, Ph D

Assistant Professor
Edward Gelblum, M A

Professor Emeritus
Rev. Andre Schuwer, Ph D

Offices
Martin Hall, 2nd Floor

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, and provide a discipline for asking 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 persons 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 that 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. These three courses 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 400 levels).
This course is an in-depth study of one or several and others ing at understanding its characteristic vision Exami-

Introduction to Oriental thought through study of

American Philosophy Peirce, Dewey, James, Royce, Puritanism, Enlightenment, Transcendentalism,

the present, covering the methods and history of

Later Modern Philosophy

Hobbes, Spinoza, Leibniz, Locke, Hume, Kant philosophers as Montaigne, Descartes, Pascal,

Explores the beginning of modern thinking in the 16th century and proceeds to the time of the French

Philosophical thinking of the period

300 Ancient Philosophy

A study of the beginning of Philosophy in Greece, from the Presocratics to Plato with readings prin-

cipally 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 Pierce, Dewey, James, Royce, Santayana, Whitehead, etc

323 Oriental Philosophy

Introduction to Oriental thought through study of its major structures in their historical setting, aim-
ing at understanding its characteristic vision. Examination of perspectives presented by traditions such as Confucianism, Taoism, Buddhism, Hinduism and others

325 Concentrated Philosophical Readings

This course is an in-depth study of one or several philosophers such as Plato, Aristotle, Aquinas, Occam, Descartes, Kant, Wittgenstein, Strawson, Heidegger, etc., varying in subject matter from time to time

Advanced Courses

313 Philosophy of the Human Sciences

3 cr

The relations of the human sciences with other sciences, with philosophy, and with practical life, the use of mathematics and interpretation, and other issues will be discussed in relation to past and con-
temporary philosophical and scientific thought

401, 402 Thomism

3 cr each

Courses dealing with the texts of St Thomas Aquinas. The first semester (401) covers his meta-

physics and the second semester (402) deals with his philosophy of man. Neo-scholastic interpreta-
tions of the texts of Aquinas (Maritain, Gilson and the school of Marchal and Rahner)

403 Philosophy of God

3 cr

This course introduces students to selected texts and basic themes in types of religious experience such as Babylonian, Greek, and Judeo-Christian. It emphasizes such questions as What is the Holy? What is the relation between scientific knowledge and religious knowledge? What are the various arguments about the existence of God and the immortality of the soul? Why is there human suf-
fening if God is good and all-powerful? What do the symbols of the end of the world mean? Attention is given both to traditional and to contemporary philosophical texts

406 Aesthetics

3 cr

An examination of theories of art which explore such questions as the beautiful, creativity, imagination, and the role of art in life. Authors such as Aristotle, Lessing, Kant, Hegel, Nietzsche, Heidegger, and Camus will be read

415, 416 Ancient Philosopher

3 cr each

A course devoted to detailed study of a single ancient thinker, such as Plato or Aristotle

420, 421 Medieval Philosopher

3 cr each

A leading Medieval thinker or thinkers, such as Augustine, Avicenna, Maimonides, Bonaventure, will be studied

425, 426 Modern Philosopher

3 cr each

In-depth examination of the work of a single or a group of historically modern authors e.g., rationalism (Descartes, Spinoza, Leibniz), empiricism (Locke, Berkeley, Hume), Kant, Hegel, Nietzsche

430, 431 Contemporary Philosopher

3 cr each

Concentration upon a single contemporary philosopher e.g., Husserl, Heidegger, Sartre, Merleau-Ponty, Whitehead, Wittgenstein
DEPARTMENT OF PHYSICS

306 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 supplies, amplification, feedback and control, linear and digital devices. Emphasis will be on understanding instrumentation rather than on advanced principles of design. Prerequisite: Permission of instructor.

329 Advanced Laboratory I 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 systems, Gating Circuits, Boolean Algebra, Digital decoding, multiplexing and sequencing, flip-flops, counters, digital wave generation and shaping, elapsed time measurement and shift registers. Prerequisite: 212 or 202 and the consent of the instructor.

330 Advanced Laboratory II 1 cr
A continuation of Advanced Laboratory I which includes the following Random Access Memory, Analog to Digital and Digital to Analog Conversion, Operational Amplifiers, Active Filter, Analog-to-Digital Conversion. Prerequisite: 212 or 202 and the consent of the instructor.

361 Mechanics 4 cr
An intermediate level theoretical mechanics course involving 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 Lagrangean mechanics. Prerequisites: 212, Mathematics 215.

372 Electromagnetism 4 cr
An intermediate level course for the science and engineering sciences. The following topics will usually be discussed: electrostatics, energy relations in electrostatic fields, dielectrics, currents and their interaction, magnetic properties of matter, AC circuits, Maxwell's equations, and electronic radiations. Prerequisites: 212, Mathematics 215.

402 Optics 3 cr
This course introduces the student to the principles of geometrical and physical optics. Topics may include reflection, refraction, diffraction, polarization, matrix techniques in lens system design, basic quantum optics and the laser. Prerequisite: 212 or 202 and the consent of the instructor.

405 Acoustics 3 cr
An introduction to the physics of sound, the perception of sound, and the fundamentals of 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.

483 Nuclear Physics 3 cr
Experimental and theoretical aspects of the atomic nucleus are discussed. The topics presented may include two-nucleus systems, radioactivity and modes of decay, radiometric dating, interaction of radiation with matter, nuclear structures and reactions, and nuclear fusion. Prerequisite: 212 or 202 and consent of the instructor.

474, 484, 485, 486 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 to qualified and interested students. Consent of the instructor is required.

474 Quantum Mechanics 3 cr
A course designed to introduce the student to the mathematical formalism of quantum mechanics. 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.

484 Introductory Solid State Physics 3 cr
A course designed to introduce the student to the physical phenomena of solid state science. The course will cover topics such as atomic structure and crystal field theory, electronic energy bands, superconductivity, magnetic properties, and magnetic resonance. Prerequisites: 212 and consent of instructor.

485 Relativistic Mechanics 3 cr
A course designed to introduce the student to the concept of special relativity. The course will be offered irregularly and at times when the areas covered are suitable for independent work. Prerequisites: 212, Mathematics 215.

486 Shop Techniques 1 cr
A course designed to introduce students to various topics necessary to experimentalists in all fields. Some of the topics covered are tool identification and use, materials, soldering and welding techniques, mechanical drawing and schematics, electronics construction techniques and practical application.
DEPARTMENT OF POLITICAL SCIENCE

Chairperson
Kent M. Moore, Ph.D.

Professors
Robert E. Beranek, Ph.D.
Kent M. Moore, Ph.D.
Harold Webb, Jr., Ph.D.

Assistant Professor
Patricia Dunham, Ph.D.

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.C.
Rolf von Eckartsberg, Ph.D.

Associate Professors
Charles Maes, Ph.D.

Assistant Professors
Charles Brice, Ph.D.
Michael Sipiora, Ph.D.
Eva Simms, Ph.D.

Instructor
J. Scott Staples, M.A.

DEPARTMENT OF POLITICAL SCIENCE

487 Problems in Physics 1-4 cr
Special topics and problems in physics and related subjects suitable for independent work

488 Advanced Problems in Physics 1-4 cr
Problems of a more sophisticated nature

489 Problems in Health Physics 1-4 cr
Special topics and problems in health physics and related subjects suitable for independent work

A maximum of 6 transfer credits can be applied to the minor requirement

101 Introduction to Political Science 3 cr
An investigation of the most fundamental concepts involved in the study of political society

201 American National Government 3 cr
The institutional structure and policy-making processes of national government are examined as reflections of the assumptions of liberal democracy and of the American social and economic systems In addition to the three branches of government, political parties, interest groups and elections are considered

202 State and Local Government 3 cr
A study of the position of the state and local government in the political system

208 Comparative Political Systems 3 cr
A systematic, multifocused analysis of selected political systems

245 International Relations 3 cr
A study of the major factors involved in international relations including such concepts as sovereignty, nationalism, balance of power, and international law and organization

290 American Political Thought 3 cr
An analysis of the issues which have played a fundamental role in American Politics, from colonial church-state problems, to modern liberalism and conservatism

302 Soviet Foreign Policy 3 cr
An analytical study of the development of Soviet foreign relations with special emphasis on the post-Stalinist era

314 Public Policy 3 cr
An examination of the programmatic results of government action, with emphasis on how and why particular policy options are pursued

317, 318 Western Political Thought 3 cr each
A study of political ideas as distinct from and yet related to political institutions which constitute our perennal western political heritage 317 considers the preclassical period to the early 16th Century 318 considers the 16th to the late 19th Century

320 United States Foreign Policy 3 cr
A study of United States foreign policy since the Second World War, with emphasis on the central present issues and the domestic sources of foreign policy

321 Government and Politics of Eastern Europe 3 cr
An analysis of political developments in the communist regimes of Eastern Europe with special emphasis on relations between the USSR and Eastern Europe in the post-Stalinist era

322 Government and Politics of the USSR 3 cr
An intensive analysis of the origin and evolution of the Soviet political system

323 Constitutional Law Federalism 3 cr
A detailed examination of Supreme Court cases concerning the nature of American federalism-Congressional and Presidential power, commerce clause, states' rights, judicial review, due process clauses, and apportionment Students are introduced to court and appeals procedures, the reading and briefing of court decisions, and the nature of the court review process

324 Constitutional Law Civil Liberties 3 cr
A detailed analysis of Supreme Court decisions bearing upon Bill of Rights guarantees, with specific reference to the freedoms of speech, press, assembly, the dimensions of search and seizures, right of legal counsel, protection and due process rights, voting rights, and the adjudication of the fourteenth amendment application of rights to state action

325 Constitutional Law Criminal Law 3 cr
This course will consider appellate cases in criminal rights, and major aspects to criminal procedure As with the Constitutional Law courses, it is a case approach Students will read court decisions and will develop familiarity with briefing cases

335 The Mass Media and Politics 3 cr
A study of the mass media and its role and impact on US politics The emphasis will be on the mass media as instruments of political communication and opinion leadership

340 American Political Parties 3 cr
An intensive study of the roles of interest groups and political parties in the decision-making processes of the American system of government with attention devoted to the internal dynamics of these institutions

376 Voting and Election Behavior 3 cr
An examination of the determinants of opinions and political beliefs, political participation and voting behavior, the significance for democratic government of findings in these areas

390 The American Presidency 3 cr
A study of the role of the President at the center of the decision-making process in the American political system

401 The American Congress 3 cr
An investigation of the operation of the Congress of the United States within the American system of government

415 Ethics and Policy Making 3 cr
A study of how government action reflects debates about the meaning of justice and the political good, and whether there are special moral obligations that fall upon public servants

420 Contemporary Political Thought 3 cr
A study of central topics in political thought from Marx to the present time

425 War and Peace in the Nuclear Age 3 cr
An analysis of the grave threat to world peace posed by nuclear weapons and the arms race Special attention will be given to the political, ideological, and ethical dimensions of the arms race

490 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 required

496 Advanced Seminar 3 cr
A detailed analysis of a selected topic

498 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

499 Senior Seminar 3 cr
Open to seniors and advanced juniors only An in-depth consideration of selected topics in the discipline

499 Research Methods in Political Science 3 cr
A study of the techniques of scientific inquiry into political phenomena including research methods, data collection, analysis and interpretation

COLLEGE OF LIBERAL ARTS AND SCIENCES

436 Advanced Seminar 3 cr
A detailed analysis 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

499 Senior Seminar 3 cr
Open to seniors and advanced juniors only An in-depth consideration of selected topics in the discipline

499 Research Methods in Political Science 3 cr
A study of the techniques of scientific inquiry into political phenomena including research methods, data collection, analysis and interpretation

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Eva Simms, 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 1) 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 enter 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 221 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 programs. Majors who plan to enter graduate school in psychology conceived as a human science, a natural science, and within a historical perspective.

REQUIREMENTS FOR THE MINOR

Requirements for a minor are 103 and 223 and any three of the following: 225 or 226, 250, 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

(Prequisite 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

For majors only. Traditional approaches (behavioristic, psychophysical, psychoanalytic) to sensation, perception, learning, and motivation. Required for majors.

223 Introduction to Existential Phenomenological Psychology

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

(Infancy and Childhood) Growth and development of the child, with emphasis on personality development.

226 Developmental Psychology II

(Adolescence and Maturity) Development from adolescence, through adulthood to coping with death.

230 Psychology of Community Experience

Experience of community phenomena, e.g., individuals versus group norms, intimacy vs privacy.

280 History of Psychology I

Overview of figures and issues in the history of psychology, from precursors to present.

328 Psychology of Personality

Critical examination of major theories of personality.

340 Social Psychology

Foundations of social processes, attitudes, values and roles, public opinion, propaganda and communication, personal participation in society.

352 Abnormal Psychology

Review of theory and practice of traditional and human-science research. Includes student projects. Prerequisite 220, 223, permission of department head for non-majors.

356 Research Psychology Theory and Practice

Review of theory and practice of traditional and human-science research. Includes student projects. Prerequisite 220, 223, permission of department head for non-majors.

360 Psychology of Identity and Fulfillment

The ways in which identity is lived individually and collectively. Designed to be particularly relevant to the life of the student. Open to juniors and seniors only.

370 Psychology of Aesthetic Experience

Theoretical and empirical explorations of aesthetic experience.

390 History of Psychology II

Intensive study of selected historical figures, in dialogue with contemporary themes. Reading of primary sources. Prerequisite 280.

391 Applied Psychology Practicum

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

Examination of individual’s relationship to society, from a developmental and cross-cultural perspective.

393 Principles of Psychoanalytic Thought

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

Communication as a life embodied relation of person to world and others. Emphasis on phenomenological theorists. Permission of department head for non-majors.

410 Advanced Existential-Phenomenological Psychology

Detailed investigation of selected works in existential-phenomenological philosophy and psychology. Prerequisite 223. Permission of department head for non-majors.

432 Gestalt Psychology

Contributions of Gestalt psychology, particularly the works of Kohka, Bohler, and Goldstein. To traditional and human-science psychology. Permission of department head for non-majors.

450 Contemporary Issues in Clinical Psychology

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

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.

490 Special Topic

A visiting professor presents his/her specialty, or a regular faculty member presents highly specialized studies. 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 15 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 and application 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.

Additional requirement for Human Services/Gerontology Concentration

103 Introduction to Human Services 3 cr
Survey of the history and areas of social and community services and programs. 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 infancy 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, 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, paints, poisons, and other clues. 250 Criminalistics I is not a prerequisite to 251 Criminalistics II.

264 Police and Society 3 cr
An analysis of the role of police in the community, relationship to social 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 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 faced by racial and ethnic groups.

310 Criminalistics I 3 cr
A seminar designed to serve as a capstone to the student's academic career. Seniors and Majors only. Prerequisite 21 completed credits in the major.

455 Senior Seminar 3 cr
A seminar designed to serve as a capstone to the student's academic career. Seniors and Majors only. Prerequisite 21 completed credits in the major.

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 various approaches to religious witnesses in history, but also to place Catholic Theology in communion with that quest; 3) it...
The major program consists of a minimum of 27 credits. These must include 106, 213, 214, 220, 250, 271.

A minor consists of four courses.

The Department has organized its courses into four divisions: Biblical Studies, Christian Studies, Roman Catholic Theology, and Selected Religious Studies.

REQUIREMENTS FOR THE MAJOR
The major program consists of a minimum of 27 credits. These must include 106, 213, 214, 220, 250, 271.

REQUIREMENTS FOR THE MINOR
A minor consists of four courses.

COURSE INFORMATION
The numbering of the course indicates the level of approach.

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.

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. Prerequisites: 114 or 213.

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 years 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 given to 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.

260 Protestantism 3 cr
An introduction to the thought of the principal reformers Luther, Calvin, Zwingli, and Wesley, a study of speculative and practical forces operative in the fifteenth-sixteenth centuries which gave rise to the reformation movement, the formulation of Protestant Orthodoxy.

271 Eastern Christianity 3 cr
A study of the main 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 some 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.

345 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 moral and ethical system.

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, genetic engineering, and the new embryoology.

354 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 team-taught by a member 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 Perspectives 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 the principal exemplars of mystical experience, e.g., Jesus Christ, Paul, Ignatius of Antioch, Augustine, John Ruysbroeck, Catherine of Siena, Teresa of Avila, John of the Cross, Venerable Liberman.

494 Individual Topics in Christian Studies 1-3 cr
The topics will change regularly and will be published within the department.

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.

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 origins, 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 unbelief, Christianity 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

495 Individual Topics in Religion
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

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 likenesses 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”

293, 294 Judaism People & Faith 3 cr each
An exploration 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
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 3-1 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 Pollack, Ph D
Assistant to the Dean
Cynthia Boyer, B S B A
Emily Cames, M B A
Chairperson(s)
Robert Bohman, M B A, C PA
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 1931 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. 12), 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

If the student wishes to transfer credit for coursework taken elsewhere at the lower level (freshman and sophomore) when that work is
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 education 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 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—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.

School of Business and Administration Computer Facilities

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 graphic capabilities and maximum internal memory capacities. The other laboratory consists of terminals 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. The Zeta Chapter of Beta Gamma Sigma, national honorary fraternity for accredited schools of the American Assembly of Collegiate Schools of Business, is established at Duquesne University. Membership in this honorary fraternity is limited to juniors in the highest five percent of their class and seniors in the highest ten percent of their class. Beta Alpha Phi is a national scholarship society of the school. Phi Chi Theta is a national professional commerce organization. The student chapter of the 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. The student chapter consists of students 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. The Data Processing Management Association is an organization for those whose career interests are in the management information systems area.
SCHOOL OF BUSINESS AND ADMINISTRATION

ADVISORY BOARD FOR REAL ESTATE
Ray R. Barone, Barone & Sons Inc.
Oliver E. Shoemaker, Carey, Karmer, Peluss & Co.
F. Lynn Foltz, FFV Realty
Robert Gelman, Gelman Real Estate Service and Appraisals
Howard W. Hanno, III, Howard Hanna Company
Carl Grefenstette, The Hillman Company
J. 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 of their career objectives and their academic areas of concentration, and to consult with them when choosing junior and senior courses indicated in the illustrations set forth in this catalog. Students are strongly encouraged to include coursework in speech, communications, and advanced writing in their programs.

REGULAR ATTENDANCE
Regular attendance in the School of Business and Administration is normally 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 tests, examinations, class lectures, deadlines, reports, and other specific school or course requirements.

Handicapped 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. Students in the College of Arts and Sciences who wish to take business courses should follow the business certification program 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, that is, those business courses numbered in the 300's and 400's. The student must also have completed 60 credits or more. This requirement applies for all students, whether they are enrolled in the School of Business and Administration in any of the other schools in the University.

Handicapped 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. Students in the College of Arts and Sciences who wish to take business courses should follow the business certification program established by the two schools. Students should consult their advisors in this matter.

SCHOOL OF BUSINESS AND ADMINISTRATION

Advisory Board for Management Information Systems
Wayne Buckley, ALCO
Richard S. Cuccolo, Author Specialists Inc.
Wayne R. Maue, Blue Cross of Western Pennsylvania
Russell Zemba, Consolidation Coal Company
Leslie Shindelman, Cooper's Lyndsay
John A. Armstrong, Consolidated Natural Gas Company
Regis F. Zebriski, H. J. Heinz Company
Dean McCullister, Koppers Company, Inc.
John G. Crandall, Leger Corporation
David Moore, Mellon Bank
Jay Shockey, Mobay Corporation
Richard S. Zinken, National Steel Corporation
Kenneth P. Leckey, Jr., Pittsburgh National Bank
J. R. McAfee, USX Corporation
Edward J. Reis, Westinghouse Electric Corporation

Behavioral Science, and Economic Science
Carl Grefenstette, The Hillman Company
J. William Cotter, Jr., T. A. Title Insurance Company

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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 of their career objectives and their academic areas of concentration, and to consult with them when choosing junior and senior courses indicated in any of the three Divisions. Their proposed curriculum choices must, of course, include coursework in speech, communications, and advanced writing in their programs. Regulations for certification in Accounting are fully completed before the student may enroll for upper level business courses, that is, those business courses numbered in the 300's and 400's. The student must also have completed 60 credits or more. This requirement applies for all students, whether they are enrolled in the School of Business and Administration 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

ACCOUNTING CURRICULUM

The accounting faculty recommends that students concentrating in accounting take Accounting 211, 212, 311, 312, 314, 315, 412, 413 or 485 and 251-Legal Process, as well as at least one of the following. Law 353, 354, 355, 454 and 454. It is recommended that the student achieve an overall B average in Accounting 211, 212 before attempting Accounting 211 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
FINANCE CURRICULUM

Students who look forward to careers in finance may select a program of courses in one of these areas: securities and investments, insurance, corporate finance, and financial analysis.

The professional designation of Chartered Financial Analyst (CFA) is used by those in the securities industry. Suggested courses for students interested in working toward this designation are Finance 336, 337, and 338.

In the insurance area, the designation for professional personnel in life insurance is CLI (Chartered Life Underwriter). In property and liability insurance, it is CPCU. For students interested in careers in insurance, Finance 334, 434, and 435 are recommended.

Finance 334, 335, 432, 434, and 437 are suggested for students whose career interests lean toward corporate finance and financial analysis.

Accounting 311 and 312 or 315 and 316 are recommended for all finance students. Six credits of the following Accounting classes are recommended for all Finance students: Accounting 311, 312, 313 or 315.

311 Business Finance

This course combines the study of internal and external sources of funds with the tools of financial management and their use to maximize the wealth of the business entity. Financial attention is given to private business entities. While many of the tools and instruments used in the demonstrations are those of large business concerns, entities of all sizes are covered.

Special attention is given to the decision-making process as applied to the finance function of business. Secondary emphasis is given to the securities markets, financial projections, organizational form, mergers and acquisitions, and reorganization.

332 Money and Financial Institutions

To develop knowledge about the role of financial institutions in our society, to impart an understanding of the creation of the medium of exchange and of the process of financing and the role of financial institutions in the economy, as to how they perform their function of maintaining the balance of payments.

Further, to develop an understanding of the nature and purpose of financial institutions, their structure, and the principles of financial analysis of financial institutions.

333 Financial Management

This course is designed to provide a theoretical or conceptual framework that a financial manager can use to reach decisions. Material is presented with the purpose of involving the student in the fundamental decisions and compromises of the financial manager as choices between risk and return are made. Readings, cases, computer analysis of financial problems and a research project are used.

334 Risk Management

A study of the broad spectrum of risk exposures in business enterprise, with special attention to the need for identifying these in terms of nature and magnitude. Emphasis is on techniques available to the decision-making process and application of techniques under constraints of uncertainty. Methods of alleviation, avoidance, and insurance are studied.

Attention is given not only to the traditional forms of insurable hazards, but also to the types of risks such as those of the market value of assets, capital budgeting decisions, new product financing techniques, mergers, and other areas where risk is present in the decision. Prerequisite Finance 331. Offered every third semester.

335 Business Financial Problems

The aim of this course is to provide a vehicle in which the student can take material from previous courses and through its utilization solve problems of a financial nature. It also provides the student with the opportunity to learn to write and deliver professional opinions on how to solve business problems. While the course is taught primarily through case study, other methods are also used.

The student is expected to be able to identify problems, reach conclusions, recommend solutions, and identify techniques on how they might be implemented. Prerequisites Finance 331 and 333. Offered every third semester.

336 Security Analysis

An intensive study of the analytic techniques applicable to the selection of the various securities of private as well as public entities. Consideration is given to the markets in which these securities are traded and the conditions of information necessary to the decision-making process of the investor. The student is given not only to the technical aspects of investment analysis but also to the fundamentals of financial management.

337 Investment Analysis

This course develops an understanding of the various types of investments available for portfolio management. The discussion of the risks to which a portfolio may be subject and the importance of these risks to the investor is undertaken.

Quantitative and descriptive approaches used in portfolio development are considered. Techniques for measuring the effectiveness of the portfolio are illustrated. Prerequisites Finance 331 and 336. Offered every other year.
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 interest rate, commodity, and currency markets and options, and the structuring and valuing of structured derivative securities. Problems are examined extensively. Prerequisite: Finance 331. Recommended prerequisite: Economics 442. Offered every fall.

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 study actual market behavior of businesses in the solution of their financing needs. Students will be required to prepare models to solve problems related to 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 include the role of computer graphics in personal computer application. Data communication errors, their detection and correction are also discussed. 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 market's role for borrowing and lending of capital, both short-term and long-term. Financial institutional structures are given emphasis as they affect and interact with banking and the overall financial market system. The course is designed to prepare students to apply computers, software, and systems techniques to the solution of information systems problems within organizations. The course is a study of concentration in Management Information Systems. Prerequisite: Finance 331. Offered every third semester.

434 Life Insurance 3 cr
A study of the risks of death and longevity and their effect upon personal and business situations. Policies are analyzed and the various means of insurance and annuity contracts, with emphasis upon their functions as instruments of estate creation and administration. Uses of insurance in connection with bank loans and mortgaging of a business property and its contents are emphasized and the subject is considered in connection with the financing of real estate investments, real estate development, and personal insurance.

435 Property and Liability Insurance 3 cr
A study of business and personal applications of casualty, fire, and liability coverages in the form of both insurance and bonding, including the fields of workmen's compensation, landlords', and tenancy, bail bonds, 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 other semester.

437 International Financial Management 3 cr
This course provides a conceptual framework within which the financial decisions of the multinational form can be analyzed. Emphasis is placed on the interaction of financial management with unique aspects of international operations. The effects of factors such as exchange rate and exchange control policies, political risks, and cultural differences on international operations are examined. Prerequisites: 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.

385 Computer Systems 3 cr
Provides detailed coverage of computer hardware and system software. Topics include machine organization, computer architecture, operating systems, compilers, and computer languages. Prerequisite: QS 182. Offered in the fall semester.

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. The course is designed to prepare students to apply computers, software, and systems techniques to the solution of information systems problems within organizations. For the area of concentration, completion of M IS 382, 383, QS 481, 482, and 483 is required. In addition, three elective courses must be taken from the following: 384, 386, 484, and 485.

COURSE PREREQUISITES—see p. 95

382 Information Processing with COBOL 3 cr
Practices structured programming techniques and COBOL applications. The scope of the course ranges from an introduction to basic COBOL concepts, data structures, and multiple control block reports, sorting, and table handling methods to the introduction of file handling and file processing techniques. Prerequisite: QS 182. Offered as needed.

383 File Processing with COBOL 3 cr
Practices file maintenance techniques as they relate to sequential, indexed sequential, and relative file organization. Methods for creating, accessing, and updating files are discussed. Theoretical foundations of structured programming are stressed throughout. Additional topics include the examination of structured programming and the use of available commercial packages. Emphasis is placed on using such packages in a high-level or fourth-generation language environment. Prerequisite: QS 182. Offered in the fall semester.

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. The student will apply the concepts of knowledge engineering to expert systems development. Prerequisite: QS 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 an emphasis on structured analysis and design techniques. Case studies are used to generate detailed data flow diagrams. The student is required to analyze and design data files with corresponding inputs and outputs. The issues involving conversion, testing, training, documenting, maintaining, and managing a system are also addressed. Prerequisite: QS 182. Offered in the fall semester.

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 data models to a series of business problems using available commercial packages. Emphasis is placed on using such packages in a high-level or fourth-generation language environment. Prerequisite: QS 182. Offered in the fall semester.

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 systems is stressed. Decision support software is integrated into the course content. Prerequisite: M IS 481. Offered in the fall semester.

484 Distributed Information Systems 3 cr
Develops an understanding of the terminology, devices and security features of centralized and distributed data communication systems, and the role of communications technology in information systems. Emphasis is placed on distributed data communications. Prerequisite: MIS 481. Offered in the fall semester.

485 EDI and Control 3 cr
Provides an introduction to electronic data interchange and control. The importance of controlling inputs and outputs of data interchange is stressed. Offered as needed.

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 computer science 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 computing as aids in decision-making. The basic sequence is comprised of these courses: Quantitative 281, 282, and 381. Prior to entry into the sequence, Mathematics 109 and 111 in the College or the equivalent is required.

COURSE PREREQUISITES—see p. 95

181 Introduction to Computers 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. Fundamental 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 micro and macro computers.
real property. Emphasis is on the estimation and evaluation of real estate properties, including assessment, financial analysis, and market research.

**REAL ESTATE CURRICULUM**

- **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, and cooperative associations, and real estate trusts. Attention is given to procedures for organizing servicing and foreclosing loans and mortgage arrangements by principals, agents, and mortgage bankers. Prerequisite: Finance 331. 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 estate. Emphasis is on the estimation and evaluation of real estate properties, including assessment, financial analysis, and market research.

**SCHOOL OF BUSINESS AND ADMINISTRATION**

**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 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 GPA of 2.5 or better. Completion of at least 15 credits at Duquesne University. Offered every semester.

**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. For a concentration in human resource management, students will take HRM 346, 351, 461, 467, Law 361, and Communications 356 plus three of the following: HRM 463, 464, 468, Management 366, 464, and 494, Economics 420, 421. Non-business electives recommended for this concentration are English 203, 204, 205, History 394, Speech 206, 302, or 304, Sociology 205, and Special Studies 401.

- **356 Legal Aspects of Human Resource Management**
  - 3 cr
  - See Law 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**

**365 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 provides the opportunity for the student to develop fundamental knowledge about the global corporation's problems and policies of human resource management in an international context. 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, senior standing. Offered as needed.

**461 Human Relations**

- **3 cr**
- This is an advanced level course designed to aid the student in developing 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 study. Topics include organizational communication, employee motivation, group dynamics, interviewing, interpersonal perception and communications, 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 issues 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 specific and contemporary compensation issues. Coverage includes analysis of the contemporary concepts of wage and salary administration, such as cost of living and merit rating, appraisal of various payment approaches, such as incentive programs and profit sharing, structuring a wage program, analysis of the final effects such technically oriented practices have on the functional areas of management. Prerequisite Management 361. Offered every second year.
INTERNATIONAL BUSINESS CURRICULUM

The objectives of the International Business Curriculum are as follows:

1. To provide students with the opportunity to develop an understanding of the internationalization of business.
2. To provide students with the basic skills in dealing with the international dimension of basic business functions.
3. To increase students' foreign language competence and understanding of other cultures as they relate to business operations.

For a concentration in international business, students will take 1B341, Finance 437, Econ 442, Mktg 443, Law 454 and Communications 306 plus three of the following: 1B 342, 444, 446, 447, HR 445. Students must also take 12 hours of credit in a language. Students can request a waiver of the language requirement if (1) They successfully pass the level tests as given by the Modern Language Department. Students are expected to be proficient through the 200 level of a language (2) Students pay for an independent service to test for language proficiency. Results of these tests will determine whether or not a waiver will be granted. (3) They are native language speakers of a language other than English. (4) Students have taken language courses at another University and are able to pass the language proficiency test.

COURSE PREREQUISITES—see p 95

341 International Business

This introductory study of the environment and management of cross-national business activities includes the following topics: supply chain management, international trade, foreign direct and portfolio investments, and the management of international marketing, financial, production and personnel functions. Prerequisite Management 361. Offered every year.

342 International Business Study Abroad

This course offers the opportunity to study abroad at a university in a foreign country. Students will take the courses offered by the host university in order to complete the required courses for the International Business major.

343 International Business Management

This course focuses on the management of international business operations, including international marketing, finance, accounting, and human resource management.

344 Business and Society in Europe

This course focuses on the history of Japanese business, the essential elements of Japanese management practices, and the strategies used by successful Japanese global corporations including their approaches to marketing, operations management, human resource management, and financial strategy. The Japanese approach to research and development and business-government relations is also covered. The course ties the business and management practices of Japanese corporations to the culture in which these organizations operate.

345 Multinational Human Resource Management

This course covers the management of human resources in multinational corporations, including cross-cultural management, global compensation, and international human resource strategies.

346 Business and Society in Europe

This course provides an overview of European societies and cultures, including their economic, political, and social systems. Students will study the European Union, European economic policies, and the role of Europe in the global economy.

PREREQUISITES—see p 95

461 Human Resource Planning

This course covers the planning and implementation of human resource needs, including recruitment, selection, placement, and development of employees.

462 International Financial Management

This course covers the management of international financial transactions, including foreign exchange, international capital markets, and international financial institutions.

463 International Economics

This course covers the economic systems of different countries, including their economic policies, international trade, and international finance.

464 International Marketing

This course covers the management of international marketing, including market research, product development, pricing, and distribution.

465 Business and Society in Europe

This course covers the history of Japanese business, the essential elements of Japanese management practices, and the strategies used by successful Japanese global corporations including their approaches to marketing, operations management, human resource management, and financial strategy. The Japanese approach to research and development and business-government relations is also covered. The course ties the business and management practices of Japanese corporations to the culture in which these organizations operate.

466 Business and Society in Europe

This course provides an overview of European societies and cultures, including their economic, political, and social systems. Students will study the European Union, European economic policies, and the role of Europe in the global economy.

PREREQUISITES—see p 95

SCHOOL OF BUSINESS AND ADMINISTRATION

LAW ADMINISTRATION/PRE-LEGAL CURRICULUM

The objectives of this curriculum are:

1. To prepare professionals in the administration of legal affairs.
2. To provide executive in court management, correctional institutions, and law enforcement.
3. To receive a broad interdisciplinary educational experience with the core course work in the School of Business and Administration.

For a concentration in Law Administration (See three year Bachelor's D., p. 88)

The curriculum of the School of Business and Administration meets the requirements for registration and general purposes of the State Board of Law Examiners in Pennsylvania and of the State Education Department of New York.

For a concentration in Law Administration/Pre-Legal Studies, the students will take Law 353, 354, and 355 as well as electives offered in this concentration.

251 Legal Process

An introductory course exploring the nature of law, its sources, its relation to society and government, and the judicial to the executive legislative systems. Study of the law pertaining to the formation of contracts, the legal requisites of an enforceable agreement, the transfer of contractual rights and duties, the discharge of contracts, the relationship between principal and agent. Offered every semester.

322 Contracts

Study of the law pertaining to the formation of contracts, the legal requisites of an enforceable agreement, the transfer of contractual rights and duties, the discharge of contracts, the relationship between principal and agent. Offered every semester.

345 Administration of Legal Systems

Study of the legal system and the procedures by which legal rights and duties are enforced 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

This course provides the student with an overall perspective of the basic legal problems involved in doing business with and in other countries. Topics covered include an introduction to foreign legal systems, international trade, foreign direct and portfolio investments, study of various forms of business organization, a business person must consider before doing business with persons in another country, study of the basic legal issues surrounding a control of the sale of goods, legal problems related to foreign laws, international business and the transfer of property rights. Offered every second year.

357 Real Estate Law

This course provides the student with an understanding of 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 borrowers and lenders. Familiarity with the appropriate documentation (deeds, mortgages, leases, syndications, etc.) and selected elements of real estate brokerage. Offered every year.

453 Administration of Legal Systems

Study of the legal system and the procedures by which legal rights and duties are enforced 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.

PREREQUISITE 251

MANAGEMENT CURRICULUM

1. To introduce students to fundamental concepts of management in organizations, private and public.
2. To provide students with knowledge of the major organizational functions.
3. To develop communication skills necessary for effective managerial performance.

For a concentration in management, students will take Management 366, 367, Accounting 313, Marketing 474, MIS 481, and Communications 306 and three of the following: Management 464, 465, 493 and 494, 1B 341, HRM 364, 365, 461, 463 and 466.

COURSE PREREQUISITES—see p 95
361 Principles of Management 3 cr
This course represents an initial introduction to the essential principles of management centered around the concept of management being a basic process which is distinct and applicable to all enterprises. It covers 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 as needed.

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 profit basis. Prerequisites: Senior standing and Management 361. Open only to students in the School of Business and Administration. Offered every semester.

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 managerial 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 introduces concepts which may be used to improve effectiveness of goods-producing 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, forecasting, and the unifying theme for 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 management 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.

464 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 are developed and exist within a firm. Authority, 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 as needed.

SCHOOL OF BUSINESS AND ADMINISTRATION

472 Transportation 3 cr
A comprehensive analysis of the historical evolution, operation, and economic development of the railroads, motor carriers and air carriers of the United States. The Interstate Commerce Act, with its amendments and the public regulation, state and federal, of the various carriers will be emphasized. Prerequisite: Management 371. Offered every year.

474 Purchasing Management 3 cr
Introduction to purchasing and materials management. Topics covered include purchasing, quality, inventory problems, pricing and price issues, quality, and value analysis. Students will prepare written case analyses as well as a term project involving value analysis. Prerequisites: Marketing 371, Management 361. Offered every year.

475 Consumer Behavior 3 cr
This course aims to develop skills in designing, conducting, and interpreting results of consumer research as well as an appreciation of management problem solving processes and strategic planning decisions involving the consumer market. Among the topics considered are social, psychological, and demographic characteristics of the individual consumer, influence of family and reference groups, situational determinants of behavior, marketing action (segmentation, positioning, pricing in relation to behavior of consumers). Prerequisites: Marketing 371 and Management 361. Offered every year.

476 Product Management 3 cr
This course examines various methods and tools to measure and evaluate marketing effectiveness with a focus on pricing strategies and the financial dimensions of product management. Product positioning, competitive strategy, new product development, and life cycle sales forecasting will be covered using computer simulations. Prerequisites: Marketing 371, Accounting 313. Offered every year.

477 Strategic Marketing Planning 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. The problems are analyzed as they apply different mid-levels in the marketing structure including manufacturers, wholesalers, jobbers, brokers, agents, and similar functionaries. 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 judgments. Current marketing developments are studied. Prerequisite: Marketing 371. Offered every year.

478 Industrial Marketing 3 cr
This course focuses on business-to-business marketing. It will demonstrate the differences between industrial and consumer marketing, i.e., how industrial marketers evaluate their marketing environments, including an understanding of customers and competitors. The course applies the elements of the
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 coherently 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

This introductory course in economics intends 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 currently before a complex dynamic economy. Not counted toward a degree in the School of Business and Administration.

Offered every semester

221 Principles of Economics I 3 cr

The first course in economics for the student who plans to major or minor 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 aggregative 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. The 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 economies 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.

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 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

This 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, national policies, the balance of trade, balance of payment, foreign exchange markets, and international monetary systems. 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 the opportunity to qualify for:

- The Instructional I (Provisional) Certificate to teach classes in the schools of Pennsylvania for six contract years
- 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.

Degree

The School of Education offers programs leading to the Bachelor of Science in Education degree. A 2.0 grade point average is required for the degree. All programs are approved by the Pennsylvania Department of Education for the Instructional I (Provisional) Certificate.

Curriculum

General Education: The School of Education requires completion of 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, these include:

- Planned observations in public and private schools, agencies, institutions and educational settings
- Teacher aide and tutorial experiences
- Student teaching in an approved setting for an entire semester

All of these experiences are completed under professional supervision from the University and from the public or private school or off-campus agencies.

General Education:
The following courses in the arts and sciences are an integral part of each program:

**Required Courses**

- English 12 credits
  - English 4
  - Communication Area (Speech, Journalism, English)
  - Math, Science, Foreign Language
  - Social Science/Humanities

- University Core Requirements 6
  - Anthropology, Economics, Geography, History, Political Science, Sociology, and Psychology

- Philosophy/Theology 6

- University Core Requirements 6

- Catholic—minimum of 3 Core Theology credits

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 is devoted to the completion of Curriculum and Instructional I, II, in the junior year. The Competency Core Curriculum focuses on the philosophical, psychological and pedagogical foundations needed by entry-level teachers. Extensive involvement in field experiences begins with the freshman year, and an on-going process of individual advancement and counseling regarding teaching and career decisions.

The Competency Core Curriculum is presented on four domains: 1) Becoming a person, 2) Becoming a student of education, 3) Becoming an educational theorist, 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 Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>101, 102</td>
<td>2, 2</td>
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<tr>
<td>215, 216, Developmental Foundations of Education I</td>
<td>3, 1</td>
</tr>
<tr>
<td>217, 218, Developmental Foundations of Education II</td>
<td>3, 1</td>
</tr>
<tr>
<td>311, Instructional Psychology/Instructional Computing</td>
<td>3</td>
</tr>
<tr>
<td>313, Human Development/Exceptional Child</td>
<td>3</td>
</tr>
</tbody>
</table>

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

EARLY CHILDHOOD EDUCATION

This cooperative program, approved by the Pennsylvania Department of Education, with Carlow College. Some of the professional courses are offered only on the Carlow campus.

These 48 credits (semester hours), in addition to 42 specified under General Education, 12 credits in the Competency Core Curriculum, and 18 credits in electives, are required for the degree.

**Required Courses—Carlow College**

- 201 Orientation to Early Childhood Education 3
- 203 Child Development 3
- 307 Curriculum & Methods for Early Childhood Education with Practicum 4
- 308 Curriculum & Methods for Day Care with Practicum 3
- 309 Special Needs Practicum 1
- 320 ED Reading & Language Arts 3
- 321 ED Reading & Language Arts Practicum 1
- 404 EC Nursery School Student Teaching & Seminar 6
- 406 EC Primary Student Teaching & Seminar 6

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

Required Courses—Duquesne University

- 231 Teaching Physical Education for Classroom Teachers 1
- 232 Teaching Art for Classroom Teachers 1
- 233 Teaching Health for Classroom Teachers 1
- 234 Teaching Music for Classroom Teachers 1
- 331 Teaching Elementary Social Studies 3
- 332 Teaching Elementary Mathematics 3
- 333 Teaching Elementary Science 3
- 309 Foundations Special Ed 3

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.

**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 the opportunity to qualify for:

- The Instructional I (Provisional) Certificate to teach classes in the schools of Pennsylvania for six contract years
- 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.

**DEGREE**

The School of Education offers programs leading to the Bachelor of Science in Education degree. A 2.0 grade point average is required for the degree. All programs are approved by the Pennsylvania Department of Education for the Instructional I (Provisional) Certificate.

**CURRICULUM**

**General Education:** The School of Education requires completion of 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, these include:

- Planned observations in public and private schools, agencies, institutions and educational settings
- Teacher aide and tutorial experiences
- Student teaching in an approved setting for an entire semester

All of these experiences are completed under professional supervision from the University and from the public or private school or off-campus agencies.

**GENERAL EDUCATION**

The following courses in the arts and sciences are an integral part of each program:

**Required Courses**

- English 12 credits
  - English 4
  - Communication Area (Speech, Journalism, English)
  - Math, Science, Foreign Language
  - Social Science/Humanities

- University Core Requirements 6
  - Anthropology, Economics, Geography, History, Political Science, Sociology, and Psychology

- Philosophy/Theology 6

- University Core Requirements 6

- Catholic—minimum of 3 Core Theology credits

**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 is devoted to the completion of Curriculum and Instructional I, II, in the junior year. The Competency Core Curriculum focuses on the philosophical, psychological and pedagogical foundations needed by entry-level teachers. Extensive involvement in field experiences begins with the freshman year, and an on-going process of individual advancement and counseling regarding teaching and career decisions.

The Competency Core Curriculum is presented on four domains: 1) Becoming a person, 2) Becoming a student of education, 3) Becoming an educational theorist, 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)**

- 101, 102 Introduction to Education I, II 2, 2
- 215, 216 Developmental Foundations of Education I 3, 1
- 217, 218 Developmental Foundations of Education II 3, 1
- 311 Instructional Psychology/Instructional Computing 3
- 313 Human Development/Exceptional Child 3

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

**EARLY CHILDHOOD EDUCATION**

This cooperative program, approved by the Pennsylvania Department of Education, with Carlow College. Some of the professional courses are offered only on the Carlow campus.

These 48 credits (semester hours), in addition to 42 specified under General Education, 12 credits in the Competency Core Curriculum, and 18 credits in electives, are required for the degree.

**Required Courses—Carlow College**

- 201 Orientation to Early Childhood Education 3
- 203 Child Development 3
- 307 Curriculum & Methods for Early Childhood Education with Practicum 4
- 308 Curriculum & Methods for Day Care with Practicum 3
- 309 Special Needs Practicum 1
- 320 ED Reading & Language Arts 3
- 321 ED Reading & Language Arts Practicum 1
- 404 EC Nursery School Student Teaching & Seminar 6
- 406 EC Primary Student Teaching & Seminar 6

*Prerequisites for 307, 308 and 310
**Prerequisite for 321

**Required Courses—Duquesne University**

- 231 Teaching Physical Education for Classroom Teachers 1
- 232 Teaching Art for Classroom Teachers 1
- 233 Teaching Health for Classroom Teachers 1
- 234 Teaching Music for Classroom Teachers 1
- 331 Teaching Elementary Social Studies 3
- 332 Teaching Elementary Mathematics 3
- 333 Teaching Elementary Science 3
- 309 Foundations Special Ed 3

**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.
Professional Preparation (All Courses Required) 39
231 Teaching Physical Education for Classroom Teachers 1
232 Teaching Art for Classroom Teachers 2
233 Teaching Health for Classroom Teachers 1
234 Teaching Music for Classroom Teachers 2
325 Teaching Reading in the Primary School 3
326 Teaching Reading in Intermediate and Middle Schools 3
330 Teaching Elementary Language Arts and Reading 3
331 Teaching Elementary Social Studies 3
332 Teaching Elementary Mathematics 3
333 Teaching Elementary Science 3
484 Children's Literature 3
*491 Student Teaching 12

*No student may register for additional course work during the student teaching semester without permission

Electives 12

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 Credits
(All Courses Required) 18 or 19
497 Reading in the Secondary School 3
215 Teaching Grammar and Composition (AND 216 Teaching Literature OR 316 Teaching Secondary Mathematics and Science OR 318 Teaching Secondary Foreign Languages OR 319 Teaching Secondary Social Studies 12
*491 Student Teaching

SPECIAL EDUCATION (MENTALLY AND/OR PHYSICALLY HANDICAPPED)
This program is designed to prepare students for teaching pupils with mental and/or physical disabilities, including brain injured, emotionally and socially disturbed, learning disabled, mentally retarded and physically disabled.
These 48 credits (semester hours) in Professional Preparation and three in Electives in addition to the 42 credits in General Education and the 27 in the Competency Core Curriculum are required for the degree

Professional Preparation Credits
(All Courses Required) 48
209 Foundations of Special Education 3
231 Teaching Physical Education for Classroom Teachers 1
232 Teaching Art for Classroom Teachers 2
233 Teaching Health for Classroom Teachers 1
234 Teaching Music for Classroom Teachers 2
276 Methods in Special Education 3
325 Teaching Reading in the Primary School 3
330 Teaching Elementary Language Arts and Reading 3
332 Teaching Elementary Mathematics 3
333 Teaching Elementary Science 3

*No student may register for additional course work during the student teaching semester without permission

Professional Preparation Credits
(All Courses Required) 30
Certification Area Course Concentration Supporting Courses
Biology 3 General Science Minimum of eight credits in biology, chemistry and physics and additional courses to total a minimum of 18 semester hours in one field of science
Chemistry Chemistry Mathematics Mathematics
Communications English Emphasis English English Emphasis
Journalism Journalism Journalism Speech Speech
English English English English

*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 nine- 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 three-credit 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, Kappa Delta Epsilon, national education sorority

HONOR AWARDS
These awards, presented at the annual Honors Days Convocation, are open to undergraduates in the School of Education

Faculty Award for General Excellence in Early Childhood Education
Faculty Award for General Excellence in Elementary Education
Faculty Award for General Excellence in Secondary Education
Faculty Award for General Excellence in Special Education
Kappa Delta Epsilon National Professional Education Society Award for outstanding member of Alpha Kappa Chapter
Kappa Delta Epsilon National Professional Education Society President's Award
Lawrence A. Roche Memorial Award to a junior student for general excellence in the School of Education
Philip C. Niauthus Memorial Award for outstanding achievement in the School of Education
Council for Exceptional Children Award for outstanding work in the organization

UNLESS INDICATED COURSES ARE YEAR LONG OR OFFERED FALL AND SPRING

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 thrusts 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-
Developmental Foundations I and II examine the curriculum, and develop skills in using computers for self-study software for integration into the standard curriculum. The components 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.

Developmental Foundations I and II examine the curriculum, and develop skills in using computers for self-study software for integration into the standard curriculum. The components 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.

Early Childhood Education

Orientation to Early Childhood Education

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 Education, and developing a personal philosophy. (Fall semester only)

Child Development

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)

Curriculum and Methods for Early Childhood Education with Practicum

Study of curriculum methodology and implementation in nursery, kindergarden and primary settings. Students will design environments and teaching 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 childhood classroom is an integral part of this course. Prerequisite: EC 201 and 203 (Fall semester only)

Curriculum and Methods for Day Care With Practicum

Examination of social needs, program designs and curriculum implementation of day care services for children 1-3 years. Weekly practicum required in a child care classroom. Prerequisite: EC 201 and 203 (Spring semester only)

Special Needs Practicum

Classroom or other school experience as an aide or observer, with special needs populations

Reading and Language Arts

The development of a reading program. The selection of materials, methodologies and teaching techniques are emphasized. (Fall semester only)

Reading and Language Arts Practicum

Diagnostics of needs, planning and teaching of age and grade appropriate lessons to small groups of children in a supervised situation. Prerequisite ED 320 (Spring semester only)

Nursery School Student Teaching and Seminar

The student teaching experience involves the prospective 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 under the direct supervision of 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 afternoo week for seminar with the college instructor. This seminar provides classroom discussion of various 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

Teaching Physical Education for Classroom Teachers

Teaching Art for Classroom Teachers

Teaching Health for Classroom Teachers

Teaching Music for Classroom Teachers

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.

Teaching Reading in the Primary School

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 will be given to the basic reading skills which comprise the first three years of a developmental reading program techniques of individualizing instruction, and reporting pupil progress.

Teaching Reading in Intermediate and Middle Schools

Focuses on the transitional period in a development 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, specialized 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.

Teaching Elementary Language Arts and Reading

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, and writing are interrelated. Children will be combined with an understanding of the evaluative process, teaching methods, and materials, providing a realistic approach to teaching language arts and reading experience.

Teaching Elementary Social Studies

Focuses on 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 9-12 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—Elementary 6 cr
Student teaching in elementary education for students in the secondary or special education programs who wish to complete requirements in two certification areas. Registration is concurrent with Ed 490-Secondary 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 Foreign Languages 3 cr
Explores a variety of approaches for teaching foreign languages (K-12), 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 of 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 programs who wish to complete requirements in two certification areas. Registration is concurrent with Ed 490-Secondary 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 socially disturbed, learning disabled, mentally retarded, and physically 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 vocational pupils.

231 Teaching Physical Education for Classroom Teachers 1 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.

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 concerning 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 students who have been labeled brain injured, learning disabled, mentally retarded, physically handicapped, socially and emotionally disturbed. Prerequisites: 209, 276. (Fall)

387 Teaching the Severely Handicapped 3 cr
Evaluation and integration of the various theories, 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)

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)

477 Management of Behavior and Instruction in Special Education 3 cr
Studies and experiences in the management of program 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-Special Education.
SCHOOL OF MUSIC

Administration
Dean
Michael Kumer
Assistant to the Dean
Theresa Bargas
Elisabeth Heath
Administrative Assistant
Susan Douglas
Dean Emeritus
Gerald F Keenan

HISTORY
Founded in 1926, the School of Music recently celebrated its sixteenth anniversary. The earliest course of study led to the Bachelor of Music degree, the Bachelor of Science in Music Education, or the Bachelor of Science in Music Therapy degree. Students planning performance careers, whether in concert, symphony orchestra, opera, media arts or studio recording enroll in the Bachelor of Music program. Students interested in teaching in a private institution or at the college level, as well as preparing for a career in music ministry, also enroll in this program. Students anticipating a career in school music teaching enroll in the Bachelor of Science in Music Education program, prospective music therapists enroll in the Bachelor of Science in Music Therapy program. Students enrolled in other schools and colleges in the University also study in the School of Music in recognition of the importance of arts education to the full development of each individual. Applied instrumental study as well as music courses designed for general students are available.

DEGREES
Undergraduate music students enroll in one of three degree programs: the Bachelor of Music degree (See Degree Requirements), the Bachelor of Science in Music Education degree, or the Bachelor of Science in Music Therapy degree. Students planning performance careers, whether in concert, symphony orchestra, opera, media arts or studio recording enroll in the Bachelor of Music program. Students interested in teaching in a private institution or at the college level, as well as preparing for a career in music ministry, also enroll in this program. Students anticipating a career in school music teaching enroll in the Bachelor of Science in Music Education program, prospective music therapists enroll in the Bachelor of Science in Music Therapy program. Students enrolled in other schools and colleges in the University also study in the School of Music in recognition of the importance of arts education to the full development of each individual. Applied instrumental study as well as music courses designed for general students are available.

SCHOOL OF MUSIC

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. Visiting faculty include Beverly Sulis, Sherill Milnes, Renata Scotto, Maureen Forrester, Carlo Bergonzi, Regine Crespin, and Isabel Penagos.

SCHOOL OF MUSIC

Music Ensemble. Other faculty are recognized in the academic and cultural communities for their activities as performers, conductors, composers, church musicians, clinicians, and music scholars. Interaction with these outstanding professional musicians is invaluable in the education of the professional musician.

Duquesne students also take advantage of the many performance opportunities afforded them by local music organizations. Students perform in the Pittsburgh Symphony Orchestra, the Pittsburgh Civic Orchestra, the Westmoreland Symphony, the McKeesport Symphony, and others.

FACILITIES
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, an electronic organ, a three-manual Moeller organ, and a Fuhler tracker organ. Two pipe organs by Edgen and Tellers and an electronic theatre organ on campus are also available for rentals and for practice. Many orchestral and band instruments are available for instrumental 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 used for aural skills training, a large collection of Music Education resource materials, a record library, and music Macintosh/MIDI workstations. The Electronic Piano Lab equipped with MIDI capable Kawai pianos, 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 DX7IIIF, Roland MT-32, Korg M-1, Yamaha RX3 Drum Computer, Ensoniq Mirage sampler, Proteus sampler and other MIDI synthesizers and modules. Recording Studio equipment includes a Fostex E-8 Multi Track Recorder with MIDI/SMpte auto locator, Tascam 4 Track Cassette Decks, 8 Track Half Track, Ramsa and Allan Heath consoles, and other audio equipment. Courses in this area emphasize the synergy between traditional musicianship and new technological skills.

All students are introduced to state-of-the-art MIDI and synthesis equipment and its use in performance, composition, and commercial applications. Students in composition and in audio techniques courses make extensive use of these resources, which are contained in the Music Technology Lab.

Students in piano class receive individual assistance and evaluation through connections to the instructor provided by a Kawai electronic piano system. Electronic pianos are available to students for practice outside of piano class.

STUDENT ORGANIZATIONS
Chapters of the national music organizations Phi Mu Alpha Sinfonia and Mu Phi Epsilon contribute substantially to the students' professional and social development. The Music Educators National Conference has an active student chapter which sponsors professional programs and attends and participates in state, regional, and national activities of the association. There are active chapters of the American Guild of Organists, the National Association for Music Therapy, and the American Choral Directors Association. A chapter of Pi Kappa Lambda, the national music honor society, was installed in March, 1988.

HONOR AWARDS
The Seiber Medall is presented to a senior for excellence in violin or piano upon recommendation of department committee.

Andre Marchal Award is presented to the graduating organ student with the highest academic standing in performance.

Jain Langlais Award is presented to the graduating organ student with the highest academic standing in Sacred Music.

Robert Egan Award for Academic Excellence, Richard Gray Award for Outstanding Service are presented by the Music Therapy department to graduating senior students.

CERTIFICATION
MUSIC EDUCATION/MUSIC THERAPY
Students completing the course work in music education receive the B.S. in Music Education or the B.M. in Education. The Music Education degree requirements are available upon request.
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 equivlancy 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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<td>Mus 251</td>
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**Junior Year**

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**Total Credits** 132

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### MAJOR IN VOICE

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**Junior Year**

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**Senior Year**

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**Total Credits** 132
## Major in Orchestral Instruments

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**Total Credits 132**
### BACHELOR OF SCIENCE IN MUSIC EDUCATION-INSTRUMENTAL TRACK

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| **Sophomore Year**              |         |      |        |
| Mus 105 105 Seminar             | 0       | 0    |        |
| Mus 231 Theory                 | 2       | 2    |        |
| Mus 233 234 18th Century Counterpoint | 2   | 2    |        |
| Mus 251 252 History & Literature of Music | 3   | 3    |        |
| Mus 221 222 Brass Techniques I & II | 1   | 1    |        |
| Mus 251 252 Music Ed Methods I & II | 2   | 2    |        |
| Mus 253 Music Ed Methods-Lab   | 1       | 1    |        |
| Mus Applied Music              | 2       | 2    |        |
| Gen Core                       | 3       | 3    |        |
| **Total Credits**               | 18      | 17   |        |

| **Junior Year**                 |         |      |        |
| Mus 105 105 Seminar             | 0       | 0    |        |
| Mus 340 Orchestration          | 2       | 2    |        |
| Mus 481 Applied Major          | 3       | 3    |        |
| Mus 381 Percussion Techniques  | 2       | 2    |        |
| Mus 379 Ensemble               | 1       | 1    |        |
| Mus 485 Conducting             | 2       | 2    |        |
| Edu 301 Teaching Vocal Music   | 2       | 2    |        |
| Mus 300 Teaching Vocal Music-Lab | 1  |       |        |
| Mus 302 Teaching Instrumental Music | 2  |       |        |
| Mus 303 Teaching Instrumental Mus-Lab | 2  |       |        |
| Mus 325 Research Band Methods  | 1       | 1    |        |
| Gen Acoustics                  | 3       | 3    |        |
| **Total Credits**               | 16      | 17   |        |

| **Senior Year**                 |         |      |        |
| Mus 487 Senior Seminar          | 1       | 1    |        |
| Mus 301 Applied Major           | 2       | 2    |        |
| Mus 302 Core                    | 1       | 1    |        |
| Gen Electives                  | 3       | 3    |        |
| **Total Credits**               | 12      | 12   |        |

Total Credits: 132

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### BACHELOR OF SCIENCE IN MUSIC THERAPY

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| **Sophomore Year**              |         |      |        |
| Mus 105 105 Seminar             | 0       | 0    |        |
| Mus 231 Theory                 | 2       | 2    |        |
| Mus 251 252 History & Literature of Music | 3   | 3    |        |
| Mus 124 124 Music Therapy Practicum | 2   | 2    |        |
| Mus 108 Music in Therapy       | 2       | 2    |        |
| Mus Applied Music              | 2       | 2    |        |
| Mus Ed 305 Foundations of Spec Ed | 3   | 3    |        |
| **Total Credits**               | 17      | 18   |        |

| **Junior Year**                 |         |      |        |
| Mus 105 105 Seminar             | 0       | 0    |        |
| Mus 308 Influence of Mus on Behavior | 3   |       |        |
| Mus 374 Music & Move for Excep Person | 3   |       |        |
| Mus 315 Music Methods Elective | 2       | 2    |        |
| Mus 124 124 Music Therapy Practicum | 2   |       |        |
| Mus Gun                         | 3       | 3    |        |
| Gen Elective                   | 3       | 6    |        |
| **Total Credits**               | 16      | 17   |        |

| **Senior Year**                 |         |      |        |
| Mus 105 105 Seminar             | 0       | 0    |        |
| Mus 309 Conducting             | 2       | 2    |        |
| Mus 307 Psycho of Music Teach & Learn | 3   |       |        |
| Mus 310 Recreational Music     | 2       | 2    |        |
| Mus 340 Anatomy and Physiology | 3       | 3    |        |
| Mus 493 Clinical Experience    | 1       | 1    |        |
| Gen                             | 3       | 6    |        |
| **Total Credits**               | 15      | 17   |        |

Total Credits: 133
BACHELOR OF MUSIC IN SOUND RECORDING TECHNOLOGY

Courses

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SCHOOL OF MUSIC

COURSE DESCRIPTIONS

PERFORMANCE

Applied Music 1-3 cr
Private study of voice, piano, harpsichord, organ, guitar or orchestral instruments.

107 Piano Accompanying 1 cr
This course is designed for the undergraduate with the purpose of affording the student instruction in the art of piano accompanying.

115 Vocal Coaching 1-3 cr
Individual work with pianist as a supplement to Opera Workshop and/or Applied Music.

French, Italian, German for Singers

Rudiments of each foreign language offered on a rotating basis in the fall semester in preparation for the appropriate Diction and Repertoire course offered in the following spring.

116, 117, 118, 119

Diction and Repertoire 2 cr each
Italian, German, French and English offered on a rotating basis each Spring Semester. All except English preceded by an introductory course in the fall, in the appropriate language.

221 Harpsichord Class 1-3 cr
An introduction to the harpsichord, including techniques and materials for teaching piano at the intermediate and advanced levels. The classes meet twice a week for lectures, and once a week for an in-depth laboratory session. The scope of the first two semesters includes diatonic harmony, students' competencies in the areas of intervals, melodic and rhythmic dictation as well as sight singing in traditional meters and tonalities. Prerequisite: passing the entrance examination to the School of Music.

313 Piano Pedagogy I 2 cr
Students will become acquainted with the techniques and materials for teaching piano at the secondary level. Piano majors, junior standing is required.

314 Piano Pedagogy II 2 cr
A continuation of 313 concentrating on the techniques and materials for teaching piano at the intermediate and advanced levels.

398 Junior Recital 0 cr
The candidate for the Bachelor of Music degree must give a recital during the senior year.

400 Recital 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 a laboratory work during most semesters of full-time enrollment. Non-music majors are invited to register for ensemble with permission of instructor.

Large Ensembles

0-1 cr each
The Large Ensembles include Wind Symphony, Orchestra, Concert Choir, Chamber Singers, and Jazz Band.

Small Ensembles

0-1 cr each
The Small Ensembles include Trombone Choir, Brass Ensemble, Guitar Ensemble, Jazz Band, Percussion Ensemble, various woodwind ensembles, and Ethnic Ensembles.

116 Opera Workshop 0-1 cr
A performing class in which students learn standard and other opera repertory in the original languages.

131 Chamber Music 2 cr
Study and performance of all types of chamber music for various instrumental combinations.

MUSICIANSHIP

121, 122 Dalcroze Eurhythmics I & II 2 cr each
Experiencing, analyzing, and creatively manipulating the metric/structural and the expressive/interpretative components of music through rhythmic movement, ear-training and improvisation.

131, 132 Theory I and II 2 cr each
These sequential courses are designed to acquaint the student with the harmonic materials of art music of the Western Civilization. For basic knowledge the Baroque-Classical idiom is explored. Harmony is examined in full, but formal and textural aspects are also discussed. Class contents include part writing, analysis, keyboard work, dictation, harmonic and intervalic ear training, and drills with computers.

131, 134 Solfege I & II 2 cr each
These sequential courses are designed to develop students’ competencies in the areas of intervals, melodic and rhythmic dictation as well as sight singing in traditional meters and tonalities. Prerequisite: passing the entrance examination to the School of Music.

231 Theory III 2 cr each
This semester completes the study of materials of the Baroque and Classical style with emphasis on chromatic harmony and advanced modulation, then presents some of the most important elements of the Romantic and 20th Century idioms. Class meetings and the elements of teaching are the same as in 131 and 132. Prerequisites: 131 and 132.

233, 234 Solfege III & IV 2 cr each
A continuation of 134, these sequential courses are designed to develop students’ competencies in the areas of intervallic relationships, melodic and rhyth-
236 20th Century Techniques 2 cr
A survey of the melodic, harmonic, and contrapuntal resources employed 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, analysis, written assignments, and listening. The species approach is employed. Prerequisites: At least 2 semesters of Theory 121, 122.

336 16th Century Counterpoint 2 cr
A course study concerned with the contrapuntal technique of the period of J S Bach. Contents include lectures, written assignments, and analysis. Prerequisites: Theory I, II, III

340 Orchestration 2 cr
A study of the basic problems of scoring for individual instruments, particularly orchestral choruses, 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 simplest componts to the most complex full compositions through analysis, performing 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 Instrumental Conducting I 2 cr
An introduction to baton technique with emphasis on basic patterns, cueing, and expression using the left hand. Students enrolled will form a laboratory ensemble allowing for conducting experience.

378 Instrumental Conducting II 2 cr
A continuation of Instrumental Conducting I with emphasis on score analysis and the development of a refined and expressive technique.

379 Choral Conducting I 2 cr
An introduction to basic conducting techniques with emphasis on proper conducting posture, the preparation of groups, basic beat patterns and styles, use of the baton, and development of the left hand. Course also will include 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, subito- 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, tr, trs, 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 competencies in piano which meet the certification requirements for the PA Dept. 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. Pre-requisites: completion of Piano for Mus Ed II. 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 will participate in a vocal lab emphasizing clinical experience.

121, 122 Woodwind Techniques, I, II 1 cr each
Introduction to techniques of clarinet, saxophone, oboe, flute and bassoon with an emphasis on development of teaching skills.

221, 222 Brass Techniques I, II 1 cr each
Introduction to techniques of trumpet, french horn, and low brass with an emphasis on development of teaching skills.

321 Percussion Techniques 2 cr
Introduction to techniques of percussion instruments with an emphasis on development of teaching skills.

322 String Techniques 2 cr
Introduction to techniques of violin, viola, cello and bass with an emphasis on teaching techniques.

325 Researching Band Methods 1 cr
An overview of band methods with an emphasis on marching band styles.

251 Music Education Methods I 2 cr
A multifaceted course leading to competencies in guitar, recorder, classroom instruments, multicultural music, and mainstreaming. Clinical experience included.

252 Music Education Methods II 2 cr
A continuation of Music Education Methods I with the addition of Computer Assisted Instruction techniques and materials, plus an overview of contemporary methodologies including Kodaly, Dalcroze, Orff and Suzuki music technology. Clinical experience included.

253 Music Education Methods II Lab 2 cr
Clinical experience for 252 Teaching and observing general music lessons.

300 Teaching Vocal Music 2 cr
For advanced music education students in both tracks. Methodologies and materials to develop competencies for teaching in the vocal area, grades K-12. Clinical experience included. All 100 and 200 level courses are prerequisites.

301 Teaching Vocal Music Lab 1 cr
Clinical experience for 301. Teaching weekly general music classes, incorporating computer assisted instruction

Choral Lab 1 cr
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 of, and the administration of, the band and orchestra programs 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.

488 Music Education Seminar 1 cr
For the advanced music education student. Introduction to Music Education research, stressing contemporary issues. A seminar project is required.

491 Student Teaching 12 cr
For the senior music education student who has completed all required music and professional education classes satisfactorily and has been recommended by the faculty for student teaching. Practice teaching with approved cooperating teachers in instrumental and vocal classes, K-12 under the guidance of a university supervisor for a 14-week period. Students also attend on-campus seminars during this period. Additional course work may be scheduled concurrent with student teaching.

JAZZ STUDIES

141 Chamber Music-Jazz 2 cr
The purpose of this course is to develop the skills and techniques necessary for small jazz ensemble performance. Emphasis is on rhythm section techniques, interaction among the members of the group, and development of repertoire.

151 Evolution of Jazz Styles 2 cr
A study of the origin, development and styles of jazz music and its ramifications with an emphasis on recorded music as well as scores.

226 Jazz Improvisation 2 cr
Studies and practice of rhythmic improvisation, conventional forms and chord progressions, employing idiom and jazz articulations, major-minor and modal scales, altered scales and chords, extended forms, practical applications to standard and jazz literature.

333 Ear Training for Jazz Musicians 2 cr
The course designed to train the student to recognize aurally the melodic, rhythmical and harmonic elements of contemporary jazz. The devices used are sight-singing, keyboard work and extensive dictation. Emphasis is placed on four, five and six-note chords, chromatically altered chords and polychords.

341, 342 Jazz Composition 2 cr each
A course in original creative writing in the jazz idiom. Open to all students with the approval of the teacher.

430 Jazz Arranging 2 cr
A study of the basic techniques of scoring for individual instruments and jazz ensembles of various sizes, from small groups to studio orchestras. Analysis of scores by contemporary big band arrangers.

440 Jazz Theory 2 cr
Student learns five and six part harmony, chromatically altered chords, chord spacing and voice leading appropriate to jazz writing.

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, solos 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 hymnals 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 harmonicization 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 it relates to organ registration. The first semester treats organ music from the Renaissance through J. S. Bach. The second semester deals with the literature from 1750 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/ SOUNc 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.

146 Audio II 3 cr
An intensive study of the commercial multi-track recording process. Advanced production projects. Lab required. Prerequisite: Audio I.

149-151 Audio III 1-3 cr
Advanced studio, small group projects.

140 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.

142 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.

143 Maintenance I 2 cr
A study of fundamental equipment maintenance in the modern recording/synthesis studio. Prerequisites: Audio Electronics for Audio.

144 Maintenance II 2 cr
Advanced maintenance, troubleshooting, grounding and interconnection of modern recording studios. Prerequisite: Maintenance I.

145 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.

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. Maszkewicz, R.N., Ph.D.
Associate Dean, Undergraduate Program
Joanne F. White, R.N., Ph.D.
Associate Dean, Graduate Program
Theresa L. Carroli, 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 and 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 3000 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 wholistic 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 life. 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 healthy and sick behaviors, 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 who regularly evaluates self and plans for continuing self-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 which health care will be delivered.

The uniqueness of the Duquesne University Baccalaureate Program 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. The graduate recognizes that the responsibility for the health situation is a shared process in which the nurse, client, and family actively participate.

The Duquesne University School of Nursing Baccalaureate Program graduates a generalist who is prepared to practice in a variety of settings. The program emphasizes nursing as a human science and provides a foundation for graduate study.

PROGRAM PURPOSES AND GOALS
The purposes of the program are:
1. To prepare the graduate to practice nursing as a human science in a variety of settings utilizing appropriate strategies to meet the complex and changing health needs of individuals/families/groups/community and,
2. To provide the foundation for graduate education in nursing.

Within the philosophy and purposes of the School of Nursing, the faculty has formulated a curriculum that provides learning experiences to assist students to acquire specific knowledge and skills. The goals of this program state that upon completion of the program, the graduate will:

1. Promotes the rights, responsibilities, and dignity of man in health care.
2. Synthesizes knowledge from the related sciences, the humanities and nursing theories in applying the nursing process.
3. Utilizes political, cultural, and social processes in promoting the health of individuals within their environment.
4. Utilizes the nursing process in the promotion of health with client/family/groups along the life continuum in a variety of settings.
5. Synthesizes principles of the learning process to create the health of clients, families, and groups.
6. Initiates health care from the perspective of the client/family/group/community's value system.
7. Utilizes knowledge of ethical and legal dimensions in making nursing practice decisions.
8. Utilizes the research process in planning nursing care with the client/family/group.
10. Assumes the role of advocate in participating with other health care providers and consumers in the promotion of health.
11. Utilizes leadership skills for the improvement of health care to meet the emerging needs of consumers in a changing society.
12. Strives to enhance the profession 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 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 enhance the changing health needs of society and/or the best interest of the students and the School to maintain 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...
TRANSFER STUDENT ADMISSION

See the section on Admissions for further University requirements.

Admission criteria for transfer students
1. A cumulative QPA of 2.5 from the transferring institution.
2. 1 unit of physics and 1 unit of algebra, which can be from either a secondary school or post-secondary institution.
3. Personal interview with a representative of the School of Nursing, and two letters of reference.
4. Felony conviction notification and compliance with the Standards of Personal Conduct Policy as indicated above.
5. Evidence of physical and emotional health adequate to meet the demands of the program as indicated above.

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 towards the requirements of the BSN 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 (2.5 QPA minimum).
- Verification of current licensure as a registered professional nurse in Pennsylvania.
- Present or past experience in nursing.

SCHOOL OF NURSING

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STUDENT ORGANIZATIONS

Each nursing student is a member of the general student body and may select and participate in any of the student 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.

**Alpha Tau Delta** (meaning “through force of character”) is a national professional fraternity for persons in nursing. Theta Chapter was chartered on the Duquesne University campus on April 21, 1938. Eligibility is limited to full-time students who have completed a minimum of one semester in the School of Nursing with a cumulative quality point average of 3.0 or above.

Assistant to the Dean, Undergraduate Program

- $1200
- $1000
- $750
- $500
- $250
- $100
- $75
- $50
- $25
- $10
- $5
- $2

*All expenses are approximate.*

Student Nurses Association of Pennsylvania

- The Student Nurses Association of Pennsylvania (SNAP) is a constituent of the National Student Nurses Association.
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 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. In addition, specific School of Nursing requirements are:

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
6. 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

**School of Nursing Graduation Requirements**

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**SCHOOL OF NURSING**

**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 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 faculty 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 Alumnus.

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<td>132 Proc of Chemistry</td>
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</table>
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 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** 4 cr

**262 Health Promotion Through the Nursing Process** 4 cr

**272 Basic Communications in Nursing** 2 cr

**312 Pathology** 2 cr

**320 Nursing Care of the Adult Client 1** 7 cr

**330 Foundations of Gerontic Nursing** 2 cr

**350 Basic Conceptual Analysis of the Adult and Child** 2 cr

**360 Nursing Care of the Adult Client II** 7 cr

**370 Psychiatric-Mental Health Nursing** 2 cr

**410 Nursing Care of the Childbearing Family** 3 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** 1 cr

**475 Promotion of Health with Individuals/Families/Groups in the Community** 3 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 to define 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 human development from conception through death. Emphasis is placed on an individual's conceptual frameworks of health and personality development within the context of the family, society and culture. Health promotion practices are explored relative to each age group throughout the life continuum. This course provides the basis for students to assess the developmental stages in the clinical environment. Prerequisites: Bases for Human Thought and Action.

**233 Introduction to Research in Nursing** 1 cr

This basic course is designed to introduce the student to the nature of inquiry, the historical evolution of nursing research, the nurse as a consumer of research, and the utilization of the library as a means of fostering the consumer role. Prerequisite: Orientation to Professional Nursing.

**252 Nutrition for Health Promotion** 4 cr

This course focuses on nutrition and the nursing role in health promotion for individuals and groups throughout the life cycle. Emphasis is placed on nutrition assessment and intervention. Food needs for energy and the major nutrients are considered for the promotion of health. Prerequisites: Chemistry 111 and 112.

**262 Health Promotion Through the Nursing Process** 5 cr

This course is designed to introduce students to the application of concepts and skills relevant to the practice of professional nursing. The course explores man's individual health patterns and includes an introduction to alterations in health patterns. Students study the nursing process as the vehicle for providing nursing care to clients. The concepts of health education, rehabilitation and loss and grief are incorporated. Students identify the interrelationship of these theoretical components in man's experience of health. The professional role is explored within the framework of the nursing process. Prerequisites: Orientation to Professional Nursing, Anatomy & Physiology I, Anatomy & Physiology II (concurrent), Human Development Throughout the Life Continuum (concurrent), Basic Communications in Nursing (concurrent).

**272 Basic Communications in Nursing** 2 cr

This is a basic theory course designed to acquaint students with the structural and functional changes that occur as the result of illness, as well as the body's remarkable ability to compensate for those 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: Biology of Microbes, Anatomy and Physiology I and II.

**320 Nursing Care of the Adult Client 1** 7 cr

Nursing Care of the Adult Client I is the first nursing course offered at the Junior level. This course builds on previously learned knowledge of natural and human sciences, concepts from selected nursing theorists, and 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 adult clients in a variety of acute medical-surgical settings. Basic concepts related with the integrity of biological, psycho-social, spiritual and environmental health patterns are presented. 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 alterations in health and how these changes influence the adult client's unique experience of biological, psycho-social, spiritual and environmental patterns of health, well-being, and lifestyle is integrated to provide wholistic and individualized nursing care. Students also examine how different socio-cultural values influence health patterns. Students explore the role of the nurse in helping clients 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 gerontic nursing perspective focusing on the older adult. Learners examine normal changes of aging, health assessment, and common health problems of the older adult. Selected economic, legal, ethical, socio-cultural, and/or 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 Cycle, Health Promotion through the Nursing Process

350 Physical Assessment of the Adult and Child 2 cr
This course builds on previously learned knowledge of natural and human sciences. A systems approach is utilized to teach students to perform a physical assessment. Students learn 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 is taken concurrently. An overview of the physical assessment of the child is also presented.

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 offers the Junio level builds on previously learned knowledge of Pathology, Physical Assessment, Nursing Care of the Adult Client I, and concepts from selected nursing theorists. The student is provided with the opportunity to apply the nursing process in caring for the adult in a variety of medical-surgical settings. The family is viewed as a support system to the client. Increasingly complex concepts related to the integration 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 role of family support related to the client's experience of health. Students also explore community resources for supportive 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 holistic 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 team 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 offers the student 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 form the foundation 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 childbearing 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 all previous learning and synthesizes that knowledge with a focus on the promotion of health with individuals, families, and groups within a variety of community settings. 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 environment. Further, health needs of the community are explored and evaluated for possible changes that enhance the promotion of health. Various roles of the community health nurse are investigated with an 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. It considers current issues in nursing, trends in health care delivery, political accountability and ethical decision making. Trends and issues are explored in an interactive format to assist the student to assume professional responsibility for involvement in issues affecting nursing and delivery of health care. Prerequisites: Nursing Care of the Adult Client II, Psychiatric-Mental Health Nursing Care of the Adult

NURSING ELECTIVES

104 Dosage and Solutions 1 cr

204 Computer Literacy 2 cr

260 Ways of Healing 3 cr

299 Nursing and Spirituality 3 cr

353 Health Care Ethics 3 cr

380 Critical Care Nursing 3 cr

397 Health Care of Women 3 cr

499 Health Administration 3 cr

433 Introduction to Nursing Informatics 2 cr

459 Transcultural Nursing 3 cr

466 Choosing the Living in Dying 3 cr

479, 498, 499 Directed Study in Nursing 1-3 cr

104 Dosages and Solutions 1 cr
This course is a senior level and graduate-level elective that supports computer-assisted instructional programs with teacher supervision. Special permission is required to register for this course.

204 Computer Literacy 2 cr
This course introduces the student to fundamental concepts of computers and their use for personal or work-related tasks. Microcomputer hardware and software systems are presented in the context of personal usage. Software uses such as spreadsheets (including graphs), word processing, database construction, and some programming are included as laboratory exercises to expose the student to all facets of computers for personal use. The student will also form the knowledge base for the computer applications to nursing as presented in the undergraduate and graduate computer applications course.

260 Ways of Healing 3 cr
This course is a non-clinical nursing elective that covers a variety of ways of healing which are not thought to be medically traditional. Healing systems are looked at and how they affect outcome on the healing process. Students explore the mystery around unexplained healing. They consider the role of man's beliefs systems which are a reflection of how man participates with his 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 on psychic surgery, hypnosis, spiritual healing, acupuncture, hypnosis, and laying on of hands. Prerequisites: Orientation to Professional Nursing.

299 Nursing and Spirituality 3 cr
Nursing and Spirituality is a non-clinical nursing
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 gift they bring to the nursing situation when spiritual needs are recognized and shared (entered into) with the client (Spring only).

**353 Health Care Ethics**

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**

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 holistic 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.

**397 Health Care of Women**

Health Care of Women is a nursing elective that provides students with an opportunity to explore many of the prevalent health experiences of women in contemporary society in the United States. This course investigates aspects of women's health and choices relative to the quality of their lives. It provides students with an opportunity to analyze health promotion for women from a historical and nursing perspective and provides them with the knowledge of health resources available to meet the specific needs of women. Prerequisite: Health Promotion Through the Nursing Process.

**399 Health Education**

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**

This course introduces the student to nursing informatics, 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 programing, and data-based management of 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**

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 Lenniger's model of transcultural nursing and transcultural health 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**

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.
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 instituted in 1911, when the charter of the University was amended and authority was granted to confer 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 Mies van der Rohe won the “Laboratory of the Year” award for 1969 in the annual Industrial Research, Inc. survey of new science buildings across the country. The School’s specialized facilities include the Hugh C. Muldown Model Pharmacy, a learning resource center, a computer room with current microcomputers, bioscience laboratory, five additional teaching laboratories, and a manufacturing pharmacy laboratory containing basic pharmaceutical manufacturing equipment and separate tabling 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 inspire 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 with pharmaceutical companies as medical service representatives or in research, development, manufacturing, 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 drug 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 in allied fields. Others enter the profession 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 data base, 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 chemistry, pharmacy, and pharmacology and toxicology. The Master of Science degree in the fields of pharmaceutical sciences, medicinal chemistry, and the MASTRES degree in the fields of pharmaceutical sciences, medicinal chemistry, and the MASTRES degree in the fields of pharmacy and pharmacy and pharmaceutical sciences, pharmaceutical sciences, medic.

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 taught mainly by the pharmacy faculty, with electives being available from both that 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.

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 must 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

For the Class of 1992 (entering Fall, 1987) and thereafter

First Year

Fall Semester
111 General Biology I
121 General Chemistry I
101 Thinking & Writing
Across the Curriculum (University Core)
115 Calculus I
101 Calculus Orientation
141, 145

Spring Semester
112 General Biology II
122 General Chemistry II
102 Imaginative Literature and
Critical Writing (University Core)
101 Thinking & Writing
Across the Curriculum (University Core)
141, 145

SCHOOL OF PHARMACY

DEGREES

The School of Pharmacy offers a program leading to the undergraduate degree, Bachelor of Science in Pharmacy. Descriptions 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

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Critical Writing (University Core)
101 Thinking & Writing
Across the Curriculum (University Core)
141, 145
### Fall Semester

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<td>Organic Chemistry I</td>
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<tr>
<td>General Physics I</td>
<td>4</td>
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<tr>
<td>Bases of Human Thought</td>
<td>3</td>
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<tr>
<td>and Action (University Core)</td>
<td>3</td>
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<tr>
<td>Shaping of Modern World</td>
<td>3</td>
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<tr>
<td>(University Core)</td>
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<td>General Elective</td>
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<tr>
<td>Human Anatomy &amp; Physiology</td>
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### Spring Semester

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<td>Organic Chemistry II</td>
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<td>Social, Political, Economic Systems (University Core)</td>
<td>3</td>
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<tr>
<td>Arts and the Human Experience (University Core)</td>
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<tr>
<td>General Elective</td>
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<td>Human Anatomy &amp; Physiology</td>
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### Third Year

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<td>Human Anatomy &amp; Physiology</td>
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<tr>
<td>Basic Pharmaceutics-Pharmacy Math I</td>
<td>3</td>
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<tr>
<td>Biochemistry-Nutrition</td>
<td>3</td>
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<tr>
<td>Pharmacy Law</td>
<td>3</td>
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<tr>
<td>Analysis of Drug Substances</td>
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<td>Pharmacy Administration</td>
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### Fourth Year

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<tr>
<td>Pharmacokinetics II</td>
<td>4</td>
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<tr>
<td>Medicinal Chemistry-Natural Products I</td>
<td>3</td>
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<tr>
<td>Pharmacy Management</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 in the School of Pharmacy is considered professional elective coursework work and may be used in any of the areas of concentration. Students may make their own selection of courses in consultation with their advisors.

### Fifth Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Practical Pharmacy I</td>
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<td>Community Pharmacy</td>
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<tr>
<td>Hospital Pharmacy</td>
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<tr>
<td>Optional Pharmacy</td>
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</table>

D*—Didactic hours, L*—Laboratory hours, C*—Credit hours

Courses are to be completed in the designated sequence. Minimum credits for B.S. in Pharmacy Degree—36. 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.

### Areas of Concentration

The following courses are approved for the respective areas of concentration:

1. **Community Practice**
   - 471—Selected Topics in Prescription Drug Counseling
   - 481—Pharmacy Sales and Marketing
   - 482—Community Pharmacy Practice
   - 483—Aging and Health Care
   - 525—Advances in Drug Therapy
   - 561—General Toxicology
   - 566—Clinical Toxicology

2. **Institutional Practice**
   - 483—Aging and Health Care
   - 491—Hospital Pharmacy Management
   - 492—Hospital Pharmacy Administration
   - 495—Parenteral Therapy
   - 491—Pharmacy Oncology
   - 491—Physical Assessment
   - 501—Manufacturing Pharmacy
   - 505—Advances in Drug Therapy
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radiopharmaceuticals
   - 561—General Toxicology
   - 566—Clinical Toxicology

3. **Industrial Pharmacy**
   - 501—Manufacturing Pharmacy
   - 502—Pharmaceutical Formulation and Development
   - 504—Regulatory Aspects of Industrial Practice
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radiopharmaceuticals
   - 561—General Toxicology
   - 566—Clinical Toxicology
   - 569—Toxicology

4. **Nuclear Pharmacy**
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radiopharmaceuticals
   - 491—Problems in Health Physics
   - 505—Cosmetic Science and Technology
   - 510—Advanced Pharmacokinetics I
   - 561—Advanced Pharmacokinetics II
   - 504—Regulatory Aspects of Industrial Practice
   - 505—Cosmetic Science and Technology with Lab
   - 510—Advanced Pharmacokinetics I
   - 524—Advanced Medicinal Chemistry I and II
   - 525—Advances in Drug Therapy
   - 539—Bionucleonics

5. **Pre-Graduate Study**
   - Students who select this option must consult with the chairman of the department of their area of interest in order to select courses most adaptable to the program they desire to pursue. A combined B.S. in Pharmacy/M.S. in Pharmaceutical Sciences program is available to qualified students.

   The following courses offered by the Graduate School of Pharmaceutical Sciences are available to qualified upperclassmen in the School of Pharmacy:

   - 501—Manufacturing Pharmacy
   - 502—Pharmaceutical Formulation and Development
   - 504—Regulatory Aspects of Industrial Practice
   - 505, 506—Cosmetic Science and Technology with Lab
   - 510—Advanced Pharmacokinetics I
   - 511—Advanced Pharmacokinetics II
   - 522—Spectral Methods
   - 523—524 Advanced Medicinal Chemistry I and II
   - 525—Advances in Drug Therapy
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radiopharmaceuticals
   - 561—General Toxicology
   - 566—Clinical Toxicology
   - 569—Toxicology
   - 570—Drug Mechanisms I
   - 572—Methods of Evaluation of Drug Action and Toxicity

   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 freshman students are encouraged to meet with the Dean, Associate Dean, or the Dean's designate 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 appropriate math, science, and liberal arts (Core Curriculum course equivalents where required) prerequisites for entrance into the second or third year of the curriculum. Potential transfer students must meet the minimum academic coursework 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 extenuating circumstances and with the permission of the School of Pharmacy, Student Standing Committee, 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 required will disqualify the pharmacy students 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 curricula. No credit is allowed in any subject in which a grade lower than C is 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). Partial advanced placement 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 Foundation’s 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 in the University catalog. Partial advanced placement credit for some courses is available to students. Students are advised to investigate carefully the credit equivalency.

Pharmacy Activities Fee

Instituted by student request, this fee of $35 per semester for a minimum of six semesters, covers local and national Academy of Students of Pharmacy dues and journal subscriptions, 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 University This fee, which is assessed only to those students who are 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 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 Office of the Dean of the School of Pharmacy. The student should supply a written verification 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 become familiar with any instructions which may have been given during the absence.

   Handicapped students requiring special assistance are urged to notify the class instructor before or at the first class meeting.

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, throughout the program. Students who do not achieve a 2.0 QPA by the end of the first professional year may be admitted to the second year on a probationary basis. No student will be admitted to the third, fourth, or fifth years 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 will not be 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 of Pharmacy.

   The faculty of the School of Pharmacy may require Pharmacy student attendance at other seminars and special programs.

4. Health Requirements

   Any School of Pharmacy student entering studies in a hospital or other institution must be in good health and meet the University’s health requirements before entering the program.

STUDENT ORGANIZATIONS

The Academy of Students of Pharmacy whose membership includes all pharmacy students registered in the last three years of the School of Pharmacy aims to promote their interests, academic, social and professional. Under its auspices, many worthwhile events are arranged during the school year. The executive committee meets regularly with the Dean and the faculty moderator to act as liaison between students and faculty. The annual membership fee includes a membership in the American Pharmaceutical Association and an annual subscription to the Journal. Interested pharmacy students enrolled in their first and second years at the University are also eligible for membership and are encouraged to become actively involved in ASP.

The Alpha Beta Chapter of Rho Chi, national fraternity for women, was chartered at Duquesne University in 1932. The organization among its members some of the most outstanding women in pharmacy. Its purpose is to promote the pharmacy profession and to create a center of culture and enjoyment for its members.

The Beta Gamma Chapter of Phi Delta Chi, an international medical fraternity, was chartered at Duquesne University in 1980. The society recognizes efforts 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.

The Delta Epsilon Chapter of Kappa Psi, national fraternity for men, was chartered at Duquesne University in 1936. The society recognizes efforts to integrate academic, spiritual and social activities and thereby foster high ideals, character, and fellowship and to promote the profession of pharmacy. The society recognizes efforts 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.

The Delta Epsilon Chapter of Epsilon Sigma Tau, national fraternity for women, was chartered in 1929. The society recognizes efforts 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.

The Delta Epsilon Chapter of Rho Chi, national fraternity for women, was chartered at Duquesne University in 1932. The organization among its members some of the most outstanding women in pharmacy. Its purpose is to promote the pharmacy profession and to create a center of culture and enjoyment for its members.

The Delta Epsilon Chapter of Epsilon Sigma Tau, national fraternity for women, was chartered in 1929. The society recognizes efforts 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.

The Delta Epsilon Chapter of Kappa Psi, national fraternity for men, was chartered at Duquesne University in 1936. The society recognizes efforts to integrate academic, spiritual and social activities and thereby foster high ideals, character, and fellowship and to promote the profession of pharmacy. The society recognizes efforts 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.

NARD Student Chapter

A student chapter of the National Association 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, by 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.
HONOR AWARDS
American Institute of the History of Pharmacy Award A recognition certificate and gift publications are awarded annually by the American Institute of History of Pharmacy for superior achievement in pharmacological or historical study or activity.

McKesson American Pharmaceutical Association Award A plaque provided by the McKesson Company is presented annually to the graduate who has made the most significant contribution to the Academy of Students of Pharmacy at Duquesne University.

Bristol Award A plaque and a standard reference book is presented annually by the Bristol Laboratories, Inc., Syracuse, NY, to a Doctor of Pharmacy candidate for excellence in scholastic achievement.

Sara A Corey Award An award presented annually to a graduating Pharmacy student who has demonstrated considerable involvement in community service programs.

Faculty Award The faculty of the School of Pharmacy may present an appropriate award to an outstanding member of the graduating class who has displayed outstanding standing in the departments of academic excellence and a GPA of over 3.75.

Maurice H. Finklepearl Award An award of $50 is presented annually to a student who intends to practice Community Pharmacy.

Galen Society Award The Galen Society of Pittsburgh annually offers two $25 awards to the two members of the graduating class who have achieved the highest standing in the departments of pharmacology and pharmaceutical chemistry.

Samuel W. Curtis Award Annualy an award of $50 is presented to the graduate who has shown outstanding ability and interests in the field of pharmacetics.

McNeil Dean's Award A replica of an Early American Mortar and Pestle is awarded annually to an outstanding student of Pharmacy Administration.

Lilly Achievement Award A gold medal is presented annually to a member of the graduating class who has demonstrated superior scholastic and professional achievement as well as qualities of leadership.

Merck, Sharp and Dohme Award Each year Merck and Company, Rahway, New Jersey, offers a set of valuable reference books to members of the graduating class who attain the highest averages in medicinal chemistry.

Rho Chi Award Alpha Chapter of Rho Chi awards annually a suitable key to the student who earns the highest general average in all subjects during the first two years of the pharmacy program.

Roche Pharmacy Communications Award A personalized plaque is presented 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, scholarship, and activity, an avid interest in organization work.

Syntax Preceptor of the Year Award An appropriately designed plaque is awarded annually by the Syntax Laboratories, Inc., of Palo Alto, California, to the preceptor who, in the opinion of the Pharmacy Intern, 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.

Western Pennsylvania Society of Hospital Pharmacists Award An award of $50 is presented to the graduating student who demonstrates outstanding ability and interest in the area of Hospital Pharmacy.

Pennsylvania Pharmaceutical Association 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 Pharmaceutical Association Award A certificate of recognition and one-year membership in the PPA is awarded annually to the graduate who has been most actively involved in pharmacy organizations.

Cornetti Tauss Award An award is presented to the graduating student who has demonstrated excellence in pharmacy.

Sandoz Doctor of Pharmacy Award A commemorative plaque and monetary award is provided by Sandoz, 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 B.S. in Pharmacy graduate who has demonstrated the highest level of achievement in the provision of drug information services and of professional motivation and promise.

Upjohn Research Award A plaque and monetary award are presented annually to a graduating Pharm D student who has demonstrated superior research activities, as determined by the faculty, Department of Clinical Pharmacy.

GRADUATION REQUIREMENTS
A committee of the faculty will review the academic record of each candidate for graduation to ascertain full compliance with specific School of Pharmacy curricular requirements and the general University Graduation Requirements, as stated in the Academic Policies section of this catalog. This committee will then recommend candidates for faculty certification for graduation or for remedial work to be fulfilled prior to the granting of the degree. Communications pertaining to this certification may be entered in the Office of the Dean.

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 proficiency in the practical aspects of pharmacy, the State Board shall by regulation prescribe internship requirements which must be satisfactorily completed prior to sitting for the licensure exam 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 licensing 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. Standards of practice may 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 PA.

CAREER GUIDANCE CENTER
A Guidance Center has been established within the School of Pharmacy to keep students informed about the latest career opportunities available to those possessing a pharmacy education and to assist high school and college students to the profession.

The Center consists of faculty members, School of Pharmacy alumni, and pharmacy practitioners. It provides upon request speakers for career day programs and information to high school counselors on all matters relating to a pharmacy education and career.

Pamphlets containing career information on Pharmacy are also available through the Guidance Center. Inquiries should be directed to the Pharmacy Career Guidance Center, School of Pharmacy, Duquesne University, Pittsburgh, Pennsylvania 15282.

RESEARCH FOUNDATION
The Hugh C. Muldoon and Pharmacy Alumni Foundation of Duquesne University, established in 1950 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 University and of the School of Pharmacy. The foundation provides funds for improving the instructional and research facilities of the School, it assists in the advancement of pharmacy by providing scholarship assistance to Pharmacy students and by supporting the training of undergraduate and graduate students in industrial and research procedures, it helps to extend the knowledge from research being conducted under the auspices of the School.

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.

COURSE DESCRIPTIONS
The courses of instruction are numbered in accordance with a plan uniform throughout the University. The 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 faculty as a 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.
### DEPARTMENT OF PHARMACEUTICAL CHEMISTRY AND PHARMACEUTICS

**Chairman**

Lawrence H. Block, Ph.D.

**Faculty**

Professors Block, Feldman, Galsky, Gangel, Kay, Assistant Professors Adeyeye, Collins, Harbold, Li

### 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 is presented. Lecture, one hour

### 301 Basic Pharmacotherapeutics—Pharmacology

**Pharmacy Math I**

4 cr

A study of the basic physicochemical principles applicable to an understanding of drugs and the pharmaceutical systems in which they are contained. Subtopic areas include solubility and solutions, pH, diffusion, osmosis, drug stability, packaging, storage and administration, physicochemical evaluation of pharmaceutical products, principles of the design and manufacture of drug delivery systems, the clinical applications of pharmacotherapeutics, mathematical manipulations (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. Prerequisite Calculus 115. General Physics (or equivalent), Organic Chemistry I, II Lecture, three hours, Recitation, conference, and laboratory, four hours

### 309 Biochemistry—Nutrition

4 cr

A course designed to integrate 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 metabolism. Studies on DNA structure, replication, transcription and protein synthesis and its regulation are discussed. Prerequisite: Organic Chemistry I, II. 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 measure methods, the analytical process, problem solving and data interpretation. Examples used come from pharmaceutical manufacturing, clinical and biochemical analysis, pharmacokinetics, pharmacology and pharmaceutical therapeutics. Prerequisites: General Chemistry, Organic Chemistry, and Biochemistry. Lecture, four hours

### 316 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 related to mechanism of action, drug disposition (absorption, distribution, metabolism, and excretion) and chemical incompatibilities considered for each class. Prerequisites: Organic Chemistry I, II and Biochemistry. Lecture, four hours

### 314 Medical Anatomy—

**Natural Products II**

4 cr

A continuation of Medicinal Chemistry I. Lecture, four hours

### 499 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 specified instructor will design 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

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### DEPARTMENT OF PHARMACOLOGY-ANATOMY

**Chairman**

Douglas Bricker, Ph.D.

**Faculty**

Professors Riley, Wnek, Associate Professors Bricker, Fochtman, Pilewski, Instructor Waibha

### 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. Permission to this course for students who have completed Pharmacology-Drug Mechanisms I or an equivalent by approval of the instructor. Lecture, one hour

### 3 Basic Pharmacology

3 cr

A course dealing with the major classes of therapeutic agents, designed for students with a limited background in biological sciences. Drugs are considered in relation to their pharmacological classification, with chemical properties related to mechanism of action, drug disposition (absorption, distribution, metabolism, and excretion) and chemical incompatibilities considered for each class. Prerequisites: Organic Chemistry I, II. Lecture, three hours

### 220 Human Anatomy and Physiology I

4 cr

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

### 221 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, a histological study of tissues, and the clinical appraisal of physiological functions. Prerequisite: Human Anatomy and Physiology I. Lecture, three hours, Laboratory, three hours

### 318 Pathophysiology

3 cr

A lecture presentation of the cellular, organ and system 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. Prerequisites: Human Anatomy and Physiology I, II. Lecture, three hours

### 319 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 chemotherapeutic agents on pathogenic bacteria, and immunity. It includes discussions of the important bacterial, rickettsial, and protozoal diseases along with viral infections, their causes, symptoms, and treatment. Lecture, three hours, Laboratory, three 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. Prerequisites: 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 over-the-counter drug for a particular disease state, and to determine drug interactions. Prerequisite: Pharmacology-Drug Mechanisms II. Lecture, two 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 aid portion of the course, the course teaches how to render first aid in cases of emergency, while awaiting the arrival of a physician. Special emphasis is placed on emergency which the pharmacist is most likely to experience: epileptic seizures, heart attacks, fainting...
SCHOOL OF PHARMACY

471 Selected Topics in Prescription Drug Counseling 3 cr
A lecture course, with product discussions and demonstrations, intended to increase student knowledge of patient prescription drug counseling. The course will assist the student in organizing and presenting information to the patient based on an understanding of the similarities and dissimilarities between drug products of the same class, mechanism of action, clinical application, administration, need for compliance, storage directions, potential side effects and adverse reactions, and when and why the patient should contact a pharmacist on medication problems. Lecture, with demonstrations, three hours

DEPARTMENT OF PHARMACEUTICAL ADMINISTRATION

Chairman Vincent J Giannetti, Ph D
Faculty Professors Giannetti, Associate Professors 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. The course will cover various aspects of pharmacy practice, including elements of business law and civil responsibility. Lecture, three hours

262 International Health Issues 3 cr
The course will explore factors that influence health care in diverse countries. Topics covered may include an understanding of the cultural, legal, and ethical influences on health care, the role of international agencies, and the impact of international health policies on health care delivery. Lecture, three hours

280 Pharmacy Management 4 cr
A course designed to familiarize students with the fundamentals of personnel, marketing, inventory, drug distribution, and quality control. Lecture, with demonstrations, laboratory, three hours

325 Pharmacy Administration 3 cr
A course designed to familiarize students with the administration of pharmacy services. Topics include organizing and financing a pharmacy, management of personnel, marketing pharmacy services, and assessment of pharmacy systems. Lecture, laboratory, three hours

430 Patient Counseling and Education 3 cr
A course designed to examine current counseling and communication techniques in terms of how they relate to patient education regarding personal health problems and compliance with medication regimens. The course will examine in detail basic interviewing techniques, with demonstrations, two hours

431 Behavioral Aspects of Illness 2 cr
A course designed to examine the current theory and research in the psycho-social correlates and consequences of illness and health. Topics will include the general areas of social stress research, theories of psycho-somatic medicine, the impact of social environment upon health, and the impact of illness upon the emotional and social functioning of the person. Prerequisite: Introductory course in psychology and/or sociology. Lecture, two hours

432 Practical Pharmacy II—Community 3 cr
Required of all final-year Pharmacy students and in involving placement in an operating pharmacy. Lecture, three hours

433 Practical Pharmacy III—Hospital 3 cr
Required of all final-year Pharmacy students and in involving placement in an operating hospital pharmacy. Lecture, three hours

434 Practical Pharmacy IV—Option 3 cr
Required of all final-year Pharmacy students and in involving placement in an operating pharmacy or related setting with a pharmacist-preceptor. Lecture, three hours

481 Pharmacy Sales and Marketing 2 cr
An introduction to the pharmaceutical manufacturer's role in marketing drug products. The concepts, elements, and functions involved in the competitive field between the manufacturer and the retailer and the need for consideration. 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 economic and political environment, and assessing and computerizing a pharmacy. Lecture, three hours

483 Agung 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. Prerequisite: A course in psychology and/or sociology. Lecture, two hours

485:1 Clinical Clerkship 3 cr
An educational program designed to provide the student with clinical experiences necessary to demonstrate competence related to the therapeutic principles of selected disease states. Lecture, three hours

485:2 Clinical Pharmacy I—Clinical Clerkship 3 cr
An educational program designed to provide the student with clinical experiences necessary to demonstrate competence related to the therapeutic principles of selected disease states. 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 methods of study design, randomization, control groups, and the role of statistics in experimental design. Prerequisites will be applied by evaluating selected articles from primary literature. Lecture, two hours

806 Drug Information Resources 2 cr
This course is structured to familiarize the student with the various primary and secondary literature sources of pharmacology and medicine. The course will provide an overview of various topics related to the therapeutic principles of selected disease states. Lecture, two hours

811 Drug Induced Diseases 2 cr
The adverse effects of drug administration on various body systems are reviewed. Emphasis is placed on methods for their proper recognition, monitoring, evaluation, and management. Lecture, three 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 directed toward the mechanism, incidence, and clinical presentation of these consequences of drug therapy. Lecture, two hours

814 Parenteral Therapy 3 cr
A lecture/laboratory course designed to provide the student with clinical experiences necessary to demonstrate competence related to the therapeutic principles of selected disease states. Lecture, two hours

815 Clinical Oncology 2 cr
The course will provide insight into the pathophysiology, diagnosis, and treatment of cancer. Lecture, two hours

326 Pharmacy Administration 3 cr
A course designed to familiarize the student with the diverse social, political, economic, and legal forces affecting the practice of pharmacy. The course considers the persons, places, and activities involved in providing health care services with special emphasis on the role of the pharmacist. Lecture, three hours

SCHOOL OF PHARMACY

471 Selected Topics in Prescription Drug Counseling 3 cr
A lecture course, with product discussions and demonstrations, intended to increase student knowledge of patient prescription drug counseling. The course will assist the student in organizing and presenting information to the patient based on an understanding of the similarities and dissimilarities between drug products of the same class, mechanism of action, clinical application, administration, need for compliance, storage directions, potential side effects and adverse reactions, and when and why the patient should contact a pharmacist on medication problems. Lecture, with demonstrations, three hours
The course is designed to introduce the student to the therapeutic principles of selected disease states. Includes lecture, prospective and retrospective review of case histories and rounding with clinical faculty on patient assignments. Restricted to Pharm D students. Lecture, five hours.

517 Advanced Therapeutics I 5 cr
The course is designed to introduce the student to the therapeutic principles of selected disease states. Includes lecture, prospective and retrospective review of case histories and rounding with clinical faculty on patient assignments. Restricted to Pharm D students. Lecture, five hours.

518 Advanced Therapeutics II 5 cr
A continuation of Advanced Therapeutics I. Restricted to Pharm D students. Lecture, five hours.

519 Physical Assessment 2 cr
The course is designed to present the assessment techniques and basic knowledge of physical assessment utilized in monitoring the therapeutic effects of drugs. The Bates Physical Exam Videotapes are incorporated into the course. Lecture-discussion, two hours.

899 Research—Pharm D 2 cr
A report of experimental, administrative or behavioral investigational procedures and outcome carried on by the student under faculty advisement. Independent research. Restricted to Pharm D students.

691, 692 Seminar in Clinical Pharmacy 1 cr each
Oral presentation by graduate students, faculty, and possibly visiting lecturers on topics of current, clinical, scientific and professional interest. Participation is required of all students in the Pharm D Program during each semester of registration. Restricted to Pharm D students.

John G. Rangos, Sr
School of Health Sciences

Administration
Dean
Jerome L. Martin, Ph.D.

DEMANDING PROFESSIONS
PROFESSIONS IN DEMAND

HISTORY
On January 29, 1990, Dr. John E. Murray, Jr., President of Duquesne University, announced the creation of a new School of Health Sciences, the first School to be created at Duquesne since 1937. He said, "The School was created to graduate professionals who will provide great hope for the future. It meets an overwhelming societal need and it enlarges opportunities for students at Duquesne. In serving the citizens of Western Pennsylvania and our students, this initiative is precisely in accordance with the purposes of Duquesne University." On March 18, 1991, Mr. John G. Rangos, Sr. (President and Chief Executive Officer of Chambers Development Company, Inc.), Pittsburgh-based Chambers Development Company, Inc., The John G. Rangos Charitable Foundation, and the Chambers Development Charitable Foundation, made a major gift to Duquesne University in support of the School of Health Sciences. In recognition of that gift, Dr. Murray announced the School would be named the John G. Rangos, Sr. School of Health Sciences (RSHS) at Duquesne University.

The Rangos School of Health Sciences will be housed in a newly renovated Health Sciences Building which was the Old Gymnasium. All of the research and teaching laboratories, classrooms, faculty offices, and student study rooms for all of the programs will be in this building.

The first freshman students were admitted September 1991 to all of the programs which include athletic training, health records administration, occupational therapy, perfusion technology, physical therapy, and physician assistant. Students were also admitted September 1991 into the professional phase of the physical therapy program. In June 1992, the professional curriculum for physician assistant will be implemented and in September 1992 the professional curriculums for occupational therapy and athletic training will be implemented. In September 1993 the health records administration professional curriculum will be implemented. By 1993/94 the RSHS will be fully operational with approximately 260 students enrolled from freshmen through the fifth year of the entry-level master's programs.

Duquesne University is proud of its association with Allegheny General Hospital, The Mercy Hospital of Pittsburgh, St. Francis Medical Center and the 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 their ranks number far too few. The U.S. Bureau of Labor Statistics predicts that by the turn of the century there will exist 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.

SUMMARY STATEMENT OF PHILOSOPHY AND MISSION

The philosophy and mission of the Rangos School of Health Sciences is consistent with the mission of the University and addresses the four major objectives:

• 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.

The philosophy of the RSHS was founded in accord with the educational and professional objectives of the University. Students in the RSHS will be exposed to a broad liberal education with emphasis on understanding the scientific/theoretical/theological constructs in the world. The academic programs will focus on the scientific theories of the various professions coupled with a strong appreciation and understanding of human values.

Medical care in the United States has seen a transition from totally hands-on experiential learning to programs dominated by advanced scientific technology development. Massive, complex health delivery programs offer society choices of entry into the health care system. A mixture of generalists and specialists practice in a sophisticated medical system to try to meet the growing health service demands of our society.

To this end, the RSHS will instill in-depth scientific knowledge of medical practice with a rich infusion of the theoretical and ethical values necessary to be effective health care professionals who are totally cognizant of the needs of individual patients and the health care system in which they practice.
SCHOOL OF HEALTH SCIENCES

An understanding of the research procedures and protocols necessary to advance the body of knowledge in their respective professions will be fostered. Always there will be an awareness, feeling, and sensitivity to address the human response to disease or trauma necessary to be a total health care practitioner. The ultimate goal of the educational programs within the RSHS at Duquesne University is to educate future health care practitioners capable of explaining, investigating, and delivering the highest level of quality care with kindness and dignity.

The mission of the RSHS is to educate students who are excellent clinical practitioners, who can assume positions of leadership, who understand the unique individual qualities of their patients, and who have concern for their general welfare. Moral and ethical values will support the scientific underpinning of the academic programs. Curriculums will provide a comprehensive background for advanced graduate education, research, and scholarship.

Graduates will be prepared for successful careers in athletic training, health records administration, occupational therapy, perfusion technology, physical therapy, and physiological health care practitioners who graduate from the RSHS will possess the characteristics of leadership, expertise, intuitive, responsible, and a profound moral and ethical respect for their patients and profession.

The RSHS is dedicated to educating students who are excellently qualified to value the worth of the individual human being and are committed to serve in their profession and in the community.

PROGRAMS AND DEGREES AWARDED

The Rangos School of Health Sciences offers five-year entry-level master’s degree programs in Physical Therapy (M PT), Occupational Therapy (M OT), Health Records Administration (M H R A), and Physician Assistant (M PA A). The academic model for these programs will be three years of liberal arts and science requirements followed by two years of professional education. This three-two model is unique for these programs and provides the RSHS faculty the opportunity to maximally utilize the excellent core curriculum and science offerings at Duquesne as the basis for creative, professional curricula. All of the five-year entry-level master’s degree programs will award a bachelor of science degree in Health Sciences at the end of the fourth year and a master’s degree at the end of the fifth year.

Additionally, the RSHS offers four-year bachelor of science degree programs in Athletic Training (B S in Athletic Training) and Perfusion Technology (B S in Perfusion Technology see pages 75-76) and will follow a more traditional curricular design. Majors in athletic training, with additional work done in the School of Education, will also have the opportunity to qualify for teacher certification. This flexible curricular planning will allow students to maximize their educational opportunities. The academic model for these programs will be two years of liberal arts and science requirements followed by two years of professional education.

ADMISSION REQUIREMENTS

ADMISSION OF HIGH SCHOOL GRADUATES

Students who are interested in applying for admission to the RSHS must request an application from the Office of Admissions, Duquesne University, Pittsburgh, PA 15282. The specific entrance requirements for admission are:

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.
2. Applicants who have not completed four years of high school must submit a High School Equivalent Diploma issued by their state department of education.
3. 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 sciences, 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. Candidates should have completed a minimum of seven units in mathematics and sciences.
4. 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).
5. All students in the RSHS are required to participate in volunteer experiences prior to entering the professional phase of their respective curricula. Additional information about these experiences can be obtained from the RSHS Advisor.

FINANCIAL AID

Financial Aid is provided through the University’s Financial Aid Office. The Rangos School of Health Sciences will have scholarships available for the professional phase of the curriculum. Upon entering the professional phase of the curriculum, these scholarships will be awarded on a competitive basis.

DEPARTMENTS

PHYSICAL THERAPY

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 a person’s health and well-being.

Beyond this precursory 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 Master’s of Physical Therapy through a five-year curriculum. Students may transfer into the physical therapy program after the freshman year if space is available.

The demand for physical therapists has been estimated to be 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 "Avoiding Crisis." This 87 percent increase translates to some 53,500 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 assist 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, and 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 American Occupational Therapy Association foresees a 93 percent increase in the demand for occupational therapists by the year 1995.

SCHOOL OF HEALTH SCIENCES

HEALTH RECORDS ADMINISTRATION

As one might imagine, the task of record-keeping for a major metropolitan hospital is phenomenal. The knowledge and skill level necessary for a position in medical records is reflected in the skyrocketing salaries commanded by these professionals over the past decade.

Health records administrators plan, design, organize, implement, and maintain health record systems in a variety of settings. They are charged with the development of a nucleus, or central information point, from which all operations and management evolve. Their work assists in the evaluation of patient care, the carrying out of research, and the maintenance of health records which influence reimbursement.

Their work may take them beyond hospitals to psychiatric and mental health facilities, rehabilitation centers, ambulatory care centers, long term care facilities, industry, research and educational institutions, government agencies, and consulting firms.

The curriculum for a Health Records major is structured by the Institute of Medicine and Occupational Therapy majors. Most instructional course work is completed in the first three years while the senior and fifth years are concentrated on the science of health records administration. The outlook for health records administrators is equally optimistic.

The demand for health records administrators is expected to grow through 2005. Projections presented by the U.S. Bureau of Labor Statistics for data compiled by the Institute of Medicine in its 1988 study "Allied Health Services Avoiding Crisis" indicates that 75 percent more or 29,900 new jobs will open up in the next decade.

PHYSICIAN ASSISTANT

A physician assistant is a skilled member of the health care team who practices medicine under the supervision and responsibility of a doctor of medicine or osteopathy, fulfilling a broad range of medical services which would otherwise be provided by a physician in accordance with state laws.

The physician assistant is qualified by academic and clinical training to perform initial and follow-up evaluations of the patient, to elicit a detailed history, perform an appropriate physical examination, record and interpret laboratory data, and interpret diagnostic images in a manner meaningful to the physician. Additional tasks performed by physician assistants include preparing patient summaries, collecting specimens, initiating requests for commonly performed initial laboratory studies, identifying findings and abnormal findings on history, physical examinations, and lab studies.

The physician assistant also participates in the evaluation and management of emergency patients, performs numerous clinical procedures, provides counseling and instruc-
SAMPLE CURRICULA

**PRE-PHYSICAL THERAPY**

### First Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Health Sciences Orientation</td>
<td>1</td>
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<tr>
<td>Thinking/Writing Across Curriculum**</td>
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<tr>
<td>General Biology I</td>
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<td>General Chemistry I</td>
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### Spring Semester

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### Third Year

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### Fall Semester

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### Spring Semester

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### Spring Semester

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### FALL SEMESTER CREDITS

- **Fall Semester Credits:** 15
- **Spring Semester Credits:** 15
- **Third Year Credits:** 17

**PRE-OCCUPATIONAL THERAPY**

**Pre-Occupational Therapy** students must also successfully complete proficiency examinations in the following areas:

- Woodworking
- Knotting
- Plastic needlepoint
- Rug-hooking
- Mosaic tiles
- Copper tooling
- Leatherwork
- Braiding
- Turkish knotting

**First Year -- Same as Pre-Physical Therapy**

(See previous page)

### Spring Semester Credits

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**SECOND YEAR CREDITS**

- **Fall Semester Credits:** 16
- **Spring Semester Credits:** 16
- **Third Year Credits:** 16

**PRE-HEALTH RECORDS**

### Administration

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</table>

**Fall Semester**

- Health Sciences Orientation | 3 |
- Thinking/Writing Across Curriculum | 3 |
- General Biology I | 4 |
- General Chemistry I | 4 |
- Basic Philosophical Questions | 3 |
- CPR Certification | 3 |

**Spring Semester**

- Intro to Computer Science/Basic | 3 |
- General Biology I | 4 |
- College Algebra | 3 |
- Christian Understanding of the Human Person* | 3 |

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**EXCLUDING UNIVERSITY CORE COURSES, ARE SUBJECT TO CHANGE AT THE DISCRETION OF THE RANGOS SCHOOL OF HEALTH SCIENCES FACULTY.**

*Upon satisfactory completion of the listed courses, the student will progress into the professional portion of the program. The professional phase of the curriculum can be obtained directly from the Rangos School of Health Sciences at a future date. Please note that curriculum and prerequisite requirements may change at the discretion of the Rangos School of Health Sciences.**

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**PERIODIC TECHNOLOGY**

Perfusion Technology and curriculum description is found on pages 75 and 76.
### PRE-ATHLETIC TRAINING*

#### First Year

<table>
<thead>
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<td><strong>Spring</strong></td>
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<td>Imaginative Lit /Critical Writing</td>
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<td>Etymology of Scientific Terms</td>
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<tr>
<td>Fundamentals of Statistics</td>
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<tr>
<td>Social, Political &amp; Economic Systems**</td>
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<tr>
<td>Introduction to Psychology</td>
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#### Second Year

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<td>Public Speaking</td>
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<td>Anatomy/Physiology I</td>
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<td>Developmental Psychology I</td>
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<td>Shaping of the Modern World**</td>
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<td><strong>Spring</strong></td>
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<td>Intro to Computer Science/Basic</td>
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<td>The Arts &amp; Human Experience**</td>
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<td>Developmental Psychology I</td>
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### PRE-PHYSICIAN ASSISTANT*

#### First Year

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<td>Health Sciences Orientation</td>
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<td>Thinking/Writing Across Curriculum</td>
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<td>General Chemistry I</td>
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<td>Basic Philosophical Questions</td>
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<td><strong>Spring</strong></td>
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<tr>
<td>Imaginative Lit /Critical Writing</td>
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<tr>
<td>General Biology II</td>
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<tr>
<td>General Chemistry II</td>
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</tr>
<tr>
<td>Social, Political &amp; Economic Systems**</td>
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### PRE-PERFUSION TECHNOLOGY*

#### First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
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<tbody>
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<td>Perfusion Technology Seminar</td>
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<td>General Chemistry I</td>
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<tr>
<td>Calculus I</td>
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<td>Thinking/Writing Across Curriculum</td>
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<tr>
<td>University Core</td>
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<tr>
<td><strong>Spring</strong></td>
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</tr>
<tr>
<td>Perfusion Technology Seminar</td>
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<tr>
<td>General Biology II</td>
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<td>General Chemistry II</td>
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<td>Imaginative Lit /Critical Writing</td>
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<tr>
<td>University Core</td>
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</tbody>
</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 paid 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. This placement credit may be granted for:

1. Completion of Army Basic Training or its equivalent in the Army, 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 a Reserve or National Guard unit as an officer trainee at the same time. The advantage to SMP is that the student will receive regular drill pay from the Reserve or National Guard as well as the $100 per month living allowance for participating in the Army ROTC.

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 first 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.

ARMY ROTC SCHOLARSHIPS

Army ROTC offers four-, three-, and two-year scholarships which are awarded on a competitive basis. ROTC students, as well as those students not currently participating in ROTC, are eligible to apply. Each scholarship pays for most of tuition, textbooks, laboratory fees, and other purely academic expenses. Scholarship students also receive a tax-free subsistence allowance of $100 each month during the school year while on scholarship status. For details, see the ROTC Scholarship listing in the Financial Aid Section of this catalog on page 18.

MILITARY SCIENCE CURRICULUM

THE BASIC COURSE

(Military Science Levels I and II)

Military Science (MS) 101 Survival Techniques
This is an introductory course designed to prepare students to handle survival situations, determine directions, navigate at night, rappel, find and prepare food, find water, apply first aid, cross obstacles and construct shelters.

Military Science (MS) 102 History of the United States Army
This course introduces the student to the United States Army and provides an inside view of ROTC. It 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 cross-country using a map and 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 year-end period if the student meets certain prerequisites.

Basic Course Curriculum

Freshmen (MS I)

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>MS 101 Survival Techniques</td>
<td>MS 102 Individual Skills</td>
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<td>0-1 cr</td>
<td>0-1 cr</td>
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<tr>
<td>Sophomores (MS II)</td>
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</table>
CONTINUING EDUCATION

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 (BPS)
- 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 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.

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 preparation for professional study but for lifelong learning.

General Core

- 101 Thinking and Writing Across the Curriculum 3 Cr

102 Imaginative Literature and Critical Writing 3 Cr
109 College Algebra 3 Cr
111 Calculus or
115 Calculus I 3 Cr
131 Bases of Human Thought and Action 3 Cr
141 Social, Political and Economic Systems 3 Cr
151 Shaping of the Modern World 3 Cr
161 The Arts and the Human Experience 3 Cr

Science Core

- 171 Biology (Students choose one)
- 172 Chemistry
- 173 Physics (Higher level courses satisfy requirement) 3 Cr

Theology Core

- 182 Human Morality
- 183 The Judeo-Christian Religious Tradition
- 184 Introduction to the Bible
- 185 Religions East and West
- 186 Roman Catholic Heritage 3 Cr

Some University Core requirements may be fulfilled by alternative courses. Students are advised to consult with their academic advisor to identify alternative courses where appropriate.

Business Requirements — 42 Total Credits

Business requirements professionally prepare students to meet the challenge of a business career through an appreciation of initiative and responsibility, by developing the ability to work harmoniously with others and to adjust to changing circumstances, by encouraging logical thinking and analytical reasoning, and by developing an awareness of the important role of quantitative measurements in today's business world.

Students must complete 60 credits, including all required freshman and sophomore business courses, prior to enrolling for 300 or 400 level business courses.

- 181 Introduction to Computers 3 Cr
- 182 Micro Computer Software Applications 3 Cr
- 211/212 Principles of Accounting I & II 6 Cr
- 221/222 Principles of Economics I & II 6 Cr
- 251 Legal Process 3 Cr
- 331 Business Finance 3 Cr
- 361 Principles of Management 3 Cr
- 371 Principles of Marketing 3 Cr
- 381 Intro to Decision Sciences 3 Cr
- 491 Executive Action Simulation or
- 492 Executive Policy 3 Cr
PERSONAL FOCUS AREAS — 30-42 TOTAL CREDITS

In consultation with an academic advisor, students customize two focus areas consisting of integrated course work 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 personal focus areas can be designed. A minimum of 15 credits is required to complete a focus area, with two-thirds of which is above the 200 course level. Duquesne University's Professional Certificate Programs provide examples of integrated, professional oriented course work 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. Some of these certificate programs have prerequisites. Please call 434-6232 for a complete catalogue with all prerequisites and course work specifics.

Professional certificates are available in the following areas:

ACounting (Basic)

This certificate is a five-course, 15 credit program of the following courses:

211 Intro to Accounting
212 Intro to Accounting II
311 Intermediate Accounting I
312 Intermediate Accounting II
Select one (1) of the following:
315 Cost Accounting
411 Auditing

Accounting (Advanced)

This certificate is an eight-course, 24 credit program which satisfies the course work requirements for the Pennsylvania CPA examination. The candidate must also have a Bachelor's degree to sit for the CPA exam. The required curriculum includes 15 credits from the Basic Certificate program, plus nine (9) credits from the following:

251 Legal Process
412 Intro Income Tax Accounting
Select one (1) of the following:
353 Contracts
354 Commercial Transactions
355 Law and Business Organizations
356 Legal Aspects of Human Resource Management
454 The Law of International Commercial Transactions

Financial Analysis (Basic)

This certificate is a five-course, 15 credit program of the following courses:

331 Business Finance
332 Money & Financial Institutions
333 Financial Management
335 Business Financial Problems
432 Credit Management

Financial Analysis (Advanced in Securities Analysis)

This certificate is an eight-course, 24 credit program, including five of the courses from the Basic Certificate, plus the following courses:

336 Security Analysis
337 Investment Analysis
433 Financial Markets

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
Select four (4) of the following:
308 Numerical Analysis
401 Data Base Management Systems
410 Artificial Intelligence
445 Systems Analysis and Software Design
480 Senior Project

Management Information Systems (MIS)

This certificate is an eight-course, 24 credit program of the following courses:

181 Introduction to Computers
182 Microprocessor Software Applications
183 Information Processing with COBOL
281 Numerical Analysis
285 Computer Systems
481 Systems Analysis and Design
482 Data Base Management
483 MIS in Organizations

Marketing

This certificate is a six-course, 18 credit program of the following courses:

371 Principles of Marketing
375 Sales Administration
377 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:
480-383 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
321 Visual Communication
322 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 Jounralistic Writing
460-271 Basic Reporting and Writing I
Take the following three (3) courses:
460-306 Business & Professional Communication
460-383 Writing for Business & Industry
460-385 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

Marketing

This certificate is a six-course, 18 credit program of the following courses:

371 Principles of Marketing
375 Sales Administration
377 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:
480-383 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:

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460-383 Writing for Business & Industry
460-385 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

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
453 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, deliver 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. Four core courses Introduction to the Legal System and Paralegalism, Legal Research, Legal Writing and Computer Literacy are required of all students.

Four additional specialized courses are required of all candidates for completion of the certificate. Students enrolled in the program would have access to the Duquesne University Law Library as a part of their preparation in Legal Research.

ENTRY REQUIREMENTS

Admission to Duquesne University's Paralegal Institute is restricted to qualified candidates. Students...
may be considered for admission to the program if they possess a Bachelor degree.*

*This program has been approved by the American Bar Association.

**In certain cases the Admissions Committee may waive this requirement and consider other related factors such as previous experience.

Call 434-1643 for complete information, including a catalogue and an application.

Academic Standards

Students must maintain a 2.5 grade point average for successful completion of the program and certificate. Students with academic deficiencies may be required to complete additional course work. The Director of the Paralegal Institute and the Academic Review Committee will evaluate deficiencies on a case-by-case basis and recommend the appropriate course of action.

Duquesne Benefits Institute

The Duquesne Benefits Institute is an educational institution associated with the Center for Continuing Education of Duquesne University and devoted to continuing professional education for those who work in the field of employee benefits.

Once principally the domain of tax lawyers, the employee benefit field exploded with the passage of the Federal Employee Retirement Income Security Act of 1974 (ERISA). This field has become one of the most challenging areas of professional practice, encompassing professionals from the areas of law, human resources, management, consulting, actuarial science, insurance and investment management, banking, accounting and many other disciplines.

This is an intensive training program in all phases of employee benefit plans, from qualified pension and profit sharing plans to group insurance plans, IRAs, VEBAs and fringe benefits.

The Curriculum consists of five (5) courses and leads to the awarding of the Certificate in Benefit Plans, entitling the holder to use the designation "CBP" after his or her name.

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.

For those already in the field, the Program is designed to provide a combination refresher/update on all of the latest developments in this fast-moving area, as well as broaden the professional's base within the field.

Entry Requirements

A college degree is normally required for admission to the Benefit Plan Certificate Program. In certain cases, the Admissions Committee may waive this requirement and consider other related factors such as previous experience.

Call 434-1643 for complete information, including a catalogue and an application.

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. The Institute's program is a nine-session series that trains nursing managers to manage more effectively. The program emphasizes practical skills and methods that managers will be able to put to immediate use to improve their ability to manage and to increase their professional opportunities.

The Nurse Management Institute program runs annually beginning in October through April as an integrated series of one-day sessions. Each preparation course will enable you to take the selected exam with confidence and skill. Learn how to approach and analyze complex questions and discover the most effective ways to use your test time — identify and strengthen your weak areas.

Instructors are members of the Duquesne University faculty.

LSAT

Performance on the LSAT can count for as much as 50% of your chances to be admitted to the school of your choice.

Call 434-1642 for additional information.

March 9, 1991

March 16, 1991

June 15, 1991

June 8, 1991

*Class held on Sunday

University reserves the right to cancel class based on enrollment.

GMAT

For applicants to graduate business school. Register early, receive study guide, GMAT materials and preparation materials. The GMAT study and preparation materials are mailed only if registration is received two weeks before review program begins.

Call 434-1643 for complete information, including registration materials. Note: Mailed only if registration is received two weeks before review.

GMAT

For applicants to graduate business school. Register early, receive advance GMAT study and preparation materials. Note: Mailed only if registration is received two weeks before review program begins.

CONTINUING EDUCATION

GRE

The Graduate Record Exam — four days of intensive review include math, logic and verbal sections of the exam. Each section analyzed in detail. Call 434-1643 for complete information.
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B S , M A , Ph D

Major Theodore Poulakidas  
Assistant Professor of Military Science  
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Captain Russel Eble  
Assistant Professor of Military Science  
B A The Citadel

Captain Paul Swenson  
Assistant Professor of Military Science  
B S , University of Massachusetts
Index

Academic 21
   Advisor 21
   Calendar 21
   Load—Arts and Sciences 41
   Policies 21
   Summer Sessions 5, 8
   Supervisor of Intercollegiate Athletics 21, 24
   Academic Policies 21
   Academic Advisor 21
   Academic Supervisor of Intercollegiate Athletics 21, 24
   Auditing Courses 21
   Cancellation of Courses 21
   Class Attendance 21
   Classification of Students 22
   Course Examinations 22
   Credit by Examination 22
   Dean's List 24
   Grading System 24
   Graduate Courses for Undergraduate Credit 24
   Graduation Requirements 24
   Honors 24
   Pass/Fail Electives 24
   Plus/Minus Grading Option 22
   Quality Point System 23
   Repeating Courses and Course Retrospect 23
   Student Standing 23
   Transfer Within the University 23
   Unit of Credit 24
   Withdrawal Course 25
   Accounting Curriculum 95
   Accreditation and Affiliation 173
   Administration and Faculty 173
   Administration Building 173
   Administrative Officers 172
   Admissions 6
   Advanced Placement 9
   Applications 6
   First Year Students 6
   Other Categories 7
   International Students (Undergraduate) 7
   Post-Graduates 8
   Readmission 8
   Temporary Transfers 8
   Transfers 8
   College Level Examination Program 9
   Credit Hour Bank 9
   Early Admissions 7
   Early Decision Plan 7
   Office 6
   Policy 6
   Requirements 6
   Summer Session 6
   Duquesne Students 8
   Other Students 9
   Admission, Special Requirements 9
   Business 91
   Education 108
   Health Sciences 158
   Music 136
   Nursing 133
   Pharmacy 147
   Advanced Placement 9

Admission & Referral Center 31
Career Planning & Placement 31
Counseling & Testing 32
Health Services 32
Retention 33
Advisor 21
Academic International Student 33
Alcoa Loan 12
Application 9
Credit Hour Bank 26
For Financial Aid 26
New First-Year Students 6
Early Admission 7
Early Decision 7
Other Categories 7
International Students 7
Post-Graduates 8
Readmission 8
Summer Session 8
Duquesne Students 8
Students from Other Institutions 9
Transfers 8
Temporary 8
Applied Music Courses 127
Army ROTC 164
Art History Division 44
Courses 44
Requirements for Minor 44
Arts and Sciences 25
See Liberal Arts and Sciences, College of
Assumption Hall 2
Athletics 30
Auditing Courses 21
Auditor's Fee 26
Bachelor's-Master's Program 43
Bachelor's Degree Fee 27
Bachelor's Degree—Second-Year 43
Bachelor's Degree—Three-Year 44
Bachelor's-Professional School Program 43
Bad Checks 29
Behavioral Sciences, Division of International Business 100
International Administration 102
Management 103
Marketing 103
Pre-Legal 103
Billings Problems 29
Biochemistry 49
Biological Sciences 35
Courses 46
Department of 45
Requirements for Major 46
Requirements for Minor 46
Board of Directors 68
Business and Administration 91
School of 91
Academic Regulations 95
Academic Load 95
Accreditation and Affiliation 4
Admission 91
Advisory Board 93

Center for 103
   Administration of Legal Systems 103
   Economic Education 92
   International Management 92
   Class Attendance 95
   Course Descriptions 95
   Accounting 95
   Behavioral Science 100
   Economic Science 106
   Finance 97
   International Business 102
   Law Administration 103
   Management Information Systems 104
   Marketing 104
   Pre-Legal 103
   Quantitative Methods 99

Curriculums 95
   Accounting 95
   Economic Science 106
   Finance 97
   Human Resource Management 101
   International Business 102
   Management Information Systems 103
   Marketing 104
   Pre-Legal 103
   Quantitative Methods 99
Real Estate 99
Degree 92
Divisions and Programs 94
Behavioral Science 100
Economic Science 106
History 95
Philosophy and Objectives 91
Sample Program 94
Scholarships 13
Student Organizations 93

Calendar, Academic 21
   Cancellation of Courses 21
   Campus Ministry 21
   Career Hall 21
   Career Planning and Placement 31
   Cashing Checks 29
   Catholic Lay Teacher Discount 18
   Center for 103
   Academic and Career Development 31
   Administration of Legal Systems 103
   Communications & Information Technology 5
   Economic Education 92
   International Management 92
   Certification 117
   Music Education 117
   Teacher Education 111
   Certified Public Accountant Requirements 95
   Change of Schedule 19
   Fee 26
   Checks 29
   Bad 29
   Cash 29
   Chemistry 49
   Courses 50
   Department of 49
   Requirements for Major 49

Requirements for Minor 50
   Class Attendance 21
   Courses 51
   Department of 50
   Requirements for Major 50
   Requirements for Minor 51
   Classification of Students 22
   Full-Time 22
   Part-Time 22
   Post-Graduate 22
   Clergy Discounts 48
   Clinical Pharmacy, Department of 155
   Code of Student Rights, Responsibilities and Conduct 35
   College Hall 2
   College Level Examination Program (CLEP) 41
   College of Liberal Arts and Sciences
   See Liberal Arts and Sciences, College of
   Communication, Department of 53
   Commuter Council 33
   Competitive Scholarships 68
   Computer Sciences 68
   Courses 69
   Division of 68
   Requirements for Major 68
   Requirements for Minor 68
   Confidentiality of Student Records 99
   Continuing Education 167
   Cooperative Education 43
   Core Curriculum 36
   Corporation, The Duquesne 172
   Costs, Fees and Tuition 165
   Counseling Center 32
   Course 21
   Exam 22
   Retrogradation 23
   Course Descriptions 44
   Arts and Sciences 44
   Business and Administration 96
   Education 111
   Music 127
   Nursing 135
   Pharmacy 151
   ROTC 165
   Courses 21
   Auditing 21
   Cancellation of 21
   Repeating 23
   Credit 22
   By Examination 22
   Hour Bank 9
   Unit of Credit 24
   Cross-Registration Curriculum 45
   Arts and Sciences 40
   Bachelor's-Professional School 43
   Liberal Arts Engineering 42
   Pre-Law 41
   Second Bachelor's Degree 43
   Three Year Bachelor's 44
   Cooperative Education 43
   Business and Administration 95
   Accounting 95
   Economic Science 105
   Finance 57
### INDEX

<table>
<thead>
<tr>
<th>Page</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>209</td>
<td>INDEX</td>
</tr>
<tr>
<td>208</td>
<td>INDEX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crosses</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Regulations for Pharmacy Students</td>
<td>148</td>
</tr>
<tr>
<td>Requirements for Graduation</td>
<td>24</td>
</tr>
<tr>
<td>Repeating Courses and Course Retrivation</td>
<td>23</td>
</tr>
<tr>
<td>Reserve Officer Training Corps</td>
<td>164</td>
</tr>
<tr>
<td>Army ROTC Scholarships</td>
<td>165</td>
</tr>
<tr>
<td>Course Descriptions</td>
<td>165</td>
</tr>
<tr>
<td>Department of Military Science</td>
<td>164</td>
</tr>
<tr>
<td>(Army ROTC)</td>
<td>164</td>
</tr>
<tr>
<td>Programs</td>
<td>164</td>
</tr>
<tr>
<td>Four-Year</td>
<td>164</td>
</tr>
<tr>
<td>Advanced Course</td>
<td>164</td>
</tr>
<tr>
<td>Basic Course</td>
<td>164</td>
</tr>
<tr>
<td>Leadership Laboratory</td>
<td>165</td>
</tr>
<tr>
<td>Direct Entry Advanced</td>
<td>165</td>
</tr>
<tr>
<td>Simultaneous Membership</td>
<td>165</td>
</tr>
<tr>
<td>Two-Year</td>
<td>164</td>
</tr>
<tr>
<td>Off-Campus Training and Social Activities</td>
<td>166</td>
</tr>
<tr>
<td>Scholarships</td>
<td>18</td>
</tr>
</tbody>
</table>

| Residence | 33 |
| Hall Association | 33 |
| Life | 31 |
| Residence, Student See Dormitories | 26 |
| Residence Hall Pre-Payment Fee | 26 |
| Rockwell Hall | 4 |
| Room and Board | 28 |
| Costs | 28 |
| Withdrawals and Refunds | 28 |
| ROTC See Reserve Officer Training Corps | 73 |
| Russian Courses | 4 |
| St. Ann Hall | 4 |
| St. Martin Hall | 4 |

| Scholarships and Loans—University Aid | 10 |
| Application Procedure | 30 |
| Competitive Scholarships | 11 |
| Health Profession Loans | 12 |
| National Direct Student Loans (Perkins Loan) | 12 |
| Federal Loans | 12 |
| Parish Scholarships | 12 |
| Student Employment | 12 |
| Supplemental Educational Opportunity Grants | 11 |
| University Scholars Awards | 11 |
| Scholarships and Loans—Other Sources | 12 |
| Stafford Loans | 12 |
| Other Possibilities | 12 |
| Pell Grant Program | 12 |
| State Grant Assistance | 12 |
| Scholarships and Loans—Department and Schools | 13 |
| Arts and Sciences | 13 |
| Business and Administration | 13 |
| Education | 14 |
| General | 16 |
| Music | 14 |
| Nursing | 14 |
| Pharmacy | 14 |
| ROTC | 18 |
| Scholarships and Loans—Business and Administration | 19 |

| Education | 111 |
| Music | 117 |
| Nursing | 135 |
| Pharmacy | 149 |
| Publications | 35 |
| Duquesne Duke Newspaper | 144 |
| Duquesne Magazine | 35 |
| Code of Student Rights | 35 |
| Student Handbook | 35 |
| Service Organizations | 34 |
| Social Organizations | 34 |
| Summer and Special Sessions | 34 |
| Tuition and Fee Charges | 34 |
| Summer Session | 34 |
| Duquesne Students | 34 |
| Transfer Students | 34 |
| Supplemental Educational Opportunity Grants | 34 |
| Tamburitzans | 34 |
| Teacher Certification | 34 |
| Education | 111 |
| Television, WDUQ Radio and Television, WDUQ Radio and Television, WDUQ Radio and Television | 35 |
| Temporary Transfer Students, Admission of Duquesne Students | 35 |
| Summer Session | 35 |
| Tuition and Fee Charges | 35 |
| Summer Session | 35 |
| Tuition and Fee Charges | 35 |
| Temporarily, Temporary-Summer | 35 |
| Transient Hall | 35 |
| Tuition and Fees | 35 |
| Application Fee | 35 |
| Auditor's Fee | 35 |
| Change of Schedule Fee | 35 |
| Cred by Examination Fee | 35 |
| Graduation Fees | 35 |

| University Fee | 35 |
| WDRU Radio | 35 |
| WDUQ Radio and Television | 35 |
| Tuition and Fee Charges | 35 |
| From a Course | 35 |
| From the University | 35 |
| Women's Sports | 35 |
| Sports See Athletics | 35 |
| World Literature Program | 35 |
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 Parkway East and West lead to downtown Pittsburgh.