Directory

ADDRESS—University, 600 Forbes Avenue, Pittsburgh, Pa 15219
Telephone Call specific Centrex (Direct Dial) number (see following), for other offices, call 434-6000

ADMISSION—Director of Admissions Administration Building, First Floor
Telephone (412) 434-6220/6221/6222

ADVISORS
College of Liberal Arts and Sciences, College Hall, Room 215
Telephone (412) 434-6394
School of Business and Administration, Rockwell Hall, Room 403
Telephone (412) 434-6277/6278
School of Education, Canevin Hall, Room 214
Telephone (412) 434-6118/6119
School of Music, Room 315
Telephone (412) 434-6083
School of Nursing, College Hall, Room 629
Telephone (412) 434-6548
School of Pharmacy, Mellon Hall of Science, Room 421
Telephone (412) 434-6385

ROTC—University Hall
Telephone (412) 434-6614

CAMPUS MINISTRY—Administration Building, First Floor
Telephone (414) 434-6020

CAREER PLANNING AND PLACEMENT—Administration Building, Third Floor
Telephone (412) 434-6644/6645/6646

CASHIER—PAYMENT OF TUITION AND FEES
Administration Building, Ground Floor
Telephone (412) 434-6585/6586/6587

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

COUNSELING AND LEARNING CENTER—Administration Building, Third Floor
Telephone (412) 434-6661/6662

DEAN OF STUDENTS—Duquesne Union, Sixth Floor
Telephone (412) 434-6657/6658

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

FOREIGN STUDENT ADVISOR—Duquesne Union, Room 603
Telephone (412) 434-6699

HEALTH SERVICE—Duquesne Towers, Second Floor
Telephone (412) 434-7822/7823

IDENTIFICATION CARDS—Office Services, Rockwell Hall, Lower Level
Telephone (412) 434-6191

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

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

REGISTRAR—Transcripts and Records
Rockwell Hall, Concourse
Telephone (412) 434-6212/6213/6215

RESIDENCE LIFE—Housing
Duquesne Towers, Room 111
Telephone (412) 434-6555/6556

SAFETY AND SECURITY—Security Building
Telephone (412) 434-6001/6002/6003

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

UNIVERSITY INSURANCE OFFICER—Administration Building, Second Floor
Telephone (414) 434-6038

Undergraduate Catalog
1977-1978

College of Liberal Arts and Sciences
School of Business and Administration
School of Education
School of Music
School of Nursing
School of Pharmacy
Reserve Officer Training Corps
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, racial characteristics, and ethnic origin is not considered by the Committee on Admissions.

The information contained in this catalog is accurate to the date of publication. Faculty listings are as of Spring 1976.

The University reserves the right to change any provision or requirement designated herein, including fees and tuition and room and board, and to effect the withdrawal of any student whose conduct at any time is not satisfactory to the University.

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### All Degrees and Programs Offered in the University

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December 8 Thursday Holiday Immaculate Conception

December 9 Friday Pre-registration, with Pay-By-Mail Option, for Spring 1978 Closes (Registration suspended after this date until Tuesday, January 10)

December 14-20 Wednesday through Tuesday Final Examinations

December 20 Tuesday Semester Ends

December 20 Tuesday Graduation for 1977 December Graduates

SPRING SEMESTER—1978

December 9 Friday Pre-registration, with Pay-By-Mail Option, Closes (Registration suspended after this date until Tuesday, January 10)

January 10, 11 Tuesday and Wednesday Final Registration

January 11 Wednesday Latest Date to Cancel Spring 1978 Registration Without Penalty

January 12 Thursday Spring Semester Begins

January 21 Saturday Latest Date to Register and for Change of Schedule (No remission of charges for reduced class schedules after this date)

January 25 Wednesday Latest Date for 80% Tuition Refund Upon Making a Complete Withdrawal

January 30 Monday Latest Date for May 1978 Graduates to Submit Thesis Outline

February 1 Wednesday Latest Date for 40% Tuition Refund Upon Making a Complete Withdrawal

February 4 Saturday Latest Date for May 1978 Graduates to Apply for Graduation

February 8 Wednesday Latest Date for 20% Tuition Refund Upon Making a Complete Withdrawal

March 3 Friday *Latest Date to Submit Mid-term Grades

March 3 Friday Latest Date to Withdraw with W Grades

March 3 Friday Undergraduate I Grade Conversion Date for 1977 Fall Semester Courses

March 13-22 Monday through Wednesday Pre-registration for 1978 Fall Semester

March 23-28 Thursday through Tuesday Easter Vacation

*Does Not Apply to Graduate Arts and Sciences Students
The University

HISTORY
Duquesne University opened its doors as Pittsburgh Catholic College of the Holy Ghost in 1878 with an enrollment of 40 students and a faculty of seven. By 1911 a university charter had been obtained and it was then decided to adopt the name Duquesne University. Dictated by enrollment growth and modern educational demands, planned physical expansion of the University began in 1950. The campus size has more than tripled from its early 12.5 acre area to its present 38.4 acres. With room to grow, Duquesne undertook a program of new construction, rehabilitation, and renovation which has transformed it into an educational facility ranking with the finest in the East.

Today it is an urban university with an enrollment of more than 8,000 students in its eight schools. From the original school, which is now the present College of Liberal Arts and Sciences, have evolved the Graduate School (1911) and the School of Law (1911), Business and Administration (1913), Pharmacy (1925), Music (1926), Education (1929), and Nursing (1937). The University offers degree programs in 87 areas—34 at the baccalaureate level, 45 at the master's, and eight at the doctorate.

Duquesne has increased in size and stature over the years, and it is proud of its growth and latest physical facilities. It is aware, however, of the necessity of keeping these material assets in the proper perspective for they are never more important than the spiritual, academic, and cultural education of the students who become part of the Duquesne family.

PHILOSOPHY AND OBJECTIVES
Duquesne University is a Catholic institution, but it is open to students of all religions and creeds. It is a community composed of people having common aims and is committed to the ideal of graduating men and women whose minds seek intellectual freedom and the pursuit of truth. The University seeks to develop students who have the ability to judge independently, to live with honest doubt, to interrelate facts and disciplines to balance memory, reason, and imagination. In essence, the Duquesne student is to be a person whose mind is strong and healthy, a person fully aware of humanity and sensitively responsive to humanity's strengths and weaknesses.

The educational objectives of the University are to develop a sound philosophy of life through an understanding of spiritual, physical, intellectual, moral, social, and aesthetic aims and values. It strives to develop scholarship and continued
offers Mass daily Center, and Financial Aid. Adjoining this building is the University Chapel which.

THE SETTING
Duquesne's hilltop campus is a short five-minute walk from the business, shopping, and entertainment districts of downtown Pittsburgh. This new, dynamic "Renaissance City" is still one of the largest steel-producing cities of the world—but today it is so much more. Pittsburgh is a center for the fine arts, as well as the home of major-league baseball, football, hockey, and tennis teams.

Students from Duquesne and the eight other colleges and universities in the area attend performances of the world renowned Pittsburgh Symphony Orchestra, the Pittsburgh Opera, and the Pittsburgh Ballet Company in elegant Heinz Hall. In the summer the American Wind Symphony offers concerts on Pittsburgh's riversides. Other seasonal events enjoyed by everyone are the International Folk Festival and the Three Rivers Arts Festival. The theatre-goer has a choice of entertainment which includes legitimate commercial and summer theatre.

For fun and relaxation, Duquesne students can visit the Highland Park Zoo, the Conservatory-Aviary, Buhl Planetarium, Carnegie Museum, and Phipps Conservatory. Directly across the river from campus is Mount Washington, which is approached by roadway and two inclines, and offers a breathtaking view of the city and its surroundings.

Pittsburgh also has year-round sporting events. The Pittsburgh Pirates and the Steelers provide major-league baseball and football excitement in the new Three Rivers Stadium. Duquesne's nationally known basketball team, the "Dukes," plays in the Civic Arena—famous for its immense movable dome.

In the area of participatory sports, golf, riding, fishing, and skiing are all available within a half-hour drive of the city.

ACADEMIC YEAR AND SUMMER SESSIONS
The regular year is divided into a Fall and a Spring Semester of 15 weeks each. In addition selected courses are offered in summer sessions that vary in length from three to eight weeks.

PHYSICAL FACILITIES
ADMINISTRATION BUILDING. "Old Main," houses the Executive Offices of the University, the Office of Admissions, Testing Bureau, Business Offices, Career Planning and Placement Center, Chaplain's Office, Counseling and Learning Center, and Financial Aid. Adjoining this building is the University Chapel which offers Mass daily.

ASSUMPTION HALL, a women's residence, is a four-story structure and has its own chapel and a recreation room. BUSINESS AFFAIRS BUILDING contains the Cashier's Office where checks may be cashed and payments made to the University.

CANEVIN HALL, the oldest lecture hall on campus, was built in 1922, it was completely renovated and air-conditioned in 1968, and houses the School of Education, Curriculum Library, Institute of African Affairs, and Institute of Man. COLLEGE HALL, a six-story classroom and office facility building, is the seat of the College of Liberal Arts and Sciences, the Graduate School, and 12 of their departments and faculties, and the School of Nursing. Special instructional facilities include journalism, speech, psychology, numerical analysis, multi-media, and practice skills laboratories.

MUSIC SCHOOL, built in 1966, has 73 pianos including 56 Steinways, 5 organs, and over 300 orchestral and band instruments available for student use. The school offers training and degrees in conservatory and public school music.

DUQUESNE TOWERS, the University's 17-story, double-tower residence houses 1200 men and women. A regulation swimming pool, located on the second floor, is open to all Duquesne students. The building also has an L-shaped dining room for 2,500 resident students, laundromats, and snack-bars. Each room has a telephone, and all rooms are air-conditioned.

DUQUESNE UNION is the center of campus activities. It includes offices for student organizations and interest groups, as well as the Office of the Dean of Students. Facilities include three dining areas, a ballroom and student lounge, and the Bookstore. The Recreation Center on the first floor features eight bowling lanes, pocket billiards, table tennis, a music listening room, and an arts and crafts room.

GYMNASIUM is open for general use of all Duquesne students. It is primarily a practice gym, which is used for both baseball and basketball practice, as well as intramural basketball and volleyball. All varsity basketball games are held at the Civic Arena (Women's Gymnasium, see University Hall).

RICHARD KING MELLON HALL OF SCIENCE houses the Departments of Biological Sciences, Chemistry, and Physics of both the Graduate and Undergraduate Divisions of the University, as well as the School of Pharmacy. Designed by one of the world's greatest architects, Mies van der Rohe, the building won the "Laboratory of the Year" award for 1969. Instructional facilities include two large lecture halls each with a seating capacity of 248 persons.

ROCKWELL HALL is the home of the Schools of Business and Administration and the School of Law. Its Business Simulation Laboratory contains 12 conference rooms which are equipped with television cameras and microphones that make possible observation and recording of the activity in the individual conference rooms. The Law School's extensive library is open 24 hours a day.

ST. ANN HALL, a women's residence with a capacity of 324 students, is air-conditioned, has its own laundry, as well as a number of lounges, television rooms, a recreation room, and a snack room.

ST. MARTIN HALL, a 14-story residence, provides modern housing for 560 men. Laundry facilities and a reading-TV lounge are found on each floor. A central recreation area is on the second floor.
TRINITY HALL serves as the residence for the Holy Ghost Fathers.

UNIVERSITY HALL is currently headquarters for the Army ROTC Department and the campus Radio Station, WDUQ. It also houses the Women's Recreation and Athletics Office, gymnasium, and gymnastics room.

UNIVERSITY LIBRARY houses a collection of 367,000 bound volumes, subscribes to more than 3,500 periodicals, and contains an increasingly large collection of materials in microprint and other nonbook forms. Special resources include an extensive African Collection of more than 8,300 volumes, 190 periodical titles, and numerous tapes, records, and microfilm. Also notable is the Rabbi Herman Hailperin Collection of 3,000 books and manuscripts reflecting the history of Christian and Jewish intellectual relations, with specific reference to the Bible, during the Middle Ages.

ACCREDITATION AND AFFILIATION

UNIVERSITY

Accreditation
Middle States Association of Colleges and Secondary Schools
State Board of Education of the Pennsylvania Department of Education

Membership
American Association of Collegiate Registrars and Admissions Officers
American Association of Urban Universities
American Council on Education
Association of American Colleges
Association of College Admissions Counselors
Association of Governing Boards of Universities and Colleges
Catholic Educational Association of Pennsylvania
Commission for Independent Colleges and Universities
National Association of Student Personnel Administrators
Pittsburgh Council on Higher Education

COLLEGE OF LIBERAL ARTS AND SCIENCES

Accreditation
American Chemical Society

SCHOOL OF BUSINESS AND ADMINISTRATION

Accreditation
American Assembly of Collegiate Schools of Business

Membership
Association for University Business and Economic Research
Middle Atlantic Association of Colleges of Business Administration

SCHOOL OF EDUCATION

Accreditation
National Council for Accreditation of Teacher Education

SCHOOL OF MUSIC

Accreditation
National Association of Schools of Music
National Catholic Music Educators Association

Membership
Association of American Choruses
Friends of the Music Library

SCHOOL OF NURSING

Accreditation
National League for Nursing
Pennsylvania State Board of Nurse Examiners

Membership
National League for Nursing (Council of Baccalaureate and Higher Degree Programs)

SCHOOL OF PHARMACY

Accreditation
American Council on Pharmaceutical Education
Pennsylvania State Board of Pharmacy

Membership
American Association of Colleges of Pharmacy

EVENING STUDY

The School of Business and Administration and the College of Liberal Arts and Sciences offer evening classes for full-time and part-time students each semester.
and during the Summer Session. These are for persons whose employment does not permit them to attend as regular day students.

Through careful planning and consultation with academic advisors, the bachelor's degree program may be completed by evening study in some major areas offered by these two schools. Other undergraduate schools also schedule occasional evening courses but it is not possible to complete their degree requirements through evening attendance alone.

Prospective evening undergraduate students should consult with the office of the Dean of the school in which they are interested for information about the opportunity for evening study on a continuing basis.

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 mid-June and run through July. Short term offerings of one and two week duration, usually at the graduate level, are scheduled before and after the regular session.

Admission

OFFICE

The Office of Admissions is located on the first floor of the Administration Building.

Telephone (412) 434-6220, 434-6221, 434-6222

Office hours Monday through Friday from 8:30 A.M. to 4:30 P.M., and on Saturdays from 9:00 A.M. to 12:00 noon.

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.

ENTRANCE REQUIREMENTS

1. A candidate must have been graduated from an approved secondary school in the upper three-fifths of the class, and must have 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 areas 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, Pre-Dental, or Pre-Medical programs, Medical Technology, Radiological Health, or as science or mathematics majors should have completed a minimum of seven units in mathematics and sciences.)

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

According to the Rolling Admission Plan, as soon as an applicant's credentials are received, they are evaluated and notification of the decision of the Committee is sent to the applicant. Duquesne University subscribes to this plan. Generally, a student will be notified upon receipt of senior SAT or ACT scores and the first marking period grades for the senior year.

APPLICATION—NEW FIRST-YEAR STUDENTS

Application should be addressed to the Director of Admissions, Duquesne University, Pittsburgh, Pennsylvania 15219. It may be submitted at any time during the candidate's senior year up to July 1, with admittance to Duquesne University to be initiated in November of the candidate's senior year.

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. 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.
4. Complete the required SAT or ACT examination during the spring of junior year 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.
6. If accepted, submit non-refundable tuition deposit by May 1 of 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 consideration to begin college after their junior year. The high school diploma is awarded following successful completion of their freshman year in college.

APPLICATION—OTHER CATEGORIES

It is the responsibility of persons who apply for evening study, or as foreign students, post-graduates, readmission students, transfers, temporary transfers, and veterans, or for the Summer Session from Duquesne or as temporary transfers from other institutions to arrange to have all supporting credentials on file with the Office of Admissions and the Financial Aid Office before deadline dates.

FOREIGN STUDENTS

Foreign students are expected to meet the requirements for admission from secondary schools or from other colleges and universities as outlined below. In every instance, Duquesne University expects to receive and consider complete transcripts of all degrees, diplomas, marks sheets, and examination records six months prior to the student's expected date of entrance. Records should be in original or notarized photocopies, accompanied by certified English translations.

1. **Academic** The student must rank in the upper half of his secondary school graduating class and must present satisfactory scores from the SAT (Scholastic Aptitude Test).
2. **English Proficiency** Students coming directly from foreign countries are required to take the TOEFL (Test of English as a Foreign Language) in their country before a decision may be made on their admission to the University. Proficiency in English must be demonstrated in listening and reading comprehension and writing ability. Students who reside in this country at the time of application may be requested to take the TOEFL at the discretion of the Admissions Office.
3. **Financial Statement** They must present documented evidence that they have in their possession adequate funds for study at Duquesne. The University does not have a program of undergraduate scholarship assistance for foreign students.
4. **Health Certificate** Students for undergraduate admission must present evidence of good health in the form of a health certificate signed by a physician.

Upon completion of all academic and non-academic requirements, the Foreign Student Advisor will issue the necessary documents for obtaining a student visa to the United States. To complete on-campus registration, foreign students who are admitted should plan to arrive one week before the term begins.

POST-GRADUATES

A post-graduate student must submit a post-graduate application if the Bachelor's degree was received from an institution other than Duquesne. If the bachelor's degree was received from Duquesne, an application for re-admission must be submitted. In both instances, proof of degree is required either by an official transcript or a certificate of graduation.

READMISSION

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

TRANSFERS

A student who wishes to transfer from another college or university must have the complete transcripts of high school and college records forwarded to the Office of

*For information about testing in any country, the Educational Testing Service, Princeton, New Jersey 08540, should be contacted.
Admissions and must submit an application for admission. When accepted, the student must supply to the dean of his school a description of the courses which appear on the transcript. The student should contact the Advisement Office of his school for placement and curriculum planning following a reasonable period for evaluation of transcript.

The College of Liberal Arts and Sciences and Schools of Education and Pharmacy 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 a 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 required of all transfer students.

TEMPORARY TRANSFERS
No Temporary Transfer Student will be granted admission without formal application and a completed Temporary Transfer form from authorized personnel. Exceptions can be made if an official transcript is received in lieu of a Temporary Transfer form. In this case acceptance is provisional.

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

An interview is required of Temporary Transfer applicants before attendance for their third semester.

VETERANS
All veterans with a high school diploma or its equivalent, who have not been dismissed from a college after serving active duty, would be eligible to enroll in Duquesne for one semester. Veterans who have no previous college work and have never taken the CEEB SAT must submit such scores before completing the first semester of attendance at the University. They must maintain a C average (2.0) or above in the first semester to continue in good academic standing at the University.

A veteran should take his discharge papers to the appropriate officer in the ROTC for credit evaluation.

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

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

ADMISSION

TEMPORARY TRANSFERS—SUMMER
A student of another college or university who wishes to enroll for the summer session, and who intends thereafter to return to the original institution and is eligible to continue there may be admitted to the Summer Sessions as a Temporary Transfer Student.

A tear-out admissions application and registration form for summer study by a temporary transfer student, provided in the announcement of summer offerings, may be obtained from the Office of Admissions at mid-March.

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, history of art, languages, Latin, mathematics AB, mathematics BC, physics, chemistry, biology

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 or the Office of Academic Advisement, College of Liberal Arts and Sciences.

Applicants who hope to receive advanced placement credits must request that scores be sent to the University.

COLLEGE LEVEL EXAMINATION PROGRAM

The specific examinations for which the College of Liberal Arts and Sciences will award credit, with acceptable scores, are:

1. General Examinations
   - Humanities, social sciences
2. Subject Examinations
   - American government, American history, analysis and interpretation of literature, biology, college algebra, college algebra-trigonometry, educational psychology, English composition, general chemistry, general psychology, geology, introductory calculus, introductory sociology, microbiology, micro-economics, macro-economics, statistics, western civilization

A student who has accumulated 30 or more credits is not eligible to take the General Examinations for credit. The University is continuing to evaluate CLEP subject scores and performance at Duquesne. Credit will be given on a minimum score determined yearly by the College of Liberal Arts and Sciences.

Information about the time and place that examinations are given may be obtained from the University Testing Bureau or the College Level Examination Program, Box 977, Princeton, New Jersey 08540.

CREDIT HOUR BANK

The Credit Hour Bank 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, write Credit Hour Bank across the top of an application, 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.

Generally, all first year courses in the College of Liberal Arts and Sciences are open to Credit Hour Bank students.

**Expenses**

**FEES AND TUITION**

The University reserves the right to modify these charges if exigencies require such action. All charges are for one semester only, double amounts where applicable.

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee (non-refundable)</td>
<td>$20.00</td>
</tr>
<tr>
<td>Matriculation Deposit (non-refundable)</td>
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<tr>
<td>Residence Hall Pre-Payment (non-refundable)</td>
<td>$100.00</td>
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<tr>
<td>Residence Hall Damage Deposit</td>
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</table>

**SEMESTER TUITION AND FEE CHARGES**

Auditors pay the same as those taking credit. The University reserves the right to change the tuition and fee charges herein at any time.

<table>
<thead>
<tr>
<th>Fee Item</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Undergraduate Tuition</td>
<td>$86.00</td>
</tr>
<tr>
<td>Graduate Tuition</td>
<td>$91.00</td>
</tr>
<tr>
<td>*University Fee</td>
<td>$125.00</td>
</tr>
<tr>
<td>9 to 11 credits</td>
<td>$88.00</td>
</tr>
<tr>
<td>5 to 8 credits</td>
<td>$62.00</td>
</tr>
<tr>
<td>1 to 4 credits</td>
<td>$33.00</td>
</tr>
<tr>
<td>*Undergraduate Music Student Fee when carrying 12 or more credits</td>
<td>$100.00</td>
</tr>
<tr>
<td>*Undergraduate Business and Administration Student Fee</td>
<td>$5.00</td>
</tr>
<tr>
<td>12 or more credits</td>
<td></td>
</tr>
<tr>
<td>less than 12 credits</td>
<td>$3.00</td>
</tr>
<tr>
<td>*Undergraduate Pharmacy Student Activities Fee (Third, Fourth, and Fifth Year Students)</td>
<td>$25.00</td>
</tr>
<tr>
<td>Late Registration</td>
<td>$10.00</td>
</tr>
<tr>
<td>Removal of I Grade Fee</td>
<td>$5.00</td>
</tr>
<tr>
<td>Change of Schedule Fee</td>
<td>$5.00</td>
</tr>
<tr>
<td>Credit by Examination</td>
<td>$10.00</td>
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</tbody>
</table>

**LABORATORY FEES**

All figures are for one semester only, for yearly total, double amounts where applicable.

*Charged on each semester registration*
Anatomy and Physiology 209, 210  $25.00
Chemistry Laboratory  $25.00
Biology Laboratory  $25.00
Physics Laboratory  $15.00
Earth Science Laboratory 103, 104  $15.00
(One $5.00 breakage card a semester will cover all laboratory courses in Anatomy, Chemistry, Biology and Physics)
Psychology 356  $7.00
Journalism 267, 268, 367, 375, 405, 409  $10.00
Journalism 370, 378, 413  $15.00
ROTC Leadership Laboratory  $5.00
School of Pharmacy Laboratories (each)  $30.00

SUMMER AND SPECIAL SESSION TUITION AND FEE CHARGES
Undergraduate Tuition  for each semester hour credit  $86.00
Graduate Tuition  for each semester hour credit  $91.00
University Fee  1 to 4 credits  $33.00
  5 to 8 credits  $62.00
  9 to 11 credits  $88.00
  12 or more credits  $125.00

ROTC Leadership Laboratory  $5.00
School of Pharmacy Laboratories (each)  $30.00

SUMMER AND SPECIAL SESSION TUITION AND FEE CHARGES
Undergraduate Tuition  for each semester hour credit  $86.00
Graduate Tuition  for each semester hour credit  $91.00
University Fee  1 to 4 credits  $33.00
  5 to 8 credits  $62.00
  9 to 11 credits  $88.00
  12 or more credits  $125.00


GRADUATION FEES
Bachelor Degree  $30.00
Master Degree  $40.00
Doctor of Pharmacy Degree  $40.00
J.D. Doctor Degree  $40.00
Doctor of Philosophy Degree  $55.00
Thesis Binding Fee—Doctoral Dissertation  $40.00
Thesis Binding Fee Master Thesis  $25.00

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

The Effective Date of Withdrawal for determining the percent of remission is that on which the appropriate Academic Dean was notified by letter of the student's decision to terminate attendance and requested official withdrawal. It is also the recorded date of the student's separation from the University and regarded as the last day of attendance. A student is considered enrolled and "in attendance" until he or she acts to terminate attendance in conformity with this policy even though absences from classes were observed and recorded before the Effective Date of Withdrawal.

Any remission of tuition beyond the limits of the prescribed withdrawal schedule is subject to approval of the University Vice President and Treasurer. However, when a student's attendance is involuntarily terminated because of personal distress arising from injury or illness, the appropriate Academic Dean may establish the last day of attendance as the Effective Date of Withdrawal.

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.

Within the Semester
First Week  80
Second Week  80
Third Week  40
Fourth Week  20
After Fourth Week  None

Within the Summer Session
First Week  60
Second Week  20
After Second Week  None

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 Director of Residence Life. The request is processed and necessary application forms are forwarded to the student.

The University requires that a prepayment of $100, which is applicable to the following semester's room and board account, accompany all applications for room reservations or renewals. This pre-payment is non-refundable.

In addition, a $50 damage deposit must accompany each initial housing contract. This deposit is retained by the University throughout the period of residency. If no damage deductions are incurred and the room key and ID card returned, the full amount of the deposit is refunded at the final termination of residency.

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.

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)
  Single for each semester  $907.50
  Double for each semester  $702.50
Summer Sessions—Room and Board*

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<table>
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<tbody>
<tr>
<td>Eight Weeks</td>
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<tr>
<td>Single</td>
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</tr>
<tr>
<td>Double</td>
<td>$344.00</td>
<td></td>
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<tr>
<td>Six Weeks</td>
<td></td>
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<tr>
<td>Single</td>
<td>$291.00</td>
<td></td>
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<tr>
<td>Double</td>
<td>$258.00</td>
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<tr>
<td>Workshops (a week)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>$48.50</td>
<td></td>
</tr>
<tr>
<td>Double</td>
<td>$43.00</td>
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</tbody>
</table>

ROOM AND BOARD REFUND
No refund of room charges will be made where withdrawal occurs after the opening of class.
In the event of withdrawal, board will be refunded at the rate of 75 percent of the balance left on the student’s meal plan up until mid-semester. After the mid-semester point, no refund will be made.

PAYMENTS AND OTHER CREDITS
DEFERRED PAYMENT
All charges for tuition, fees, room, and board, less financial assistance authorized by the Financial Aid Office, are payable at registration.

STUDENT FINANCING PROGRAM
The University provides a deferred plan for the payment of tuition and fees, to qualify for the plan all charges for previous semesters must be paid in full. The program provides financing up to 50 percent of the total current semester charges, less financial aid and other prepayments, to be repaid in two equal installments with interest on the unpaid balance of 15 percent a year.
A late charge of $10 a month plus interest at the rate of 15 percent a year will be assessed for any amount which is not paid when due.

BANK CREDIT CARDS
BankAmericard and Master Charge are accepted for payment of tuition, fees, room and board.

CASHING CHECKS
A student may cash a check up to a maximum of $50 at the Cashier’s Office between 9:00 A.M. and 4:00 P.M., Monday through Friday, except during registration with a validated ID Card.

BAD CHECKS
It is the policy of the University to charge bad checks to the student who cashes them regardless of the maker. A $3.00 service charge will be assessed on checks that are returned from a bank for lack of funds. In addition, monthly bills will reflect a $10 penalty plus 15 percent a year on the balance due.

SCHOLARSHIPS
A student may have a scholarship to credit towards his or her tuition and fees. This scholarship will only be honored by the cashier when it is presented on a Scholarship Voucher prepared by the Scholarship and Financial Assistance Office.

*Those desiring residency for the Summer Sessions should make reservations with the Director of Residence Life no later than May 31. A deposit of $20 must accompany each application. After occupancy, the deposit is applied toward the room and board expenses. This deposit is not refunded if the room is not occupied.
Financial Aid

Duquesne University subscribes to the philosophy that "no student should be denied the education of his 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 and 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. 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. Where need is a factor, it is extremely important all financial information reported by the family be complete, accurate, and updated 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 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 benefits such as social security. Two types of self-help programs of aid are available: loans and work. Student loans provide rates, terms, and conditions far superior to those offered by commercial lenders, and offer the student the opportunity to help himself by accepting future repayment responsibility. Student employment programs provide the opportunity to help earn a portion of the educational costs.

GIFT ASSISTANCE

Non-repayable scholarships or grants are available in accordance with one or a combination of the following criteria: 1) Financial Need, 2) Superior Academic Potential or Achievement, 3) Economic Opportunity, which aims to provide economic parity for the student with very limited family resources, and whose need is therefore exceptional, and 4) Service Recognition, which reflects proficiency in a specialized field such as music, or for future service such as an officer in the Armed Forces. 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. Frequently, 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 not usually sufficient to meet full need or provide an aid package of the most beneficial composition. It is advisable and 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 because of hearsay or dated information. A decision not to apply to a particular aid source should be made only upon the advice of an aid officer.

SOURCES OF AID

ONE Financial Aid Office
APPLICATION—UNIVERSITY AID

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

2. Obtain the formal application for financial assistance. Freshmen and transfer students may obtain the form through Admissions Office publications or through the Financial Aid Office. Currently enrolled students may obtain the form only through the Financial Aid Office. Complete this application and submit it to the Financial Aid Office, Duquesne University, Pittsburgh, Pennsylvania 15219 prior to these deadline dates. For the Fall Semester or the academic year, no later than May 1, for the Spring Semester, no later than December 1. Late applications will be considered on the basis of available funds.

3. Obtain from the high school guidance office or the Financial Aid Office a Parent's Confidential Statement Complete and submit it according to instructions to the College Scholarship Service. Statements take from four to eight weeks to process and therefore should be submitted as early as possible.

4. Reply to this application, if filed by deadline dates, should be anticipated as follows. Freshmen and new transfers 60 days after PCS filing date; between mid-February and late March (providing student has been accepted for admission). Upperclassmen and graduate students. Replies should be anticipated in June or July.

5. Applications must be renewed annually.

PROGRAMS

The following programs for which the foregoing application procedures apply, are administered directly by the Financial Aid Office.

University Scholars Awards: The University awards approximately 15 scholarships annually to exceptional high school scholars. These awards are not based on a demonstrated need and may be renewed each year provided the student maintains a high level of academic achievement. Renewal amounts may vary relative to the degree of achievement.

Competitive Scholarships: These awards are given to students of outstanding ability and achievement who also demonstrate financial need. They are renewable yearly based on continued academic achievement, and continued demonstrated need. Continued academic achievement is normally reflected by a cumulative Quality Point Average of 3.0 or above. Renewal amounts may vary relative to the degree of achievement and level of need.

National Direct Student Loans: National Direct Loans are available to both full-time and half-time students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the U.S. Office of Education. Loan repayment does not begin until nine months after the borrower terminates at least half-time study, and is scheduled over a ten-year period at a three percent interest rate.

Nurses Training Act Loans: Nurses Training Act Loans are available to both full-time and half-time students who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until nine months after the borrower terminates at least half-time study in nursing, and is scheduled over a ten-year period at a three percent interest rate.

Health Professions Loans: Health Profession Student Loans are available to full-time undergraduate students in the Bachelor of Science in Pharmacy program who demonstrate financial need and are making acceptable progress toward a degree. Recipients are selected in accordance with guidelines published by the Federal government. Loan repayment does not begin until one year after the student ceases to pursue a full-time course of study in pharmacy.

Supplemental Educational Opportunity Grants: Federal grant assistance is available to full or half-time students with exceptional financial need. Recipients are selected in accordance with guidelines published by the U.S. Office of Education.

Nursing Scholarships: Scholarship assistance is available to full or half-time undergraduate nursing students with exceptional financial need. Recipients are selected in accordance with guidelines published by the Federal government.

Health Profession Scholarships: Scholarship assistance is available to full-time undergraduate students with exceptional financial need who are enrolled in the Bachelor of Science in Pharmacy curriculum. Recipients are selected in accordance with guidelines published by the Federal government.

Repayment of Educational Indebtedness: Upon completion of professional training, nurses may enter an agreement with the Secretary of Health Education and Welfare to practice the profession of nursing in an area determined to have a shortage of nurses. Minimum agreement is for two years, with a third year optional. In return for such service, the federal government will repay 60 percent of all bona fide educational indebtedness. For three year service, 85 percent of indebtedness will be repaid.

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 U.S. Office of Education. The second program is referred to as the General Program which is funded by the University. In addition to considerations of financial aid, placement in a part-time position depends upon the student’s qualifications for performing successfully in the job. Student employment is limited to a 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.

TWO Basic Educational Opportunity Grants
Direct grant assistance through the Federal government is available to undergraduates based on an eligibility determination reviewed and adjusted each year by Congress. Grants range from a minimum of approximately $200 to a maximum of $1400 to students determined to be eligible. Applications may be obtained from high school guidance offices, college aid offices, or branches of the United States Post Office.

THREE State Grant Assistance

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

Pennsylvania State Grants At current levels, grants ranging from $100 to $1200 a year are available to full-time undergraduate students, based on considerations of financial need. Applications may be obtained from high school guidance offices or from the Pennsylvania Higher Education Assistance Agency (PHEAA) in Harrisburg. Deadline is normally May 1.

FOUR Guaranty 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. Depending upon the policy of particular states and lenders, loans to a maximum of $1500 or $2500 a year are available for undergraduate study. Loan repayment does not begin until nine months after the borrower terminates his course of study and may be scheduled for a period up to ten years, at a seven percent interest rate. Applications and information are available from participating lenders, which include banks, savings and loan associations, credit unions, and similar financial institutions. A 90-day processing period should be anticipated. Guaranty Loans are generally considered an alternate or supplemental source of assistance to all other forms of aid. Students who apply for or receive aid through the Financial Aid Office should apply for a Guaranty Loan only after consulting with an Aid Officer.

FIVE Other Scholarships and Loans

In addition to mass programs of aid previously described, financial assistance may be obtained from a wide variety of sources. Since these tend to be exclusive, it is not possible to provide specific information. In general, the student seeking potential sources of aid may inquire of: 1) high school guidance officers, 2) library publications such as Guide to Financial Aid for Students and Parents, published by Simon & Schuster, 3) parents' employers or labor unions, 4) fraternal, social, religious, or professional organizations, 5) major organizations utilizing the skills of the field for which the student is preparing, and 6) specific departments within the University (listing follows).

FINANCIAL AID

AID FROM DEPARTMENTS AND SCHOOLS

COLLEGE OF LIBERAL ARTS AND SCIENCES

Carroll Scholarship in Creative Writing. Established in memory of Monsignor Walter T. Carroll and in tribute to Bishops Coleman F. and Howard J. Carroll, the purpose of this scholarship is to provide some deserving student, who has already expressed talent in writing, with sufficient financial aid (the exact sum to be determined by the committee) so that in his Senior year he may devote the time necessary to develop these talents. The award is administered by the Carroll Scholarship Committee of the English Department. Interested students should contact the committee before January 15 of their junior year.

Pittsburgh Communications Foundation Loans. The Foundation has established a $3000 loan fund for deserving junior and senior full-time students in the Department of Journalism. Students will be required to repay the loan within two years after graduation at three percent a year. Such loans will be granted on the recommendation of the Chairman of the Journalism Department assisted by the Journalism faculty. Loan inquiries and applications should be made to the Chairman of the Department of Journalism.

The Eleanor Pols Capone Memorial Award. The award honors, in perpetuity, the memory of Eleanor P. Capone. The scholarship consists of the total annual income from a restricted growth endowment fund and is awarded to an undergraduate student enrolled at the University, who will be selected on the basis of merit in the field of creative writing with need a secondary consideration. Interested students should contact the Chairman, Honors and Awards Committee, English Department, prior to January 15.

The Rev Joseph A. Lauritis, C S Sp., Journalism Scholarship. This is an annual scholarship in tribute to the Rev. Joseph A. Lauritis, C S Sp., founder of the Department of Journalism and the University's radio station, WDUQ-FM, for an entering freshman at Duquesne University, planning to major in journalism. The award is administered by the Lauritis Scholarship Committee of Journalism faculty, alumni, and friends.

SCHOOL OF BUSINESS AND ADMINISTRATION

Gulf Oil Corporation Honors Scholarships. This program provides grants of up to $1500 a year to outstanding undergraduate students in the field which may eventually qualify them for employment in the business world and more particularly, in petroleum and related industries. Normally, one scholarship is provided for each class, freshman through senior.

Law Enforcement Assistance Programs (LEEP). Programs of grants and loans for students of criminal justice are administered by the Law Enforcement Assistance Administration. Preference is given the student who is currently a law enforcement officer pursing a degree in law administration.
SCHOOL OF EDUCATION

Helen S. Platt Memorial Scholarship  The Children's Aid Society of Jewish Women of Pittsburgh, Pennsylvania will award a financial scholarship for a student majoring in Special Education who is in need of financial aid. The student must also have sound academic credentials and a commitment to a career in Special Education.

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 vocal performers. These scholarships are available to entering freshmen and upperclassmen.

George Barrere Memorial Scholarship  The Pittsburgh Flute Club offers a scholarship in flute in memory of George Barrere, founder of the first flute club in the United States. This $300 scholarship is awarded to a freshman or a sophomore flute major.

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. Preference will be given to a student of Polish ancestry. Other students will not be excluded from consideration.

Music School Scholarships  These awards are made possible by donations from individuals and organizations in appreciation of performances by School of Music students.

University Solo Wind Scholarships  These scholarships in varying amounts are awarded only to potential “first chair” performers.

University String Scholarships  These scholarships, tuition and applied music fees have been established by the University to promote the study of string instruments.

Pittsburgh Flute Club Award  This award is given to an outstanding woodwind student.

University Piano Scholarships  These scholarships are awarded to students showing outstanding talent in piano.

Ezio Pinza Memorial Scholarship  This award is presented to an outstanding vocal student, male or female, between the ages of 17 and 25 who has not completed an undergraduate degree.

FINANCIAL AID

SCHOOL OF NURSING

Professional Nurse Traineeship Program  The United States Public Health Service provides a limited number of traineeships for qualified registered nurse students who can complete the requirements for the baccalaureate degree within one year, who have been recently employed as nursing administrator, supervisor (including head nurse), or teacher, and who can qualify for admission to graduate study.

Other programs  Two additional programs: Nurses Training Act Loans and Nursing Scholarships, are described under Sources of Aid—Financial Aid Office, page 21.

SCHOOL OF PHARMACY

American Foundation for Pharmaceutical Education  The Foundation annually allocates funds to accredited colleges of pharmacy. The college must provide a sum equal to that requested from the Foundation. Recipients, designated as Scholars of the American Foundation for Pharmaceutical Education, are selected from fourth and fifth year students.

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.

American Pharmaceutical Association Women's Auxiliary Loan Fund  This loan fund was established to support worthy women students in accredited colleges of pharmacy during the last two years of their attendance prior to graduation.

Beaver County Pharmaceutical Association Loan Fund  This revolving loan fund provides financial assistance to students in the School of Pharmacy who are residents of Beaver County, Pennsylvania. Applications are to be made to the Dean of the School of Pharmacy.

Samuel W. Curtis Loan Fund  This fund is intended to provide financial assistance for 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 functions of the Fraternity.

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

Mari McPartland Beck Scholarship Award  Scholarship funds are available from earnings on a fund begun by a bequest to the School of Pharmacy in 1970.

John W. Dargavel Foundation  Established by the National Association of Retail
Druggists in honor of its executive secretary John W Dargavel, this foundation provides a $200 scholarship to a qualified student in the School of Pharmacy as well as loans to students of pharmacy in their last three years for payment of tuition fees, and books.

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

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

John Clothier Sims Memorial Fund This revolving fund, established in 1954, was made possible through the generosity of the friends of the late Mr. Sims, executive of Sun Drug 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 members of the undergraduate chapters. Details are available from the School of Pharmacy.

Rite-Aid Scholarship A $1,000 scholarship from the Rite-Aid Corporation is available to students entering the final year of the pharmacy program. Letters of application should be addressed to the Dean, School of Pharmacy, by May 1. Selection is based on financial need, demonstration of normal progress, and good standing in the pharmacy program.

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

Other Programs Two additional programs, Health Professions Loans and Health Professions Scholarships, are described under Sources of Aid—Financial Aid Office, page 21.

RESERVE OFFICER TRAINING (ROTC) SCHOLARSHIPS

Army ROTC offers a number of scholarships for cadets enrolled in both the four-year and two-year programs. These scholarships provide for tuition, fees, required textbooks, and $100 a month subsistence allowance. Interested high school students who feel they can meet the competitive standards for the scholarships may apply by writing to Army ROTC, Duquesne University, Pittsburgh, Pa 15219. The application and processing period begins in June of the year in which the student completes his junior year of high school. For cadets already enrolled at Duquesne University, scholarships are available during the sophomore, junior, and senior years. In order to continue to be eligible to receive financial assistance, each scholarship recipient must maintain the academic and personal standards on which original eligibility was based.

Interested high school seniors must apply prior to December 31 of their senior year.
Registration

Students are expected to participate in pre-registration during which academic advisement is available. Pre-registration for the Fall Semester begins in April and continues through midsummer, for the Spring Semester, it is conducted during the fall. Following pre-registration, a comprehensive invoice that confirms courses for which students registered and their class schedules is mailed to them a month in advance of the beginning of classes. It also gives a detailed listing of fees, tuition, housing charges, financial aid awards, and deposits, thus enabling students to pay their obligations by mail and assuring them of places in the courses for which they pre-registered.

Preceding the opening of classes, a three-day final registration is held for students who either did not pre-register or did not pay their charges by mail.

The financial obligation incurred by a student for class places obtained in pre-registration cannot be canceled unless written timely notification of the decision is given to the Dean of the appropriate school. Such notification must be received at the Office of the Dean on or before the final day of registration. Notification received on or after the opening day of classes is subject to the official withdrawal policy.

Summer orientation programs are conducted in conjunction with academic advisement and pre-registration for new first-year and transfer students. Summer Session registration is held during the week before the beginning of classes for the session.

OFFICIAL REGISTRATION

Only students who are recognized as officially registered are bona fide students of Duquesne University. Unless students are officially registered, they are not permitted to attend classes, engage in student affairs, or, generally, have access to the buildings and grounds or use of the University's facilities.

Official registration is the recognition given by the University to persons who have met these conditions:

1. Appropriate authority for admittance to study in a school or department has been given by an authorized officer of the University. The admitting authority for undergraduate students resides in the Director of Admissions, and for graduate students in the respective dean of the graduate school concerned.

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.

CHANGE OF SCHEDULE

Students who require a change of their class schedules (dropping or adding a course) may make the adjustment during pre-registration or the change of schedule week at the start of a semester but not later than the Latest Date for Change of Schedule as announced in the Academic Calendar. All changes must be approved by the appropriate academic advisor and processed with the Registrar.

During the Change of Schedule week approval of the instructors whose classes are being added or dropped is also required. A fee of $5.00 is charged for each form processed except when the change is by request of the appropriate Academic Dean.

No adjustment is made in the semester tuition charge for credits dropped when the change occurs later than the announced Latest Date for Change of Schedule. However, students who terminate their enrollment at the University by officially withdrawing are entitled to a reduction of the semester tuition charge according to the refund schedule published elsewhere in this catalog.

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 Change of Schedule as announced in the Academic Calendar.

CROSS-REGISTRATION

Cross-college and university registration provide opportunities for enriched educational programs, approved by a student's advisor or Dean, for undergraduates at any of the following institutions:

- Carlow College
- Carnegie-Mellon University
- Chatham College
- Community College of Allegheny County
- Community College of Allegheny County
- Allegheny County
- La Roche College
- Pittsburgh Theological Seminary
- Point Park College
- Robert Morris College
- University of Pittsburgh

The opportunity for cross-registration will be available to each full-time student enrolled in any program leading to a bachelor's degree. Full credit and grade will be transferred.

Each college or university shall accept registration in freshman through senior level courses listed by them as open to cross-registration, selected from courses regularly accredited toward baccalaureate programs. First priority in registration shall go to the students of the host college.

The approval of the dean or advisor and registrar from each college or university must be obtained prior to registration. The student's advisor or Dean is responsible for assuring eligibility for the course in which the student intends to enroll.
qualified student may enroll in no more than one course off campus in any one term or semester under this program. These policies on cross-registration are not effective at this time for enrollments in summer sessions, including the spring term at the University of Pittsburgh.

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

TRANSCRIPTS
Each student receives a summary transcript of his or her complete academic record at the close of each academic year. Students should carefully examine their record for accuracy and immediately report errors to the Registrar.

To obtain additional copies of their academic records students must write to the Registrar for transcripts for themselves or for 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 $1.00 is charged for the issuance of each transcript.

CONFIDENTIALITY OF STUDENT RECORDS
The University regards the student's personal information and academic record as a matter of confidence 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).

Scholastic Policies

ACADEMIC ADVISOR
Every student attending the University is assigned or selects an academic advisor. It is the student's responsibility to ascertain the advisor's name which may be obtained from the office of the school in which the student is enrolled.

The student should consult with the academic advisor about the program and any questions of an academic nature. No student may register without the academic advisor's approval and signature.

AUDITING COURSES
To audit courses, a student must be officially registered and pay the same charges as for courses that are taken for credit. Enrollment in a course for audit is subject to approval of the student's academic advisor. Permission to audit graduate and professional courses requires consent of the Dean of the school in which the desired course is offered.

CANCELLATION OF COURSES
The University makes every reasonable effort to offer courses as announced in the Semester Schedule of Courses and the Summer Session Bulletin. 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 normally essential for maximum educational advantage and is strongly encouraged. The responsibility for all course material rests wholly with the student. Class attendance shall not be used as the basis for altering a grade in a course.

It is the prerogative of each school to establish policy for attendance at tests and examinations, deadlines for reports, and specific school or course 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. Details about class attendance in schools that have specific policies will be found in the latter sections of this catalog.

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 at the beginning of each semester by the instructor. Grades for these are obtained from the instructor.

Final examinations are given at the end of each semester and summer session according to the Academic Calendar. Final grades are to be reported to the registrar within 72 hours after the final examination. No student is excused from taking the final examination. The temporary grade I (Incomplete) may be given to a student who, due to extenuating circumstances, is absent from the scheduled final examination, however, determination of whether the student may legitimately receive an I grade must be made when the I grade is submitted.

CREDIT BY EXAMINATION

Courses in which a student feels he or she has sufficient competence, may be "challenged" by taking an examination for credit. If the examination is passed, the credits will count for graduation, but neither grade nor quality points will be assigned. A fee of $10 a credit hour is charged.

GRADING SYSTEM

The officially recognized method of grading course work and rating academic performance of students at the University is as follows:

- A — Excellent
- B — Good
- C — Average
- D — Below average, passing
- P — Pass (Used in some courses where scaled grading is inappropriate. Indicates satisfactory completion of course work with credits earned but without quality points and is independent of the quality point system)
- S — Satisfactory (Used in pass/fail courses and is independent of the quality point system)
- F — Failure (Course must be repeated for credit)
- U — Unsatisfactory—Failure (Used in pass/fail courses and is independent of the quality point system)
- I — Incomplete (The temporary grade for undergraduate students. It indicates incomplete course work which if not completed by the date specified in the Academic Calendar becomes a permanent F grade. The I grade may be given when a student has not completed the work of a semester because of some extenuating circumstance.)
- X — Absent from Final Examination. This grade was superseded in September, 1974 for undergraduate course evaluation by the I grade.

WITHDRAWAL GRADES

These symbols are used on a student's permanent academic record to indicate termination of attendance in courses under conditions of official withdrawal (See pages 36 and 37, Withdrawal from a Course and Withdrawal from the University)

- W — Official Withdrawal
- WP — Official Withdrawal and Passing
- WF — Official Withdrawal and Failing

QUALITY POINT SYSTEM

The student's overall academic grade average (QPA) is obtained by dividing the total quality points earned by the total number of semester hours attempted. These quality point values of grades are used for each credit attempted:

- A — Four points
- B — Three points
- C — Two points
- D — One point
- F — Zero points

Courses in which grades P, S, U, I, and W were given are not used in calculating the quality point average.

REPEATING COURSES AND COURSE RETROGRESSION

Ordinarily, with permission of their advisor, students may repeat courses in which grades of F and D were received. 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.

Courses which must be taken in progression are those that have a required sequence, such as mathematics and modern languages. A student who has received an F for a prerequisite course may not continue in the sequential progression.

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 a pass/fail basis. The decision to elect the pass/fail option must be made during registration or no later than the close of the period provided for making schedule changes.
STUDENT STANDING

Since progress toward a degree is measured by the cumulative quality point average, the scholastic records of students who fail to meet the minimum requirements will be submitted to the individual School's Committee on Student Standing for appropriate action.

Students who fail to meet the minimum requirements in the Fall Semester may be allowed to continue their studies during the Spring Semester, but will be subject to the authority of the Committee. The Committee determines whether students should be allowed to continue their studies.

For students who have attempted 15-30 credits, or more than 30 credits in one year, these standards prevail.

Good Academic Standing: 2.0 to 4.0 QPA
Academic Warning: 1.75 to 1.99 QPA (May continue normal program for one year)
Probation: 1.60 to 1.74 QPA (Probation for one semester. May not continue normal program and is subject to jurisdiction of Committee on Student Standing)
Condition: 1.50 to 1.59 QPA (Suspension for one semester. An appeal may be allowed only one semester of probation by a School's Committee on Student Standing and on clearance from Student Services in matters within their competence)
Dismissal: Less than 1.50 QPA (Readmission may be permitted by recommendation of a School's Committee on Student Standing)

For students who have attempted 31-60 credits or who have attempted up to 61 credits within four semesters, the requirements are:

Good Academic Standing: 2.0 to 4.0 QPA
Academic Warning: 1.85 to 1.99 QPA (May continue normal program for one year)
Probation: 1.75 to 1.84 QPA (Probation for one semester. May not continue normal program and is subject to jurisdiction of a School's Committee on Student Standing)
Dismissal: Less than 1.75 QPA (Readmission may be permitted by recommendation of a School's Committee on Student Standing)

Students who have attempted 61 credits or more and who have a QPA of between 1.85 and 1.99 may continue on probation for one semester. However, students who have earned more than 90 credits must have a QPA of 2.0 or better or they are subject to dismissal. All students' records are evaluated for academic standing at the end of the Spring Semester. A student who accumulates three F's in one semester is subject to dismissal. Any appeals on academic standing must be directed to the individual School's Committee on Student Standing.

STUDENT STANDING

Academic Warning
- 1.75 to 1.99 QPA (May continue normal program for one year)
- Probation for one semester

Condition
- 1.50 to 1.59 QPA (Suspension for one semester)

Dismissal
- Less than 1.50 QPA (Readmission may be permitted)

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 the courses taken in each semester are sequentially correct and necessary for the degree program.

The student must periodically review in consultation with the appropriate academic advisor progress toward graduation and seek, with the advisor, the resolution of any question about fulfillment of graduation requirements.

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

1. The bachelor's degree requires a minimum of 120 semester hours of course credits in all except Medical Technology, Radiological Health, and Pharmacy which require, respectively, 125, 128, and 160 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 last 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. This is a general requirement, individual schools may require additional course work in this area.
5. Students on academic probation may be candidates for graduation only with permission of the Committee on Student Standing of their school.

The candidate who has satisfied graduation requirements by a Challenge Examination (credit by examination), when taken timely 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 last year's study.

HONORS

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

- *Cum Laude*—Quality Point Average 3.50 to 3.74
- *Magna Cum Laude*—Quality Point Average 3.75 and above
- *Summa Cum Laude*—Upon recommendation of the faculty and a 3.90, *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 to the student's advantage to discuss the proposed transfer with the academic advisor of the new school no later than two weeks prior to preregistration. The advisor will then use the form and procedure established as uniform for the University to effect any 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.

Up to the date announced in the Academic Calendar for withdrawal with a W grade, other students may withdraw from a course with the approval of their advisor and academic dean by processing the proper form.

If a student wishes to withdraw from a course during the period between the date announced in the Academic Calendar and the three weeks preceding the close of the semester, the student must seek the approval of the academic advisor and submit a letter of request to the Committee on Student Standing of the student's school. If approval is granted, the grade will be WP or WF as determined by the instructor of the course, and the student will be notified of the Committee's decision. The student then goes to the advisor to initiate the proper forms.

Should a student wish to withdraw from a course during the last three weeks of class, the student must do so through the advisor and a written request to the Student Standing Committee of his or her school. If permission is granted, the grade will be WF (except under extenuating circumstances). The student is notified of the Student Standing Committee's decision. The student then goes to the appropriate advisor to initiate the proper forms.

A student who is not granted approval of the request and withdraws from the course unofficially, will receive the grade of F for the course.

WITHDRAWAL FROM THE UNIVERSITY

If a student finds it necessary to withdraw from all courses before the close of the semester, the student must write a letter stating the reasons for the withdrawal and then must present this letter to the Dean of the student's school. Complete withdrawal forms must be filled out for the Dean of the school, with copies to the appropriate offices. The policy for assigning grades will be the same as for withdrawing from a single course. A student who withdraws from the University and fails to notify the appropriate Academic Dean immediately and adequately will receive an F grade in all courses.

A resident student must notify the Director of Residence Life in advance of the planned withdrawal. No refund of room charges will be made where withdrawal occurs after the opening classes. In the event of withdrawal, board will be refunded at the rate of 75 percent 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.

No student is permitted to remain in the residence halls after academic withdrawal from the University has been completed. After final examinations, if a student is unable to return for the next semester, he or she should notify the appropriate Dean and advisor.

STUDENT HANDBOOK

A Student Handbook that contains detailed information about practices and procedures of University policies that concern students is available to all new enrollees. It may be obtained from the Information Office in the Duquesne Union or from the enrollee's academic advisor.
**Student Life**

**HELPING SERVICES**

**CAMPUS MINISTRY**
In conjunction with the academic pursuits of the University, the Pastoral Office of Campus Ministry through its staff offers many opportunities for the student to be active in his religious development and continued spiritual growth by seeking ways of working out his relationship and responsibility to God and neighbor.

A varied schedule of daily and weekend Liturgies is provided. Priests are available for the Sacrament of Penance at regularly scheduled times and individually at any other pre-arranged time. The University Chapel remains open each day for prayer, reflection, and meditation. Evenings of recollection, weekend retreats, informal discussions and conversations, counseling, guest lecturers, and other special programs are some of the current activities of Campus Ministry. Open concerts of sacred music and recitals are given periodically during the year at the chapel.

All Campus Ministry activities are posted on the bulletin boards outside the chapel and in the Main Lobbies of each Residence Hall.

Students should feel free to stop in the Campus Ministry office at any time in the Administration Building (1st floor) or in the main lobby of the Towers.

**CAREER PLANNING AND PLACEMENT**
The Center assists students and alumni in formulating occupational goals, investigating vocational opportunities, and obtaining suitable jobs. Students in the early stages of career planning as well as those entering the labor market will find extensive and up-to-date resource materials in the Occupational Library.

The staff offers individual counseling and group guidance and may present special career seminars. A Career Advisors and Speakers Service is maintained through which persons may be engaged to participate in special career programs sponsored by student organizations, academic departments, and other groups.

Among the "placement" services offered by the Center are the campus interview program which allows seniors opportunity to compete for jobs or graduate school opportunities, and a job referral service that augments both the interview program and the candidate's own job seeking efforts. A credentials or references service is also offered.

Students interested in on-campus part-time or summer employment should contact the Center which administers the University's Student Aide Program. Information is also provided about jobs in the local community and other parts of the country.

**INTERNATIONAL STUDENT ADVISEMENT**
The International Student Advisor's office is part of the Office of the Dean of Students which is located in the Duquesne Union.

**HEALTH SERVICES**
The Health Services Office is located on the Second Floor of the Duquesne Towers Residence Hall. Registered nurses are available on a regular schedule throughout the academic year. Clinic hours are conducted daily at specific hours, Monday through Friday, by the University physicians.

Primary health service is given to resident students, although emergency service is also available to commuter students, faculty members, and staff members. A completely equipped ambulance is maintained by the University for emergency use. Should an emergency occur when the Health Services office cannot be reached, the Safety and Security Department should be contacted immediately.

Health Service costs are included in room fees for resident students, however, all additional treatment by non-University physicians, clinics, or hospitals must be paid for by the student.

**HEALTH INSURANCE**
It is recommended that each student carry some form of health insurance. The University provides a Student Health Care Program which has been designed to meet the needs of the student and is priced lower than individual health insurance policies. Complete information regarding this insurance plan may be obtained from the University Insurance Officer, Second Floor of the Business Affairs Building.

The University is not responsible for medical expenses resulting from participation in intramural sports.

**INTERNATIONAL STUDENT ADVISEMENT**
The responsibility of the International Student Advisor is to be of service to all international students in the areas of adjustment, housing, and activities. Other services include the preparation of forms for extension of stay, assistance for obtaining summer employment where permissible by law, and upon graduation, the preparation of applications for practical training.

The International Student Advisor's office is part of the Office of the Dean of Students which is located in the Duquesne Union.

**PSYCHOLOGICAL CENTER FOR TRAINING AND RESEARCH**
The Psychological Center for Training and Research is staffed by 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 his ability to find his own 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, which is located on the third floor of the Guidance Building. Hours are 9:00 A.M. to 5:00 P.M., Monday through Friday.

**SYSTEMS CENTER**
The Systems Center is a service department operated by the School of Business and Administration. Its main function is to make available to the students and faculty of the University the use of a modern computing system. Through the curriculum offered by the School of Business and Administration, the student is made cognizant of the potential uses for this new and powerful tool. Instruction in basic...
programming is provided to the students to aid them in fulfilling their class assignments. Individual research projects by the students and faculty are encouraged.

An auxiliary function of the Systems Center is to provide data-processing services for the administrative offices of the University. Two of the services being provided are automated registration and grade reporting. Students who work in the Systems Center become involved with the problems of setting up and operating the data processing system.

The Systems Center Staff is responsible for programming and operating specialized programs such as the Duquesne University Management Game, which is an important part of both the undergraduate and graduate curriculum.

**TESTING BUREAU**

The Testing Bureau, located on the third floor of the Administration Building, provides free testing and counseling to students. Various vocational interest inventories, personality type inventories, and aptitude tests are available to any interested student. Testing evaluation is geared towards helping students become more aware of patterns and preferences in their interests, abilities, and ways of relating to others so that they may make satisfying educational and career choices, achieve a better self-understanding, and enhance their relationships with others.

A recent follow-up study of students who have utilized the services offered through the Testing Bureau, report that the combination of interest and personality inventories and talks with a counselor have helped them to direct and integrate their personal and educational involvements in planning toward their occupational goals. An appointment may be made by calling the Testing Bureau between 8:30 AM and 4:30 PM.

Students can also obtain information and applications for national tests such as the Graduate Record Examination, National Teachers Examination, Law School Admissions Test, Medical College Admissions Test, the College Level Examination Program Tests, and the Miller Analogies Test.

**ACTIVITIES AND FACILITIES**

**ATHLETICS**

Duquesne University is a member of the National Collegiate Athletic Association, the Eastern Collegiate Athletic Conference, the Association for Inter-Collegiate Athletics for Women, and the Eastern Association for Inter-Collegiate Athletics for Women. The University follows the rules of these organizations in determining a student's eligibility for a varsity team. The Athletic Department supports the following varsity teams: baseball, basketball, cross-country, golf, rifle, tennis, women's basketball, and women's volleyball. The golf, rifle, tennis, and bowling teams are open to both men and women athletes.

Prospective candidates for any of the teams may obtain applications from the Athletic Office in the Main Gymnasium. Those interested in applying for either of the women's teams may contact the Assistant to the Director of Athletics in University Hall. Duquesne's women's varsity basketball and volleyball teams compete with women's teams from other colleges and universities in the tri-state area. The University is an inter-collegiate sport funded under the Athletic Department budget. Operating within Club Football Association rules, those interested in participating in football should contact the Director of Athletics. No athletic grants-in-aid are offered for this sport.

**DUQUESNE UNION**

The Union is more than a unique building. It is an organization, a program, a service, and a spirit that has spread through Duquesne since it opened in March 1967. Through cooperative governance and management of its human and physical resources, the Union strives to stimulate individual self-development through interaction with diverse people and ideas. With a goal of community, all aspects of the Union—facilities, programs, and committees—are open to all segments of the campus—students, faculty, administrators, and staff.

**PROGRAM BOARD**

Student committees of the Union Program Board cooperatively organize a variety of programs each year. Funded by a portion of the University Fee, the Program Board coordinates and balances general campus programming under the supervision of the Union Governing Council.

The Union constitution permits considerable flexibility in its program committee structure, committees may be added or deleted according to student interest. This allows for new ideas to grow and become an active part of University activities.

Membership on Union Program Board committees is open to all students, challenging them to meet and share their talents in ways which promote individual growth and group effectiveness.

**RESIDENCE LIFE**

Residence Life is dedicated to the task of creating an environment in which a student can grow and develop as a total person. Its program is based on two assumptions: 1) the student's residence hall living experience can be an important part of the total university education, and 2) the residence hall staff with a defined educational mission can greatly enhance the opportunities for students to profit from their residence hall experience. Therefore, it is the purpose of Residence Life to facilitate the personal and academic growth of student living by striving to make the whole of residence life an educational experience. To this end, the professional and resident assistant staff will provide the wherewithal to facilitate such development.

Recognizing that each individual has unique talents and potentials, every effort is made to create a residence hall environment that is acceptable to each individual and open to his or her effort on this environment. It is the student who, actively becoming part of environment, enriches his or her own development. It is this aim that university living strives to accomplish.

In the belief that residence living adds to the educational opportunities of the individual student, the University reserves the right to require all undergraduate students who do not commute from their permanent home of residence to reside in
University residence halls. Availability of space currently limits implementation of this requirement to freshmen and sophomore students.

The parking situation is critical, largely because of the University's urban setting, therefore, resident students are discouraged from bringing automobiles to the campus unless absolutely necessary. Only a limited number of parking permits is available for resident students.

STUDENT GOVERNMENT

STUDENT GOVERNMENT ASSOCIATION
The Student Government Association is a student-created structure designed to provide a forum for the expression of student views and interests, to maintain academic freedom and responsibility as well as student rights, and to foster intelligent interest and participation in all phases of University life. A major function of the SGA is to serve as student representatives on important University committees, including the Administrative Council (advisory to the President) and the Council of Academic Deans (the highest academic board).

RESIDENCE COUNCIL
The Residence Council coordinates activities, enforces regulations within the residence halls, and promotes interest in campus affairs.

It is the aim of the Residence Council to serve as a link between the resident students and the administration. Aside from the council activities, representatives of the Residence Council serve on the Council on Student Services and the Food Service Committee to provide student input for the formulation and review of University policies affecting residence life.

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 three elected or appointed representatives from each of the 10 member fraternities. The IFC establishes all rules governing inter-fraternity sports and regulates pledging.

PAN-HELLENIC COUNCIL
The Pan-Hellenic Council was established for the purpose of strengthening women's fraternities as organizations and for promoting cooperation among women fraternities through scholastic, athletic and social activities. Membership in the Pan-Hellenic Council is composed of the presidents and elected representatives of each of the six women's social fraternities. Pan-Hellenic Council establishes all rules concerning the rushing and pledging of new fraternity members.

STUDENT ORGANIZATIONS
There are more than 100 active student organizations at Duquesne. Some serve the needs of such specific groups as minority students, veterans, residents, and commuters. Others relate directly to major areas of study. Some honor academic achievement. Many are formed to meet religious, service or social needs and interests. Whatever their purpose, these organizations and their activities comprise a major part of campus life.

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

PROFESSIONAL AND DEPARTMENTAL ORGANIZATIONS
These professional organizations exist to provide the fertile ground for the growth of informal exchange of ideas pertinent to the student's academic pursuits. With this purpose in mind, these organizations sponsor numerous programs including debates, symposiums, and lectures.

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

SOCIAL ORGANIZATIONS
Social organizations are composed of college men and women who have joined together to enhance their identities by sponsoring and promoting social, athletic, cultural, and academic events. Many of these organizations belong to Inter-Fraternity Council or Pan-Hellenic Council.

TAMBURITZANS
The Duquesne University Tamburitzans were founded in 1937 at the University and were the first university-based performing folk ensemble in the United States. The group takes its name from the Tamburitz family of stringed instruments, indigenous to the folk cultures of Southeastern Europe. The group exists for the dual purpose of preserving and perpetuating the Eastern European cultural heritage in the United States and offering scholarship opportunities to deserving students.

THEATRE
The Red Masquers serves to provide an extra-curricular outlet for students who wish to participate in the theatre. Its 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 Masquer's program offers a variety of stage entertainment—one-act plays, musicals, comedies, tragedies. Any Duquesne student is eligible for membership.

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

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

L’Espirit du Duc, the yearbook, highlights the events of the previous year to remind all graduates of their alma mater. It is mailed to all seniors after their graduation.

WDUQ RADIO AND TELEVISION

The University’s radio station (WDUQ—90.5 FM) and television (closed circuit) provide academic support to the individual schools and departments through seminars, workshops, laboratory experience, and extracurricular opportunities in communication skills for individuals and groups. Most positions on the staff are filled by students. The University radio station operates on a 25,000 Watt frequency over a radius of seventy miles.

College of Liberal Arts and Sciences

HISTORY

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

PHILOSOPHY AND OBJECTIVES

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

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 the individual to understand his 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

CURRICULAR REQUIREMENTS

English Composition — Proficiency at the 102 level
Modern or Classical Language — Proficiency at the 202 or 212 level
Natural Sciences (Biology, Chemistry, Earth Sciences, Physics, Mathematics) — Nine Credits One two-semester sequential course must be completed
Social Sciences (Political Science, Psychology, Sociology) — Nine credits At least two disciplines must be represented
History, Literature — Nine credits Both disciplines must be represented
Philosophy, Theology — Nine credits Both disciplines must be represented
Communications (Journalism, Linguistics, Speech) — Three credits
Completion of Major Program — As determined by department (Minimum of 24 credits)
Completion of Minor Program — As determined by department offering the minor (Minimum of 12 credits above the introductory courses)

Students who major or minor in a basic area automatically satisfy the area requirements for that discipline.
A student's major and minor programs may not be chosen from the same department (Modern Language majors may minor in another language.)

ACADEMIC REQUIREMENTS
Completion of 120 credits
A minimum cumulative over-all quality point average of 2.0
A minimum cumulative quality point average in the major of 2.0
Removal of I and F grades in required courses
Completion of sequential courses in proper sequence
Completion of the residence requirement The last 30 credits must be taken at the University
Submission of application for the degree No student is considered a degree candidate until he files an application for the degree on a form provided by the Registrar

PROGRAMS
SEMINARY PROGRAM
English Composition — Proficiency at the 102 level
History — Two semesters (Six credits)
Language — Eight semesters of language. At least four semesters must be in a classical language
Literature — Two semesters (Six credits)
Philosophy — 18 credits
Science/Mathematics — Six credits
Social Sciences — Nine credits (Two disciplines must be represented)
Theology — A minimum of three credits
Completion of a major in Classics or Philosophy

PRE-ENGINEERING PROGRAM
The pre-engineering course is a two-year program designed to prepare a student for entrance into a school of engineering. Program consists of Calculus 115, 116, 215, 12 credits, General Analytic Physics 211, 212, 8 credits, Ordinary Differential Equations 216, 4 credits, General Chemistry 121, 122, 9 credits, English Composition 101, 102, 6 credits, balance of credits in electives

PRE-LAW PROGRAM
Students who intend to prepare for a career in law may select any subject area for the undergraduate major. They will be expected to meet degree requirements in the major department, as well as admission requirements of the law school of their choice

PRE-MEDICAL PROGRAM
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. A faculty committee on Pre-Medical Education assists the medically-oriented student

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

BACHELOR'S/PROFESSIONAL SCHOOL PROGRAM
A student who has completed 90 credits with a 3.50 overall average and satisfied all undergraduate curricular requirements may apply for the bachelor's degree after the successful completion of the first year of professional work in an accredited medical or law school

SECOND BACHELOR'S DEGREE
A student who has received a bachelor's degree from another school may become eligible for a second bachelor's degree by earning an additional 30 semester hours in residence in the College of Liberal Arts and Sciences and by meeting all departmental and College requirements if not already satisfied

THREE-YEAR BACHELOR'S PROGRAM
For information contact the Office of Admissions or the Dean of the College

CLEP AND ADVANCED PLACEMENT
See page 11

ACADEMIC REGULATIONS

ACADEMIC LOAD
Students may normally carry five courses in one semester. A schedule of more than five courses or 17 credits must be approved by the Dean. In the summer sessions,
students normally carry one credit a week, i.e., six credits in the six-week session. A 12-credit schedule in a regular semester is considered full-time study.

**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.

**CREDIT-BY-EXAMINATION**

Credit-by-examination is available to students who by previous experience or exposure have acquired mastery of the knowledge in a particular course. Arrangements are made through the department chairman. Students must be currently registered when they apply for and take examinations for credit. The examination grade must be approved by the appropriate department chairman and dean.

**COURSE DESCRIPTIONS**

*Department of Biological Sciences*

**Chairman** Howard G. Ehrlich, Ph.D.

Biology is the scientific exploration of life in its many forms and details. To study biology is to pursue an intellectual challenge which provides insight into one's self and enables one to acquire knowledge vital to responsible citizens in societies beset by many serious problems having biological implications. The undergraduate program is basic and aids in preparing students for professional careers in teaching, medicine, dentistry, veterinary medicine, and advanced study in graduate school. In addition, graduates are qualified as laboratory technicians, and are able to pursue positions in pure and applied research in hospitals, universities, private industry, and civil service. Numerous and diverse opportunities are available in pharmaceutical laboratories, medical research laboratories, atomic energy research laboratories, chemical laboratories, food processing and control laboratories, meat packing, canning, forestry, wildlife management, fisheries, oceanography, conservation, health services, space biology, dairy and agricultural production, food and drug administration, environmental services, and others.

**REQUIREMENTS FOR THE MAJOR**

A minimum of 31 semester hours is needed. Majors are required to take General Biology 111, 112 and to select other courses so that a balance is achieved with experience in the biology of inheritance, structure, and function at the molecular, cellular, and organismal levels. The specific program selected is individually formulated for the student through consultation with an advisor. Qualified seniors are encouraged to take 500 level Biology graduate courses (such as 503-Cell and Fine Structural Biology, 505-Cell and Molecular Biology, 507-Laboratory Techniques, 511-Comparative Vertebrate Physiology, 512-Mammalian Physiology, 513-General Endocrinology, 529-Experimental Embryology, 523-Invertebrate Physiology, 525-Comparative Microbiology, 531-Biology of Fungi, 580-Urban Ecology) listed in the Graduate School Catalog. Students should consider extradepartmental electives in chemistry and mathematics. Courses 107, 108, 201, and 202 will not be counted toward a major in Biology. Extradepartmental Requirements Calculus 115, General Chemistry 121, 122, Organic Chemistry 205, 206 or 221, 222, General (or Analytical) Physics 201, 202 or 211, 212.

**REQUIREMENTS FOR THE MINOR**

A minor 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. If a student takes 107, 108 and 111, 112, the credits for 107, 108 will not apply to the total number required for the degree.

107, 108 Principles of Biology 3 cr each

Study of the living world of which man is an integral part. It includes considerations of organization, activity, growth, reproduction, inheritance, environmental influences and other interrelationships. This course is designed to provide the non-scientist with the biological information and principles necessary to assume an enlightened role in our increasingly complex society. Does not carry credit toward a Biology major. 107 is prerequisite to 108. Lecture three hours.

111, 112 General Biology 4 cr each

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

201 The Biology of Microbes 4 cr

Examination of microbes as to what they are, how they grow, how they may be controlled, what their relationships to other living things are, and why and how some of them cause disease. This course does not carry credit toward a biology major. Lecture, three hours, Laboratory, three hours.

202 Biology of Sex 3 cr

A consideration of reproductive mechanisms and sex as universal biological functions with emphasis on human physiology, genetics, behavior, sexuality and their implications for modern society. Does not carry credit toward a Biology major. Lecture, three hours.

203 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. Prerequisites and details, methods and applications are illustrated with specific examples drawn from a wide range of species, from micro-organisms to man. Prerequisite 108 or 112. Lecture, three hours, Laboratory, two hours.
318 Natural History of Infectious Diseases 3 cr
The natural history of infectious diseases is considered from the aspect of host-parasite relationships. The process of infection, the outcome of the relationship and epidemiologic patterns of diseases will be studied. These concepts are explored by understanding the biology of the parasite and the mechanisms of resistance and immunity of the host. Diseases associated with bacteria, viruses, fungi, protozoans, and helminths are covered. Prerequisite: 112. Lecture three hours.

320 Molecular Genetics 4 cr
Molecular basis of genetic control mechanisms in cells and organisms with emphasis on microorganisms. Prerequisites: 112 and 311 or 317. Lecture, three hours, Laboratory, three hours.

411 Ecology 3 cr
Critical examination of the principles and procedures underlying ecological thought; stressing the ecosystem concept and its implications for human activity. Prerequisite: 112. Lecture three hours.

412 Ecology Laboratory 1 cr
Laboratory including possible field work, illustrates selected subject matter of 411. Prerequisites: 112 and 411. may be taken concurrently with 411.

414 Regulatory Physiology 4 cr
Treatment of physiological and environmental regulations with emphasis on neuroendocrine integration and adaptation. Prerequisites: 112 and 311 or 314. Lecture, three hours, Laboratory, three hours.

416 Evolution 3 cr
History, development, concepts, and evidences of evolution with emphasis on modern studies in evolutionary biology, including an introduction to population genetics. Prerequisites: 112 and 203 or 320. Lecture, three hours.

419 Special Topics 1-3 cr
Treatment of topics of current or special interest in biology. Lecture, laboratory, or combinations.

421, 422 Undergraduate Research 2 cr each
Opportunity for selected students to work on research problems under the direction of a faculty member. 421 is not prerequisite to 422. Maximum of four credits. Registration by permission of instructor.
Department of Chemistry

Chairman Andrew J. Glaud, I, Ph.D.

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

Because of the fundamental nature of chemistry as a science, numerous opportunities for advanced study, as well as immediate employment, are open to the chemistry major. A large percentage of students elect to continue their study in graduate programs in chemistry and related fields. Chemists and biochemists provide a core of personnel in pure and applied research, technical sales, technical libraries, and management positions in the chemical and related industries, the space industry, the health professions, education and the environmental sciences. The major in biochemistry centers around the core of basic chemistry courses while also providing advanced courses in biochemistry and electives in biology.

Requirements for the Chemistry Major

Thirty-two semester hours are required. All students must take 121, 122, 211, 212, 321, 322, 323, 324, 421, 422. To meet the American Chemical Society's requirements for Professional Certification, the student must elect two additional courses from the following: 401, 523, 524, 537, 538, 545, 546, 571, 572, Mathematics 216 or 308, Pharmacology Sciences 525, 539, one of the courses must be a laboratory course. This laboratory requirement can also be fulfilled with Chemistry 490.

Extradepartmental Requirements: Mathematics 115, 116, 215, Physics 201, 202, or 211, 212, Biology 111, 112, and 202 or 212, proficiency in German, Russian, or French.

Requirements for the Biochemistry Major

Thirty-two semester hours are required. All students must take 121, 122, 211, 212, 321, 322, 323, 401, 421, and 524. In addition, two biology electives should be selected from Biology 317, 311, and 320. Students planning to enter a graduate chemistry department should take Chemistry 322 and 324.

If a student takes 111, 112 and 121, 122, the credits for the 111, 112 will not apply to the total number required for the degree. Courses 102, 103, 205, 206 will not be counted toward a major.

Extradepartmental Requirements: Mathematics 115, 116, Physics 201, 202 or 211, 212, Biology 111, 112, proficiency in German, Russian, or French.

Requirements for the Minors

A minor in Chemistry consists of 12 credit hours beyond Chemistry 121, 122. A minor in Biochemistry consists of 12 credits, beyond Chemistry 121, 122. Normally, Chemistry 205, 206 or 221, 222 along with Chemistry 401, will constitute the Biochemistry minor.

101, 102 Chemistry and Society 3 crs each

The impact of chemistry on society reaches every phase of life. The course attempts to provide a link between chemical principles and the complexities of our rapidly changing society. In the first semester, the basic concepts of chemistry are developed for the non-science student. Through consideration of a series of environmental topics, the student is challenged to broaden his perspective by applying chemical concepts to an understanding of chemistry and the relationship to our physical environment. The course deals with the significance of developments in chemistry as seen in immediate benefits to man and in the long-term impact on society. The second semester deals with the biochemistry of living systems. Chemical principles are used to explain the normal life processes of photosynthesis, respiration, growth as well as abnormal conditions such as drug action, poisons, etc. on metabolic reactions. The student is made aware of the biochemical unity that prevails among the many complex and diverse forms of life. The first semester is a prerequisite to the second semester for those who have not had high school chemistry.

Lecture, three hours.

111, 112 Principles of Chemistry 4 cr each

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

Lecture, three hours, Recitation, one hour, Laboratory, two hours.

121, 122 General Chemistry 4 cr each

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

121: Lecture, three hours, Recitation, one hour, Laboratory, three hours.

122: Lecture, three hours, Laboratory, one hour, Laboratory, six hours.

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

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

321, 322 Physical Chemistry 3 cr each
A study of the structure and properties of the various states of matter, thermodynamics, thermochemistry, kinetics, and an introduction to chemical physics. Prerequisites: Physics 202 or 212, Chemistry 122, Mathematics 116. Lecture, four hours.

323, 324 Physical Chemistry Laboratory 1 cr each
Laboratory portion of Chemistry 321, 322, four hours.

401 Introductory Biochemistry 4 cr
An introduction to biochemistry at the cellular level. The structure and chemistry of cellular components (proteins, nucleic acids, etc.), of cellular reagents (enzymes, coenzymes, respiratory pigments, etc.) and metabolic reactions of carbohydrates, lipids and amino acids are discussed. Prerequisite: 206 or 222. Lecture, three hours, Laboratory, four hours.

421 Analytical Chemistry 4 cr
Theoretical and practical training in modern methods in chemical analysis with emphasis on instrumental methods. Prerequisite: 322. Lecture, three hours, Laboratory, eight hours.

422 Inorganic Chemistry 4 cr
A survey of the basic principles required for understanding inorganic chemistry including atomic and molecular structure, crystal structure, non-aqueous solvents and coordination compounds. Prerequisite: 322. Lecture, three hours, Laboratory, four hours.

524 Molecular Basis of Biochemistry 3 cr
A discussion of the chemistry of amino acids and proteins from the viewpoint of structure, physical chemistry and analysis. An introduction to enzyme chemistry is also included in the course. Prerequisite: 401.

Department of Classics

Chairman: Cornelius C. Holly, C S S p, Ph L

For the student who seeks something more than the mass-produced, plastic culture of contemporary life, the Department of Classics offers courses, both in the original languages and in translation, designed for the enrichment of the individual as a human person. These courses cover a vast period of Western cultural history extending from Homer to the Renaissance. The course material, moreover, not studied in isolation but in conjunction with the best of contemporary thought and creative expression.

REQUIREMENT FOR THE MAJOR

A candidate for the Bachelor of Arts degree will be expected to take at least 24 credits in Latin and Greek with a minimum of 18 credits in one language and a minimum of six credits in the other. Classes 311 and 312 (Survey of Sanskrit Literature) may be substituted for the minimum of six credits. Credits applied to the major must be at the 200 level or above. Latin Prose Composition will be required for the major at the discretion of the Chairman. Six credits of ancient history (Classes 325, 326, 337, 338) are required in addition for any major.

With prior departmental consent, students may substitute either Classes 323, 324 for one course in their 18-credit language requirement.

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 Civilization, Roman Civilization, Ancient History, and Ancient Art and Literature (12 credits above the 100 level) with the approval of the department and advisors.

101, 102 Basic Latin 4 cr each
Study of the fundamentals of Latin grammar and syntax combined with occasional exercises in translation from Roman authors.

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

105, 106 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.

201, 202 Introduction to Latin Readings 3 cr each
A selection of readings from ancient and medieval prose and poetry (including the Vulgate and Christian writers) to illustrate the changing currents of ancient thought.

203 Introduction to Greek Readings 3 cr
Selected readings from Plato.

204 Introduction to Greek Readings 3 cr
Selected readings from the New Testament.

301 Survey of Latin Poetry 3 cr
Selections from the major Latin poets with emphasis on the development of poetic techniques. Prerequisite: Classes 102 or equivalent.

302 Survey of Latin Prose Literature 3 cr
A complementary course to Latin Poetry which surveys the major prose authors of the Roman world. Prerequisite: Classes 102, or equivalent.

303 Survey of Greek Poetry 3 cr
Selections from the major Greek poets with emphasis on the development of poetic techniques. Prerequisite: Classes 104 or equivalent.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>304</td>
<td>Survey of Greek Prose Literature</td>
<td>3 cr</td>
</tr>
<tr>
<td>305</td>
<td>Latin Prose Composition</td>
<td>3 cr</td>
</tr>
<tr>
<td>307</td>
<td>Biblical and Patristic Greek</td>
<td>3 cr</td>
</tr>
<tr>
<td>308</td>
<td>Patristic Latin</td>
<td>3 cr</td>
</tr>
<tr>
<td>311, 312</td>
<td>Survey of Sanskrit Literature</td>
<td>3 cr ea</td>
</tr>
<tr>
<td>401, 402</td>
<td>Pre-Fifth Century</td>
<td>3 cr ea</td>
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<td>403, 404</td>
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<td>405, 406</td>
<td>Fourth Century</td>
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<tr>
<td>407-408</td>
<td>Alexandrian Period</td>
<td>3 cr ea</td>
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<tr>
<td>409, 410</td>
<td>Roman Republic</td>
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<td>411, 412</td>
<td>Augustan Age</td>
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<tr>
<td>413, 414</td>
<td>Later Imperial Literature</td>
<td>3 cr ea</td>
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<tr>
<td>417, 418</td>
<td>Post Classical Literature</td>
<td>3 cr ea</td>
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<tr>
<td>419</td>
<td>Studies in Genre</td>
<td>3 cr</td>
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<tr>
<td>420</td>
<td>Senior Seminar</td>
<td>3 cr</td>
</tr>
<tr>
<td>421, 422</td>
<td>Independent Readings and Research</td>
<td>Var cr</td>
</tr>
<tr>
<td>472</td>
<td>Elementary Biblical Hebrew</td>
<td>3 cr</td>
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</table>

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 is read. Prerequisite for 400 courses is one year of courses at the 300 level or the equivalent:

<table>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>401, 402</td>
<td>Pre-Fifth Century</td>
<td>3 cr ea</td>
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<tr>
<td>403, 404</td>
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<tr>
<td>405, 406</td>
<td>Fourth Century</td>
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<tr>
<td>407-408</td>
<td>Alexandrian Period</td>
<td>3 cr ea</td>
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<td>409, 410</td>
<td>Roman Republic</td>
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<tr>
<td>472</td>
<td>Elementary Biblical Hebrew</td>
<td>3 cr</td>
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</table>

Classes courses in English (No Greek or Latin required):

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<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>121</td>
<td>General Elymology</td>
<td>3 cr</td>
</tr>
<tr>
<td>122</td>
<td>Etyymology of Scientific Terms</td>
<td>3 cr</td>
</tr>
<tr>
<td>123</td>
<td>Classical Mythology</td>
<td>3 cr</td>
</tr>
<tr>
<td>320</td>
<td>Seminar</td>
<td>1-3 cr</td>
</tr>
<tr>
<td>323</td>
<td>Masterpieces of Greek Literature in Translation</td>
<td>3 cr</td>
</tr>
<tr>
<td>324</td>
<td>Masterpieces of Latin Literature in Translation</td>
<td>3 cr</td>
</tr>
<tr>
<td>325</td>
<td>Greek History</td>
<td>3 cr</td>
</tr>
<tr>
<td>326</td>
<td>Hellenistic History</td>
<td>3 cr</td>
</tr>
<tr>
<td>328</td>
<td>The Classical Tradition in America</td>
<td>3 cr</td>
</tr>
<tr>
<td>337</td>
<td>Roman Imperial History</td>
<td>3 cr</td>
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Department of Economics

Chairman Som Prakash, Ph D

REQUIREMENTS FOR THE MAJOR

Twenty-four semester hours are required for a major. These credits must include 101, 102, 213, or 211, 212, and 301, 302. (101, 102, or 211, 212 are prerequisites to all advanced courses.) Extradepartmental requirements Analytic Methods 201, 202 in the School of Business and Administration or Mathematics 225 in the College Mathematics Department. Students planning to do graduate work in economics are advised to take calculus.

REQUIREMENT FOR THE MINOR

Eighteen semester hours are required for a minor. The required introductory level courses are 101 and 102, 211 and 212. In certain cases, it would be advisable to take 213 as an elective. It is strongly suggested that students having selected Economics as a minor, consult with the Economics Department chairman for advisement purposes.

101 Elements of Economics 3 cr
Economics 101 is an introductory course in economics intended to afford an understanding of how our economic system works, of the forces which affect the level, composition, and distribution of the output of the economy, and of the issues behind current economic problems. The course content will define concepts, provide background materials, and develop economic ideas necessary to an understanding of the policy issues constantly before a complex dynamic economy.

102 Introduction to Macro Economics 3 cr
The emphasis is on the application of macro economic principles. A series of basic economic problems and issues will be examined in terms of an understanding of the basic problem. How can society achieve and maintain a full employment economy with reasonable economic stability?
402 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. Prerequisites 211, 212 or 101, 102

403 Urban Economics 3 cr
Urban economics is intended to afford an understanding of how the urban economy works, of the forces which affect the level, composition, and distribution of the output of the urban economy, and of the economic issues behind current urban problems. The course analyzes the processes, stages and determinants of urban economic growth and development. Urban economics focuses on the problems and policy in the urban economy, income inequality, manpower, local public finance, housing and land use patterns, and transportation. A particular emphasis of the course is to provide the student with the theoretical tools and show their application to the dynamic, complex urban economy. Prerequisites 211, 212 or 101, 102

405 International Economics 3 cr
This course is an introduction to international trade theory and the principles of international monetary economics as well as foreign trade policies. Topics to be discussed include the classical and neo-classical theory of comparative advantage, foreign exchange markets and balance of payments, adjustment mechanisms, analysis of the consequences of trade regulation and international liquidity problems. Prerequisites 211, 212 or 101, 102, 213

406 International Business 3 cr
The course is offered by the Department of Commerce

413 Labor Economics 3 cr
Analysis of the principles for wage and employment determination in contemporary American economy under non-union conditions as well as under collective bargaining. The institutional development underlying labor supply and demand is studied with direct emphasis on its impact on employment and production, on the general wage-level and on wage differentials, on the distribution of national income and on general social welfare. The course also includes a comparative study of problems in labor economics in American and other democratic countries. Prerequisites 211, 212 or 101, 102

417 History of Economic Thought 3 cr
Shows the development of economic thought from the Age of Mercantilism to 1890. Major emphasis is placed upon the writings of Mun, Petty, Quesnay, Smith, Ricardo, Malthus, Marx, Jevons, and the Austrian School. It offers a study of the fundamental concepts of the writers and the influence of institutional conditions upon their philosophy. Major emphasis is placed upon value and distribution theory as it developed. Prerequisites 211, 212 or 101, 102, 213

418 Modern Economic Theory 3 cr
A brief review of classical tradition emphasizing Smith, Ricardo, and Mill, and Marxian socialism showing their influence upon the evolution of Twentieth Century economic theory. Emphasis is placed primarily upon the writings of Marshall, Schumpeter, and Keynes, applying their theories to the problems of contemporary economic policy. Special emphasis is given to economic growth and development and the essentials of welfare economics in today's society. Prerequisites 211, 212 or 101, 102, 213

419 Business Cycles and Forecasting 3 cr
This course is designed to study the process of economic change. Analysis of Seasonal, Cyclical, and Secular movements will be undertaken. Theoretical and empirical aspects will be covered. Forecasting techniques will also be studied. Prerequisite: 301

420 Business and Public Policy 3 cr
A study of the regulatory techniques used by government to influence and modify business behavior. This course also includes an analysis of market structure, conduct, and performance considerations pertaining to the firm and the industry. Emphasis is given to the anti-trust laws and special regulatory problems. Prerequisites: 211, 212 or 101, 102

421 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. Prerequisites: 211, 212 or 101, 102

422 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 Weicksell, Fisher, J. M. Clark, Keynes, Robertson and Modigliani, among others, are reviewed. The role of the interest rate is reviewed along with wage-price controversies, international gold flows, and the relationships between fiscal and monetary policies. Prerequisite: 301

423 Theory of Economic Development 3 cr
The course is designed to acquaint students with the area of economic development. The subject matter of this course conveniently divides itself into five major categories—the nature of development and problems of measurement, theories of development, factors and forces affecting economic growth, different approaches to a higher standard of living, and problems of domestic and international stability. Approach to this course encompasses detailed study as well as strong emphasis on theoretical and critical analysis. Prerequisite: 301

424 Problems, Policies and Case Studies in Economic Development 3 cr
This course is a continuation of the first semester course in economic development. An attempt is made in this semester to apply the tools, techniques, and theories of development to selected regions and countries of the world. The course is divided into four broad areas—the nature and problems of the case study method, the nature of the socio-economic structure and its impact on development, problems of measurement and of comparison, and the changing role of the basic factors of production. Considerable time will be devoted to a critical study of the actual policy measures adopted for development by selected countries. Prerequisite: 423

451 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: 301, 302 and permission of the instructor.
Chairman James P. Beymer, J.D., M.A.

The chief purpose of the English program is to develop the student's powers to think critically about his life. To this end, the Department's curriculum unites intensive and critical reading in a broad range of our literary heritage with close attention to the presentation of ideas in writing. Attention is also given to oral expression of ideas by means of dialogue between professor and student. Not only is the degree in English an excellent preparation for Law School and for graduate work in English, Education, and Library Science, but it also provides the liberal preparation which is sought by the business world generally for such areas as personnel, advertising, and management.

Requirements for the Major

The major is an individually-designed program of 24 hours of literature, writing, and linguistics above the 100 level. Each English major, with the close advice and approval of a member of the English faculty, designs a program to fit his background interests, and career objectives.

Requirements for the Minor

The minor consists of a minimum of 12 credit hours beyond the freshman level of which at least six must be taken at the 300 and 400 level.

There are four separate emphases that the student may follow:

1. English Literature
   - English 201, 202 and six hours in upper division English Literature, courses 407 to 464

2. American Literature
   - English 205, 206 and six hours in upper division American Literature, courses 471 to 479

3. Writing
   - English 203 and nine hours in Writing Workshops, courses 380 to 383

4. Literary Genre
   - English 207, 208, or 209 with nine hours of upper division work in the corresponding genre (fiction, poetry, or drama) from the 300 and 400 offerings in English and American Literature.

Prerequisite for all courses 200 or above is 101, 102 or the equivalent. The English Department further advises that two 200 level courses should have been taken before the student attempts any 300 or 400 level English course (except 307 and 308).

Honors Program

Students who score 625 or better on the College Entrance Examination Board verbal test may be invited to enroll in English Composition Honors, 103.

The Sophomore Honors section of English 212 is open to students who successfully complete the freshman Honors course (103) with a grade of A or B, by invitation to students who have College Entrance Examination Board scores of at least 550 (achievement) and 625 (verbal) and who bypass English 102 by virtue of an Advanced Placement Test score of four or better, or who display exceptional ability in English 102 and are recommended by their instructors.

Students who complete the Sophomore Honors sequence (English 212, 213), and become English majors are entitled to enroll in one Honors seminar (300) each semester of their Junior year.

101, 102 English Composition 3 cr each
- Practice in effective writing
- Review of principles of grammar and rhetoric, introduction to literary types and forms
- 101 is prerequisite to 102

103 English Composition Honors 3 cr
- An honors counterpart to English 102
- Composition and introduction to literary types and forms
- Participation by invitation only

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

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
- An introduction to various types of American and British novels and the methods of discussing 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
- An 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 Readings in World Literature I, II 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.

212, 213 English Literature Honors 3 cr each
- Honors counterparts to English 201, 202
- Major British writers from Chaucer to Eliot
- Participation by invitation only
300 Honors Seminar
(Special areas treated in these seminars will vary and will be designated in the schedule of courses each semester. Enrollment in the Honors Seminar is by invitation of the Honors Committee of the Department of English)

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

308 Applied Linguistics
Practical uses of structural linguistics in the teaching of composition and literature

370, 371, 372, 373, 374, 375, and 376 Special Studies in English
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, Literature, Myth, and the Modern World, The English Bible as Literature, Comparative Literature, The Film as Literature

380, 381, 382, and 383 Writing Workshops
One or more courses in this sequence are offered each semester in a workshop format designed to develop students’ creative and/or technical writing skills. Examples of courses regularly offered are Poetry Workshop, Drama Workshop, Fiction Workshop, Writing for Business and Industry. Admission by instructor’s permission only

The remainder of the English courses are divided into areas of emphasis. During a four-semester period each course from each area will be offered at least once

MEDIEVAL STUDIES

407 Medieval Genre
An approach to the ideas and attitudes of the medieval period by studying one of its dominant genres such as the romance, the drama, the lyric, etc

408 Introduction to Medieval Literature
Readings and analysis of Medieval French, German, Old Icelandic, Old, and Middle English Literature, in modern English

409 Chaucer
A study of The Canterbury Tales and minor poems

RENAISSANCE STUDIES

413 Sixteenth Century English Literature
Survey including non-Shakespearean drama Sidney, Spenser, Shakespeare, Marlowe and minor figures

414 Seventeenth Century English Literature
A survey of drama, prose and verse to 1660

415 Milton
A survey of Milton and his times. A close scrutiny of the minor poems, and Paradise Lost and Samson Agonistes

416 Renaissance Major Figures(s)
A study of Renaissance thought and aesthetic in the works of one or more of its great writers: Spenser, Sidney, Donne, Jonson, etc

SHAKESPEARE STUDIES

431 Shakespeare and His Contemporaries—Comedies
A study of selected Shakespearean comedies compared and contrasted with the form and content of the work of other Elizabethan and Jacobean comic dramatists. Specific works to be selected by the instructor

432 Shakespeare and His Contemporaries—Tragedies
A study of selected Shakespearean tragedies examined in the perspective of tragic forms and themes as developed in the works of other Elizabethan and Jacobean playwrights. Specific works to be selected by the instructor

433 Shakespeare I
Comedies and romances

434 Shakespeare II
Tragedies and histories

435 Shakespeare and the critics
An intensive investigation of one or more of Shakespeare’s plays designed to reflect how various approaches in its critical history have provided new insights into Shakespearean drama through the development of multiple perspectives. Specific works to be selected by the instructor

EIGHTEENTH CENTURY STUDIES

441 English Classicism
Developments of neo-classical literature from the Restoration to the death of Pope. Primary attention given to Dryden, Swift, and Pope

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

443 Eighteenth Century Major Figure(s)
A study of Eighteenth Century thought and aesthetic in the works of one or more of its great writers: Dryden, Swift, Pope, Johnson, Blake, etc

444 Eighteenth Century Genre
An approach to the ideas and attitudes of the Eighteenth Century through one of its dominant genres: the drama, the novel, the essay, etc

NINETEENTH CENTURY STUDIES

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

452 Victorian Literature
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
453 Nineteenth Century Major Figure(s) 3 cr
A study of Nineteenth Century thought and aesthetic in the works of one or more of its
great writers Wordsworth, Tennyson, Browning Dickens, Hardy, etc

456 Nineteenth Century Genre 3 cr
An approach to the ideas and attitudes of the Nineteenth Century through one of its
dominant genres poetry the novel, the essay, etc

TWENTIETH CENTURY STUDIES
461 The Early Twentieth Century 3 cr
Selective study of authors representing the major literary types and trends from about
1890 to 1930 Hardy, Moore, Butler Conrad, Yeats, Hopkins Joyce and Eliot

462 Contemporary Literature 3 cr
Major literary types and trends since about 1930 Woolf Waugh Greene, Auden,
Spender, Thomas, Golding and others

463 Twentieth Century Major Figure(s) 3 cr
A study of Twentieth Century thought and aesthetic in the works of one or more of its
great writers Yeats Joyce, Eliot, etc

464 Twentieth Century Genre 3 cr
An approach to the ideas and attitudes of the Twentieth Century through one of its
dominant genres poetry the novel, the drama etc

AMERICAN STUDIES
471 Early American Literature 3 cr
A study of the literature of America's Colonial and Federalist periods, emphasizing the
political and belletristic writings of an emerging nation

472 American Romanticism 3 cr
A study of the Romantic movement in America with emphasis on Emerson, Thoreau,
and Poe

473 American Realism 3 cr
The rise of realistic fiction subsequent to the Civil War through the end of the century,
emphasise on Twain, James and Howells

474 Modern American Literature 3 cr
A study of American prose and poetry from the end of World War I to the present, in-
cluding Frost, Fitzgerald, Hemingway, Faulkner, Bellow, etc

475 American Literature Genre 3 cr
A study of American ideas and attitudes through the development of one of the domi-
nant genres the lyric, the novel, the short story etc

476 American Literature Major Figures(s) 3 cr
A study of some of the major American writers demonstrating the scope of their con-
tribution to American letters, such writers as Twain, James, Poe, Faulkner,
Hemingway, etc

477 American Literature Special Studies 3 cr
A course designed to reflect particular current interests of faculty and students alike:
Topics can be drawn from a wide range of areas such as historical background,
aesthetics, theme and motif

Fine Arts

Coordinator Mrs Patricia S Ingram

Survey and period courses in the history of western art are offered by the Art Divi-
sion of the Classics Department to introduce the concepts of art history to those
who wish to extend their visual perimeter and to understand the role of the visual
arts in Western culture. Qualified students are advised to take collateral courses in
art, history, philosophy and psychology, and 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 MINOR
The minor consists of 12 credits of 300- and 400-level courses The prerequisites are
six credits of introductory and survey courses at the 100- and 200-level or their ad-
judged equivalent Areas of concentration include Ancient, American, and Modern
art

101 Introduction to the Visual Arts 3 cr
A study of the techniques and styles of architecture, sculpture, painting, and the graphic
arts in western society with an emphasis upon increasing the student's comprehension of
our visually oriented culture Recommended prerequisite for all upper division art
history courses

102 Introduction to Modern Art 3 cr
An attempt to render accessible to the spectator the realities formulated by the artists of
the last two decades Formal analysis of the art object and examination of the
motivational forces which shaped its creation lead to an overall view of the structural
framework of twentieth century painting and sculpture (Offered in alternate years)

201 History of Art Ancient to Gothic 3 cr
A chronologically oriented, detailed presentation of the history of Western art. This sur-
vey deals with Near Eastern, Greek, Roman, Early Christian and Medieval art

202 History of Art Renaissance to Modern 3 cr
A continuation of 201 Surveys Renaissance, Baroque and Modern art in Western Eu-

203 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 Areas of emphasis are Carolingian, Romanesque,
Gothic, Renaissance, Rococo and Modern art (Offered in alternate years)

204 Spanish Art 3 cr
A survey which considers the divergent factors which have shaped the Spanish artistic
orientation from pre-historic times to the present Areas of emphasis are Hispano-
Roman, Visigothic, Mozarabic, Medieval Plateresque, Baroque, and Modern Art
301 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. (Offered in alternate years)

302 Roman Art 3 cr  
An introduction to Roman innovations in art, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in the history of Western art is explored. (Offered in alternate years)

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

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

331 Art of the 19th Century 3 cr  
A survey of the visual arts of the 19th century. The visual arts not only reflect the changing political, religious, and social values in society, 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.

341 American Painting and Sculpture 3 cr  
An examination of the forms created by American painters and sculptors from the early 17th through the late 20th century. Special emphasis is placed on the major artists and their works. (Offered every other year)

342 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, including Falling Water, are scheduled.

431 Selected Readings Variable Topics 3 cr  
In-depth research, using the resources of Pittsburgh area libraries and of source material relevant to the history of Western art. Weekly seminars are conducted, and individual research is programmed. Prerequisite Permission of instructor.

442 Tri-State Architecture 3 cr  
Weekly seminars on detailed aspects of American architecture, particularly those pertinent to Western Pennsylvania, Eastern Ohio and near-by West Virginia. Walking tours in Pittsburgh, automobile tours of the region, and independent research are scheduled. Prerequisite American Architecture 342 or permission of instructor. (Offered in alternate years)

Department of History

Chairman Samuel J. Astorino, Ph.D.

The Department of History offers a program devoted to the study of mankind in diverse cultural settings through time. A large number of courses are taught by a faculty reflecting a variety of philosophical and methodological outlooks. Apart from the fact that the program fully meets the needs of students intending to pursue graduate work in historical studies, the history major will be well prepared for careers in law, business, or government service. Most importantly, the discipline of history provides an excellent synthesis of the liberal-arts education since it effectively joins together the humanities and the social sciences.

Requirements for the Major

At least 24 credits in addition to 111, 112. Of these 24 credits, at least six credits must be taken in American and six credits in European history, at least six credits from the sophomore survey courses, 211, 212, 221, 222, 231, 232 (twelve credits from this level are recommended), and three credits of an undergraduate historiography course, 481, 483, or 484.

The stated requirements aim to provide the student with a structured program of learning within which considerable flexibility is encouraged. The major consists of 72 credits. At least 24 credits will be taken in American and six credits in European history, at least six credits from the sophomore survey courses, 211, 212, 221, 222, 231, 232 (twelve credits from this level are recommended), and three credits of an undergraduate historiography course, 481, 483, or 484.

The stated requirements aim to provide the student with a structured program of learning within which considerable flexibility is encouraged. The major consists of 72 credits. At least 24 credits will be taken in American and six credits in European history, at least six credits from the sophomore survey courses, 211, 212, 221, 222, 231, 232 (twelve credits from this level are recommended), and three credits of an undergraduate historiography course, 481, 483, or 484.

Requirements for the Minor

Students who wish to minor in history should consult with the department's undergraduate advisor. The student is required to take 12 hours beyond 111, 112, including either 221, 222 or 231, 232, the remaining six credits should be scheduled with the advice of the department advisor.
INTRODUCTORY SURVEYS

111. 112 Man in History 3 cr each
A survey of world history covering important aspects of human evolution. The first semester deals with prehistory and the major civilizations. The second semester concentrates on major trends significant to the development of the contemporary world.

211 The Ancient World 3 cr
A survey of the ancient cultures and their contribution to civilization with emphasis on the Greeks and the Romans.

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

221 Europe from Renaissance to Revolution 3 cr
The history of Europe from the fourteenth through the eighteenth centuries—the era of transition and change from the medieval to the modern world.

222 Europe Industrialism and the Masses 3 cr
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.

231 Development of the U S to 1877 3 cr
The historical development of American institutions, ideals, and society from earliest times to 1877.

232 Development of the U S since 1877 3 cr
The historical development of American institutions, ideals, and society since 1877.

TOPICAL AND AREA SURVEYS

253 The Middle East From Muhammad to Napoleonic 3 cr
A historical survey of the Near east from the rise of Islam to the decline of the Ottoman state, with particular attention to political, social, and cultural trends.

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, 256 History of Asia 3 cr each
A survey of Asian civilization from ancient times to the present day, western colonialism, the rise of the nationalist movement, and the establishment of modern states.

257, 258 Russian History 3 cr each
Development of society and state in Russia from their origins to the twentieth century.

259, 260 East-Central Europe 3 cr each
The medieval and modern history of the small nations situated between Russia and Germany on the east and west, and the Baltic and Mediterranean Seas on the north and the south.

261, 262 Latin America 3 cr each
A study of the general history of Latin America from the Age of Discovery to the present.

DEPARTMENT OF HISTORY

sent Emphasis is given to political and economic factors in the colonial and national periods.

263 The Colonial Period—Western Hemisphere 3 cr
A comparative examination of the economic, social, and political factors influencing European expansion to 1880.

265 England before 1715 3 cr
The foundations of England emphasizing the origins of the common law, the rise of parliament, the development of English society, and England’s contribution to modern thought.

266 Modern Britain 3 cr
A study of the first industrial nation, with special attention to the achievement of constitutional monarchy, the social and economic problems of industrialization, the nature of British imperialism, and the problems faced in the 20th century.

267 Canada 3 cr
An introduction to Canadian history, with particular attention to the years from 1763 to the present, and to Canadian-American relations and contemporary Canada.

269, 270 China 3 cr each
A survey of social, economic, political, and cultural changes before and after the establishment of the People’s Republic of China.

274 History of Christianity I 3 cr
The growth of Christianity from the first century to the Reformation with emphasis on its major conflicts, internal and external.

275 History of Christianity II 3 cr
Catholic and Protestant traditions, transformations, crises, revolutions, reforms, and reconciliations in an age of growing secularization from 1500 to the present.

307, 308 History of Science 3 cr each
A survey exploring the significance of scientific developments within the historical and social context of Western culture.

325 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.

326 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.

337 Roman Imperial History 3 cr
A study of the consolidation and dissolution of the Roman imperial structure up to the death of Justinian in 565 C E.

338 Ancient Indian History and Civilization 3 cr
An investigation of ancient Indian history, art, and literature up to the time of the Muslim invasion.

AMERICAN POLITICAL AND DIPLOMATIC HISTORY

348 Modern American Military History 3 cr
A systematic study of modern U S wars from 1914 to the present. The course focuses on the political, social, and economic conditions leading to each major conflict, evaluates
general terms the conduct of military operations, and assesses the impact of the conflict upon the Armed Forces and the Nation. Special emphasis is placed upon the role of the U.S. in world affairs, modernization of the Armed Forces, military-business relationships, raising and maintaining a military establishment, and civilian-military relationships.

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<tr>
<th>Course Code</th>
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<tr>
<td>356</td>
<td>Diplomatic History of the United States</td>
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<tr>
<td>357</td>
<td>History of the American Presidency</td>
<td>3 cr</td>
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<tr>
<td>358</td>
<td>Civil War and Reconstruction</td>
<td>3 cr</td>
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<td>359</td>
<td>(459) The American Political Tradition</td>
<td>3 cr</td>
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<td>360</td>
<td>Constitutional History of the United States</td>
<td>3 cr</td>
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<td>361, 362</td>
<td>History of the United States' Political Parties</td>
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### INTELLECTUAL AND CULTURAL HISTORY

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<tr>
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<tr>
<td>363</td>
<td>Cultural History of Medieval Europe</td>
<td>3 cr</td>
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<td>365</td>
<td>The Origins of the Modern Mind</td>
<td>3 cr</td>
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<td>366</td>
<td>The Modern Mind</td>
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<td>367</td>
<td>The Impact of Science on Society</td>
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### EUROPEAN POLITICAL AND DIPLOMATIC HISTORY

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<tr>
<td>373, 374</td>
<td>Diplomatic History of the Far East</td>
<td>3 cr</td>
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### SOCIAL HISTORY

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<th>Course Code</th>
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<tbody>
<tr>
<td>385</td>
<td>Women in History</td>
<td>3 cr</td>
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<tr>
<td>387</td>
<td>Frontier, Environment, and Utopia</td>
<td>3 cr</td>
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<tr>
<td>389</td>
<td>Social History of Modern Europe</td>
<td>3 cr</td>
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<tr>
<td>391</td>
<td>Social History of Russia</td>
<td>3 cr</td>
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<td>392</td>
<td>The East European Ethno (Immigrant) Experience</td>
<td>3 cr</td>
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<tr>
<td>393</td>
<td>Economic History of the United States to 1865</td>
<td>3 cr</td>
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<tr>
<td>394</td>
<td>United States' Labor History</td>
<td>3 cr</td>
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<tr>
<td>395</td>
<td>Urban History United States</td>
<td>3 cr</td>
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<tr>
<td>396</td>
<td>History of American Immigration since 1880</td>
<td>3 cr</td>
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397 Reform in Modern America 3 cr
A study of political, economic and social reform movements in the United States since the late nineteenth century

398 Economic History of the U S Since 1865 3 cr
Investigates the economic development of the United States after the Civil War, emphasizing its impact on social and political issues as background for current economic problems

399 The Search for Identity—U S Since 1945 3 cr
A discussion of selected contemporary issues, foreign and domestic, which illustrate the identity crisis in the U S

HISTORIOGRAPHY
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

483 Special Problems in European History 3 cr
Emphasizes the conflict among historians over interpretations of significant events in European history

484 Special Problems in American History 3 cr
Emphasizes the conflict among historians over interpretations of significant events in American history

Department of Journalism

Chairman C S McCarthy, M Ed

The Department of Journalism tries to integrate the liberal education of a student by emphasizing how a professional education for a career in the mass media relies on the liberal arts tradition. The journalism curriculum concentrates upon the development of communicative skills for creative and responsible positions in such areas of mass communication as advertising, broadcasting, newspapers, public relations, magazines and specialized publications.

REQUIREMENTS FOR THE MAJOR
Twenty-seven semester hours are required for a major. Required courses are 167, 267, 268, 167, 267, 375, and 369, 376 or 378 or 470 or 476.

REQUIREMENTS FOR THE MINOR
Eighteen semester hours credit are required for a minor. Credits must include 167, 267, 268, and nine other journalism credits approved by the head of the Department of Journalism. Minors do not qualify for the Department's Professional Internship program.

167 Introduction to Mass Communications 3 cr
An introduction to the role, principles, and responsibilities of newspapers, broadcasting, magazines, advertising and public relations. Course open to non-majors. (Offered both semesters)

267 Basic Reporting and Writing I 3 cr

268 Basic Reporting and Writing II 3 cr
Advanced writing of the more complex types of news stories. Applied practice in laboratory sections. Two hours lecture. Prerequisite 267.

367 Radio-Television Principles and Writing 3 cr
A lecture-laboratory course in the study and application of writing principles and practices for radio and television. Two hours lecture. Two hours laboratory. Open to non-majors. Prerequisites 267, 268, or approval of Department.

369 Advertising Principles and Writing 3 cr
A lecture-laboratory course in the study and application of writing principles and practices for advertising. Two hours lecture. Two hours laboratory. Open to non-majors. Prerequisites 267, 268, or approval of Department.

370 Developing the Broadcast Program 3 cr
Creation, development and presentation of the radio and television program including documentaries, panels, dramatic and non-dramatic programs. Theory and practice of direction. Two hours lecture, two hours laboratory. Prerequisite 367 or approval of Department.

371 Mass Communications and Public Opinion 3 cr
A study of the nature of public opinion and the mass communication process, effects of propaganda, and barriers to effective communication. Open to Juniors and Seniors.

372 Communication Law 3 cr
A study of the legal rights and responsibilities of the mass media. Open to Juniors and Seniors.

375 Editing 3 cr
A lecture-laboratory course in editing and presenting the written word for the mass media. Prerequisite 267 or approval of Department.

376 History of the Mass Media 3 cr
Concentrated lecture-discussion course in an historical context of major social influences affecting American Journalism from the colonial press period to contemporary society. Open to Juniors and Seniors.

378 Photography for Journalists 3 cr
A lecture-laboratory course in the preparation and use of photography for publication. Fundamentals of camera work developing, printing, print evaluation and editorial uses of photography emphasized. Prerequisite 267 or approval of Department.

380 Specialized Publications 3 cr
A study of association, business, industrial, professional and religious communications with emphasis on the internal and external publications in industry. Prerequisites 167, 267, 268, 375.
405 Advanced Writing for Journalism 3 cr
A lecture-laboratory course in gathering and interpretive writing of news of urban affairs. Analysis of major political, economic, and social developments that have local news interest and significance. Two hours lecture, two hours laboratory. Prerequisites 267, 268

409 Advanced Writing for Advertising 3 cr
A lecture-laboratory course in copywriting and design for advertising. Two hours lecture, two hours laboratory. Prerequisite 369

411 Advanced Writing for Magazines 3 cr
A lecture-laboratory course in writing for the general and specialized magazine. Two hours lecture, two hours laboratory. Open to Juniors and Seniors

413 Advanced Writing for Radio and Television 3 cr
A lecture-laboratory course in writing for Radio and Television. Two hours lecture, two hours laboratory. Prerequisite 367

420 International Communications 3 cr
A study of world news systems and an analysis of their roles as instruments of world understanding. Open to Juniors and Seniors

430 Public Relations Principles and Writing 3 cr
Study of the principles and concepts of public relations, needs, significance and influence. Analysis of various publics constituting the whole public. Case studies. Applications of principles in student research projects. Open to Juniors and Seniors

441 Secondary School Communications 3 cr
Function of publications and broadcasting in the secondary school. Role and responsibilities of school-press advisors. Teaching of Journalism on the high school level. Course is directed at students seeking a Pennsylvania teacher's certificate in communications and educational broadcasting station in the Pittsburgh area. Prerequisites 167, 267, 268, 367, 369, 376, 409 (Offered both semesters)

466 Professional Internship Advertising 3 cr
A supervised observation-experience program of study and assignment to an assigned advertising agency or industrial advertising department in conjunction with the American Association of Industrial Advertisers, Pittsburgh Chapter. Prerequisites 167, 267, 268, 367, 369, 376, 409 (Offered both semesters)

468 Professional Internship Broadcasting 3 cr
A supervised observation-experience program of study and assignment to an assigned commercial/educational broadcasting station in the Pittsburgh area. Prerequisites 167, 267, 268, 369, 370, 413 (Offered both semesters)

470 Professional Internship Newspapers 3 cr
A supervised observation-experience program of study and assignment to a member newspaper of the Pennsylvania Newspaper Publishers Association in Allegheny County. Prerequisites 167, 267, 268, 367, 369, 375, 376, 405 (Offered both semesters)

476 Professional Internship Public Relations 3 cr
A supervised observation-experience program of study and assignment to an assigned public relations agency, association, industrial, or non-profit educational group in the Pittsburgh area. Prerequisites 167, 267, 268, 367, 369, 375, 376, 380, 430 (Offered both semesters)

DEPARTMENT OF JOURNALISM

476 Professional Internship Public Relations
468 Professional Internship Broadcasting
470 Professional Internship Newspapers
466 Professional Internship Advertising
441 Secondary School Communications
430 Public Relations Principles and Writing
420 International Communications
413 Advanced Writing for Radio and Television
411 Advanced Writing for Magazines
409 Advanced Writing for Advertising
405 Advanced Writing for Journalism

DEPARTMENT OF MATHEMATICS

Department of Mathematics

Chairman Robert G McDermot, Ph D

The Department of Mathematics offers a sequence of modern courses which will (a) aid the student in developing his ability to think scientifically and form independent judgments, (b) provide the student with a breadth and depth of knowledge concerning not only manipulative skills but also fundamental and essential theory, (c) enable the student to use his knowledge in the formulation and solution of problems, and (d) give the student the necessary basis or foundation for the pursuit of graduate study or productive effort at the bachelor level

REQUIREMENTS FOR THE MAJOR

BACHELOR OF ARTS DEGREE

A minimum of 32 semester hours is required. These must include 115, 116, 215, 216, 303, 415, 416, the remainder must be selected from courses numbered above 300. Exceptionally able seniors are encouraged to seek departmental approval to include 500 level mathematics courses listed in the graduate catalog.

BACHELOR OF SCIENCE DEGREE

A minimum of 32 semester hours is required. These must include 115, 116, 215, 216, 303, 415, 416, the remainder must be selected from courses numbered above 300. Exceptionally able seniors are encouraged to seek departmental approval to include 500 level mathematics courses listed in the graduate catalog.

Twenty hours of science courses is an extra-departmental requirement, thus must include Physics 211, 212. The remaining courses may be selected from biology courses numbered 111 or higher, chemistry courses numbered 121 or higher, and physics courses numbered above 212.

REQUIREMENTS FOR THE MINOR

A minor must include 115 and 14 additional credits selected from courses numbered above 115 but not including 117, 116 must be included.

For science majors, Mathematics 215, 216, 315, 321 are recommended.

For economics and social science majors, Mathematics 222 or 308, 225 or 301, 306 are recommended.

101 Elementary Mathematics 3 cr
A remedial course in the fundamentals of algebra, including the solution of equations and inequalities. Not to be counted toward a major, minor or the mathematics/science area requirement.

103, 104 General Mathematics I, II 3 cr each
A modern course meeting the needs of non-science students in the College for a general knowledge of the fundamental concepts and processes of mathematics. Not counted toward a major or minor.
105 Basic Mathematics 4 cr
A modern course in college algebra and analytic trigonometry for those students who do not possess the prerequisites for 115. Not counted toward a major or minor.

107, 108 Introduction to Modern Mathematics I, II 3 cr each
This course is designed for elementary education students in the School of Education. Not to be counted toward a major, minor, or the mathematics/science area requirement.

115, 116, 215 Calculus I, II, III 4 cr each
A unified course in analytic geometry and calculus. Considers theory of limits, functions, differentiation, integration, series, geometry of space, functions of several variables, and multiple integration. Students will be introduced to Fortran programming. Prerequisite for 115: Two years of algebra, one year of plane geometry, and one-half year of trigonometry.

117 Fortran Programming 1 cr
A study of Fortran and Fortran programming. Credit will not be allowed for both this course and 115.

216 Ordinary Differential Equations 3 cr
The course includes solutions, existence of solutions, and applications of differential equations. Prerequisite: 215.

221 History of Mathematics 3 cr
This is a survey of the historical development of mathematics. Prerequisite: One year of College Mathematics, preferably including one semester of calculus. Not counted toward a major.

222 Basic Computer Science 3 cr
An introduction to programming electronic digital computers, operating systems and compilers. Machine language and an assembly language are presented and used to solve several problems. Prerequisite: One year of high school algebra. Not counted toward a major.

225 Fundamentals of Statistics 3 cr
A basic course in probability theory and descriptive and inferential statistics for non-majors. Prerequisite: High school algebra. Not counted toward a major.

301, 302 Introduction to Probability and Statistics I, II 3 cr each
A mathematical treatment of probability theory and mathematical statistics including probability distributions, random variables and their transformations, expectation, point and interval estimation, and sampling distributions. Prerequisite: 116 or equivalent.

303 Principles of Modern Algebra 3 cr
A study of basic properties of groups, rings, modules, and fields. Prerequisites: 115, 116.

306, 307 Linear Algebra I, II 3 cr each
A study of linear transformations and matrices. Prerequisites: 115, 116.

308 Numerical Analysis 3 cr
A computer oriented course in numerical analysis introducing elementary techniques for numerical solution of problems. A knowledge of Fortran or equivalent language is assumed. Prerequisite: 215.

311 Introduction to Number Theory 3 cr
A discussion of divisibility, congruences, quadratic residues, diophantine equations and arithmetical functions. Prerequisite: Proficiency at 105 level.

315 Advanced Differential Equations 3 cr
Principally theoretical, this course considers the methods of solutions as well as existence and uniqueness of solutions, applications, and partial differential equations. Prerequisite: 216.

321 Mathematical Concepts for Physics 3 cr
A survey of the mathematical concepts used in undergraduate physics, especially quantum mechanics. Topics covered include vector analysis, matrix theory, complex function theory, Fourier series and calculus of variations. Prerequisite: 216.

401 Fundamentals of Geometry 3 cr
The course considers topics in Euclidean and Non-Euclidean geometry, also synthetic, projective, and affine geometries, and some topology. Prerequisite: 215.

403 Introduction to Point Set Topology 3 cr
A survey of elementary topics including topological spaces, compactness, connectedness, convergence and separation axioms. Prerequisite: 215.

405 Introduction to Complex Variables 3 cr
Topics include the plane of complex numbers, functions of a complex variable and integration in the complex plane. Prerequisite: 216.

415, 416 Advanced Calculus I and II 3 cr each
A rigorous study of the calculus and its foundations. Prerequisite: 216.

431 Introduction to Biostatistics 3 cr
Intended primarily for upper level pharmacy and biology students. Acquaints the student with some of the common statistical techniques applied to research and data analysis in the life sciences.

491 to 499 Selected Topics in Mathematics 1-3 cr each
This is an honors course. Topics selected in consultation with staff.

Department of Modern Languages and Literatures

Chairman Reyes Carbonell, Ph D

Two "tracks" of language teaching on the elementary and intermediate level are offered in French, German, and Spanish, both of which satisfy college degree requirements. One of these emphasizes reading and the other reading, writing, speaking, and the aural comprehension. In the conversation and composition courses, the student's fluency in the active use of the language is strengthened. Subsequent courses stress primarily literary studies in which the student is systematically introduced to a survey of the literature and is given a working acquaintance with the culture of the groups whose language he is studying. He is also presented a choice of...
courses dealing with specific works, authors and auxiliary subjects

Career opportunities for a student having a knowledge of foreign languages are

in the fields of teaching, state employment, foreign service, and industry. United

States business firms in Europe, Latin America, Asia, and Africa need personnel

fluent in or at least conversant with appropriate foreign languages

REQUIREMENTS FOR THE MAJOR

The department offers major programs in French, German, and Spanish, and non-
major courses in Russian and Italian

The major program in Modern Languages and Literatures consists of a minimum

of 24 semester hours above the 200 level. Required courses are

FRENCH—301, 302, 465, 466 Majors will discuss their courses with the Director

of the Section

GERMAN—301, 302, 463, 464 Majors will discuss their courses with the Director

of the Section

SPANISH—301 302, 312 (or 314 or 316), 401 402, 420, 451, 452 Additional

courses open to qualified undergraduates are 504, 505, 453, 454, 461, 462

Courses taken out of progression will not carry credit. Credit will not be given for

both 201, 202 and 211, 212, which are intermediate level courses. 302 is prerequisite
to all 400 courses, 400 courses are conducted in the respective language

On the elementary and intermediate levels, special sections are provided to foster

work of greater range and depth by students whose interests and abilities make

them eligible

JUNIOR YEAR ABROAD Majors are strongly encouraged to participate

Further information may be obtained at the Department Office

REQUIREMENTS FOR THE MINOR

The minor program consists of a minimum of 12 semester hours above the 200 level

351 Introduction to the Study of Language 3 cr each

491 European Literature in Translation 3 cr each

Translation taken from German, French, Spanish, Russian or a combination of those

languages

FRENCH

101, 102 Elementary French 3 cr each

Fundamentals of oral and written French. Three hours lecture and one hour laboratory
each week

111, 112 Elementary French for Reading 3 cr each

The course will stress basic grammar and structure for reading comprehension

201, 202 Intermediate French 3 cr each

Prerequisite French 102 or equivalent. An intensified review and continuation of 101, 102

GERMAN—Paul Neumarkt, Ph.D., Director

101, 102 Elementary German 3 cr each

Fundamentals of oral and written German. Three hours lecture and laboratory each week

111, 112 Elementary German for Reading 3 cr each

The course will stress basic grammar and structure for reading comprehension

201, 202 Intermediate German 3 cr each

Prerequisite German 102 or equivalent. An intensified review and continuation of 101, 102

211, 212 Intermediate German for Reading 3 cr each

Prerequisite German 102 or 112

239, 240 Readings in Modern German Authors 3 cr each

Selections from modern works of literature. Does not carry credit toward a major

249, 250 Readings in Scientific German 3 cr each

Prerequisite German 201 or three years of high school German. Designed for students
in scientific and technical curriculums

301, 302 Conversation Based on 19th Century Literature 3 cr each

Prerequisite German 202 or equivalent. This course is prerequisite to all courses above
400 and is required of all majors in German

463, 464 Seminar in German Literature and Composition 3 cr each

Variable topics

ITALIAN

101, 102 Elementary Italian 3 cr each

Fundamentals of oral and written Italian. Three lecture hours and one hour laboratory
each week

111, 112 Elementary Italian for Reading 3 cr each

The course will stress basic grammar and structure for reading comprehension

201, 202 Intermediate Italian 3 cr each

Prerequisite Italian 102 or equivalent. An intensified review and continuation of Italian
101, 102

211, 212 Intermediate Italian for Reading 3 cr each

Prerequisite Italian 102 or 112
DEPARTMENT OF MODERN LANGUAGES AND LITERATURES

RUSSIAN

101, 102 Elementary Russian 3 cr each
Fundamentals of oral and written Russian. Three hours lecture, one hour laboratory each week.

201, 202 Intermediate Russian 3 cr each
Prerequisite: Russian 102 or equivalent. Intensified review and continuation of Russian 101, 102.

239, 240 Readings in Modern Russian Authors 3 cr each
Prerequisites: Russian 202 or equivalent. Selections from modern works of literature.
This course is given by arrangement only.

301, 302 Conversation Based on Russian Literature 3 cr each
Prerequisites: Russian 202 or equivalent. Selections from modern works of literature.
This course is given by arrangement only.

401, 402 Survey of Russian Literature 3 cr each

SPANISH—Reyes Carbonell, Ph D, Director

101, 102 Elementary Spanish 3 cr each
Fundamentals of oral and written Spanish. Three hours lecture, one hour laboratory each week.

111, 112 Elementary Spanish for Reading 3 cr each
The course will stress basic grammar and structure for reading comprehension.

201, 202 Intermediate Spanish 3 cr each
Prerequisite: Spanish 102 or equivalent. An intensified continuation of Spanish 101 and 102. Course 202 is prerequisite for all the following courses.

211, 212 Intermediate Spanish for Reading 3 cr each
Prerequisite: Spanish 102 or 112.

239 Readings in Modern Spanish Authors 3 cr

240 Readings in Modern Spanish-American Authors 3 cr

301, 302 Spanish Conversation and Composition 3 cr each
The course 302, or its equivalent, is a prerequisite to all courses above 400.

312 (314-316) Literature Workshop 3 cr
Study of specific literary works or authors.

401, 402 Survey of Spanish Literature 3 cr each

420 El Quijote 3 cr

440 Directed Readings Var cr
Reading of literary texts under close faculty supervision, for majors only, and only with permission of the Department.

451, 452 General Survey of Spanish Culture and History 3 cr each

453 Survey of Latin American Culture and History 3 cr

454 Trends in Latin American Literature 3 cr

461, 462 Senior Undergraduate Seminar 3 cr each
Twentieth Century Spanish literature and Twentieth Century Spanish-American literature.

DEPARTMENT OF PHILOSOPHY

Department of Philosophy

Chairman Andre Schuwer, Ph D

The program offered by the Department of Philosophy is designed to be a basic part of the student's liberal education. It is intended to introduce students to philosophical thinking, past and present, to provide a discipline for 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 is made up of professors who have different philosophical interests, and it also respects the right of the student to decide for himself or herself on all issues. It believes that intellectual dialogue about basic human concerns will help the student be better prepared to meet the needs of mankind today and in the future. In order to make this kind of dialogue possible, the courses are concerned both with the past history of ideas and with the present problems of man's individual and social existence.

REQUIREMENTS FOR THE MAJOR

The department requires its majors to take nine philosophy courses above the 100 level of which at least three have to be at the 300 level of philosophy and at least two other courses have to be at the 400 level.

REQUIREMENTS FOR THE MINORS

Four three-hour courses, other than the Introductory (100 level), at least two of the four courses must be taken from above the 200 level.

Suggestions for Minors

The following suggestions are offered as an indication of courses that might be especially pertinent to the respective areas of major concentration. However, students in consultation with their advisor, are free to select any combination of courses, either related or unrelated to their major subjects.

1 Communications and Humanities Majors 201, 203, 204, 205, 209, any 300 level History of Philosophy courses, 406, 407, 408, 411, 414

2 Natural Sciences Majors 201, 205, 207, 304, 322, 404, 409

3 Social Sciences Majors 201, 203, 205, 206, 305, 322, 323, 404, 407, 408, 410, 411, 414

4 Theology Majors 201, 202, 203, 205, 208, 209, any 300 level History of Philosophy courses, 401, 402, 403, 408, 410, 411, 414

The College philosophy requirement may be fulfilled by taking any of the courses listed. Course 101 or 111 is recommended as a first course in philosophy for all students.

Students who have questions about whether they are prepared well enough in philosophy to take an advanced course are encouraged to consult the professor who
is scheduled to teach the course that particular term. Courses designed for majors are open to non-majors on consultation with their advisors.

**INTRODUCTORY COURSES**

101 Philosophy of Human Existence 3 cr
An introduction into philosophical thinking offering the student a basic philosophical interpretation of man. This interpretation begins with concrete problems which he within the student's own sphere of interests and concerns and then shows the substantive philosophical issues involved in those problems. For example, the problem of freedom, responsibility, individuality and community might be approached from the perspective of the contemporary city, the contemporary university, current attitudes toward sexuality or the problems of technology, politics and economics.

102 Ethics 3 cr
An introduction to ethical theories of past and present time. Contemporary moral issues will be considered in the light of these theories.

103 Logic 3 cr
An analysis of the formal relationships between propositions, including valid forms of argument. Also a description of some important informal aspects of ordinary discourse, such as types of definitions and common fallacies of inference.

111 Introduction to Philosophy 3 cr
A first-hand study of selected philosophical texts with the aim of introducing students to the nature of philosophical thinking and to the variety of philosophical issues and areas methods and theories.

**BASIC THEMATIC COURSES**

203 Philosophy of Religion 3 cr
An introduction to the distinctive nature of religious symbolism as an autonomous mode of experience, thought, discourse and activity. Special attention to such questions as the nature and grounds of religious affirmation (as distinct from scientific, artistic and philosophical affirmation), the relation of the God of religion to the God of philosophy, the religious significance of history, evil, creativity and ethics. Assigned readings include both traditional and contemporary writers.

204 Philosophy and Literature 3 cr
A study of selected works of authors such as Sophocles, Chekhov, Dostoevsky, Rilke, Nietzsche, D. H. Lawrence, Ibsen, Edward Albee, O'Neill, and Samuel Beckett. This study will respect the integrity of the works as artistic creations, enable the students, through class discussions, to create a shared experience of the works and proceed to a philosophical discussion of the issues presented by the writer, his characters or the situations he creates.

205 Existential Phenomenology 3 cr
Introduction to the methods, central commitments and style of interrogation which characterize existential phenomenology. Lectures and discussion over texts by major thinkers, such as Being and Time by Heidegger, Phenomenology of Perception by Merleau-Ponty, and selected writings by Sartre.

206 Philosophy of Society 3 cr
An examination of the question of social existence. This course will explore man as a social and political being. Relations between the moral, the social, the political and the economical will be considered.

207 Philosophy of Science 3 cr
A study of the philosophical implications of the methodology and conceptual framework of modern and contemporary science. Contrast between Newtonian and contemporary physics regarding such philosophical questions as the nature of matter, space-time, technique and technology.

208 Meaning of Contemporary Atheism 3 cr
The meaning of Atheism as a contemporary phenomenon. Critical evaluation of some sociological and psychological theories of the origin of religion.

209 Concentrated Readings for Non-Majors 3 cr
Similar to, but more elementary than, 325.

210 Philosophy of Femininity 3 cr
A philosophical study of "the second sex," emphasizing phenomenology as a method which attempts to be free from prejudice, includes a discussion of some contemporary ethical and legal issues concerning the equality of women. Designed especially for non-majors.

**HISTORY OF PHILOSOPHY COURSES**

300 Ancient Philosophy 3 cr
A study of the beginning of Philosophy in Greece, from the Presocratics to Plato and Aristotle with readings principally taken from Plato and Aristotle.

303 Medieval Philosophy 3 cr
An intensive philosophical study of some medieval texts in English translation, selected as representative of the broad range of issues, approaches and theories which characterize the major Christian, Jewish and Islamic philosophical thinking of the period. Some questions confronted are the existence and nature of God, the nature of discourse about God, the relation between religious belief and philosophical reasoning, the nature of man.

304 Modern Philosophy 3 cr
This course emphasizes the most basic philosophical problems of the period from Descartes to the end of the 19th century. Course work consists of an analysis of several important texts chosen from such philosophers as Descartes, Leibniz, Hume, Kant, Hegel, Marx, Kierkegaard and Nietzsche. There is an emphasis on the tension resulting from the clash between the emerging natural sciences on the one hand and classical metaphysics on the other. The emergence of the historical sense. These problems are debated and discussed, particularly with their ramifications for contemporary thought.

305 Contemporary Philosophy 3 cr
A study of contemporary philosophy from 1900 to the present, introducing the methods and history of selected twentieth-century movements with detailed attention to existential phenomenology.

322 Survey of American Philosophy 3 cr
From Puritanism to the Enlightenment, Transcendentalism, Pragmatism, with emphasis on key figures in American Philosophy, Pierce, Dewey, James, Royce, Santayana, Whitehead, etc.
ADVANCED THEMATIC COURSES

201 Philosophy of Knowledge
  Interrogation of the nature and experience of Truth, especially by way of the
  explorations of Anstotel, Thomas Aquinas, Hegel, Husserl and Heidegger. Distinction
  between philosophical and non-philosophical (scientific or theological) knowledge.
  Designed for philosophy majors.

202 Philosophy of Being
  The approaches of philosophers such as Aristotle, Aquinas, Kant, Hegel, and
  Heidegger God, world and man, Being, essence and existence Time and history: Being
  and the possibility of metaphysics in contemporary thought. Designed for philosophy
  majors.

401, 402 Thomism (Being, Knowledge, Man)
  A course dealing with the texts by St. Thomas in ontology, epistemology and the
  philosophy of man. Neutreism (Maritain and Gilson) together with reference to
  Transcendental Thomism (Rahner, Lonergan, etc.). Designed for philosophy majors.

403 Philosophy of God
  Thematic course focusing especially on the experiential and conceptual relationships
  among the themes God, nature, freedom and morality. Designed for philosophy majors.

407 Philosophy of Language
  Introduction to the philosophy of language. Among the topics considered are the
  character and limits of formalistic approaches to language, the centrality of the speaking
  subject, relation of language to thought, language and linguistics, language and
  poetry, theories of structuralism.

408 Foundations of Ethics
  A study of the philosophical foundations of Ethics. Foundational theories of Greek
  and Scholastic philosophy. Modern and contemporary ethical theories of foundation.
  Designed for philosophy majors.
DEPARTMENT OF PHYSICS

Mathematics 315 with departmental approval), and two years of a modern language

If a student takes 207, 208-Physics and the Modern World and either 201, 202-General Physics or 211, 212-General Analytical Physics, the credits for the 207, 208 will not apply to the total number required for the degree Credit will not be given for both 201, 202 and 211, 212

REQUIREMENTS FOR THE PHYSICS MINOR

The minor consists of eight hours in the General Analytical Physics (211, 212) and 12 credits of upper division physics on the 300 and above level The department will structure the minor program from the course offerings to fit, as nearly as possible, the needs and desires of the individual student

REQUIREMENTS FOR THE EARTH SCIENCE MINOR

The minor consists of a prerequisite sequence of 101 and 102, which must be taken as the first courses, and 12 credits chosen from 203, 204, 303, 304, 305 as available to the curriculum Not all courses are taught each semester Earth Science 101 is prerequisite to all courses

201, 202 General Physics
Designed to give the student a basic knowledge and understanding of mechanics, properties of matter, heat wave motion, sound, magnetism, electricity, light, and modern physics through the use of life science oriented explanations and applications At the completion of this course the student should have attained a working knowledge of physics, its techniques and reasoning such that the knowledge of physics gained may be applied to future work in the life sciences or other fields of endeavor Prerequisite Mathematics 103, 104 or the equivalent Lecture, four hours, Laboratory, two hours

207, 208 Physics and the Modern World
A course for nonscientists A lecture course attempting to bridge the two-culture gap This course includes basic philosophical concepts in physics which pervade all human discipline Examples are taken from modern physics relativity, elementary particles, quantum theory, statistics, etc to cover model-making, dynamics, ensemble behavior, symmetry No mathematics beyond elementary school level are required

211, 212 General Analytical Physics
This is a general introduction to the basic physical theories and concepts An attempt is made to develop in the science student the quantitative approach of the physicist to the physical universe Some of the topics which may be included are vectors Newton's Laws of Motion, the motion of a particle in space, momentum, energy, rigid body motion, fluids, gravity, wave motion, the first and second laws of thermodynamics, electricity and magnetism, optics Corequisite for Physics 211 Mathematics 116 Lecture, three hours, Laboratory two hours

301 Thermodynamics
This is an intermediate level course covering the fundamental principles of thermodynamics, kinetic theory and statistical mechanics The following is a partial list of items generally included temperature, thermodynamic systems, work, heat, the first and second laws, ideal gases, entropy, Maxwell's equation, the kinetic theory of ideal gas, and the basic concept of statistical mechanics Prerequisite: Physics 212, Mathematics 215

306 Applied Electronics Laboratory
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, impedance matching, linear and digital devices Emphasis will be on proper use of instrumentation rather than on advanced principles of design Prerequisite Permission of instructor

329 Advanced Laboratory I
Advanced Lab I is concerned with electromagnetic phenomena and basics of modern electronics A set of programmed experiments is performed and analyzed by the students Subjects covered are the use of electronic instruments, dynamics of electrons in electronic and magnetic fields, electric circuits Prerequisite 212 or 202 and consent of instructor

330 Advanced Laboratory II
Advanced Lab II is a continuation of Advanced Lab I and includes the following items basic semiconductor electronic devices, transistor amplifiers and oscillators, the klystron and microwave optics Prerequisite 329 or consent of instructor

361 Mechanics
An intermediate course in the application of Newtonian Mechanics to simple systems A short introduction to Vector Calculus precedes the main discussion The topics normally covered are dynamics of a mass point, systems of particles, generalized coordinates and Lagrange's Equations Other topics which may be included by the instructor are the normal modes, rigid bodies, two bodies with a central force, and waves on a string Prerequisites Physics 212 Mathematics 215

372 Electromagnetism
The following topics are usually discussed: electrostatics, energy relations in electrostatic fields, dielectrics, currents and their interaction, magnetic properties of matter, AC circuits, Maxwell's equations, reflection and refraction of electromagnetic waves, dipole, and plane sheet radiation Prerequisites Physics 212, Mathematics 215

402 Optics
Prerequisites: 212 Optics provides the student with an opportunity to penetrate the surface of optical phenomena and observe the underlying physical principles Topics usually included are the vectorial nature of light, coherence, interference, diffraction, polarization, and laser optics Prerequisite: Physics 212

429, 430 Advanced Laboratory III, IV
Advanced Lab III is a one-year senior research project in which the student selects a project, develops it, and prepares a report Topics are selected from those suggested by the department or associated departments, and the work is carried out in close coordination with the selected advisor Work, however, must be the student's own No grade is assigned for the first semester, and the grade for the course is assigned upon completion of the project

473 Atomic Physics
This course provides an introduction to special relativity and quantum theory with applications drawn mainly from modern theories of the atom Topics usually included are quantum theory of heat radiation, the uncertainty principle, quantum theory of the hydrogen atom, many-electron atoms, atomic spectroscopy Prerequisites: 212 and consent of instructor
474 Quantum Mechanics 3 cr
A basic introduction to the dynamics of quantum phenomena. Some of the topics covered are Schrödinger 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: Physics 212, Mathematics 215.

483, 484, 485, 486 Special Topics 1-3 cr each
Designed to allow the Physics major flexibility in scheduling, this course may include the following.

483 Nuclear Physics 3 cr
Many of the experimental and theoretical aspects of the atomic nucleus are discussed. Some of the usual topics are two-nucleon systems, radioactivity (alpha, beta and gamma decay), radiometric dating, interaction of radiation with matter, nuclear structure, nuclear reactions, and nuclear fusion. Prerequisite: Physics 202 or 212.

484 Introductory Solid State Physics 3 cr
Bulk properties of materials are discussed from both the phenomenological and microscopic approaches. Typical topics are the geometric structure of solids, waves and diffractions, thermal properties, the free electron model, band theory, superconductivity, magnetic properties and magnetic resonance. Prerequisites: Physics 212 and consent of instructor.

485 Relativistic Mechanics 3 cr
This course is an introduction to the Special and General Theories of Relativity. A list of topics which may be discussed are absolute space, Einsteinian Kinematics, Einsteinian Optics, spacetime and four-vectors, relativistic particle mechanics. Prerequisites: Physics 212, Mathematics 215.

486 Shop Techniques 1 cr
A basic introduction to machine shop practices necessary to experimentalists in all fields. Some of the areas covered are: shop equipment and its use, materials, soldering and welding techniques, mechanical drawing and schematics, electronics construction techniques and practical application.

EARTH SCIENCE

101 Physical Geology (Prerequisite to all courses) 3 cr
This introduction to the geological processes and materials will concentrate on the makeup of our planet and the materials involved. Study will also include physical features and the processes of the earth as presently understood, which have created these features. Geologic relation to environment is also examined.

102 Historical Geology 3 cr
A study of the earth's history which relates tectonic movements of the crust. Mountain building processes and life history with their interrelations will be discussed. Evolution of local features will be discussed also.

103 Physical Geology Laboratory 1 cr
An introduction to the identification of rocks and minerals by composition and appearance and the interpretation of topographic maps. The use of maps to identify the causes of drainage and some effects of water and erosion will be experienced. Mapping tools will be introduced, as will some field equipment.

104 Historical Geology Laboratory 1 cr
An accompaniment for ES 102, providing an introduction to sedimentation and the use of fossil identification. Columnar sections, Aerial Geologic maps and Aerial Photos will be used.

203 Astronomy 3 cr
Introduction to the study of astronomy and the basics of observation. Study will include telescopic types and the known universe as identified from present study. Course will, if possible, include arrangements with Buhl Planetarium and Allegheny Observatory. Star types and distances will also be examined.

204 Meteorology 3 cr
Elementary study of meteorology and weather systems in the local area as well as the world patterns. A weather station has been installed on Mellon Hall, and observation and prediction will be practiced. Local and U.S. Weather Bureau services will be used and analyzed when possible.

303 Oceanography 3 cr
An introduction to the marine environment including the geology and ecology. Attention is paid to the importance of dangers to the ecosystem. Characteristics of oceanic waters and circulation patterns will be discussed. Summer courses may be combined with one of several universities offering facilities.

304 Environmental Earth Science 3 cr
An examination of the problems of ecology and the impact of modern living on the systems of the earth which are necessary for plant and animal life. The individual effects of both natural and man-made pollution and their results, as well as possible cures, are discussed. An advance over 101, 102 with an effort to have the student gain a balanced, non-hysterical appreciation of cause, effect, and search for solution.

305 Physiography of the United States 3 cr
Introduces the student to the various topographic and physiographic differences in the contiguous states as well as Alaska and Hawaii. This course is designed to allow the student to become familiar with the terrain resources, economies and individual problems of the various regions of our country. An approach to demonstrate the fact that no generalization may be made to fit all areas at once, but different problems are associated with each resource and each region.
Department of Political Science

Chairman A. Kenneth Hesselberg, Ph D

Political science is concerned with developing the person. Through the study of the science of politics, the student will develop his analytical and intellectual skills. Political science graduates pursue careers in many diverse fields including governmental administration and service, teaching careers at various levels, law, and business.

REQUIREMENTS FOR THE MAJOR

Twenty-four semester hours are required for a major in political science in addition to 101, these credits must include 208, 309, and 405 or 406. Political Science 101 is prerequisite to all other courses.

REQUIREMENTS FOR THE MINOR

General minor in Political Science This minor is designed to provide the student with a comprehensive view of the entire discipline and is recommended for those students who may later contemplate graduate study or think that they might eventually like to change from a minor to a major in Political Science. It consists of a minimum of 13 credits beyond the freshman course (Political Science 101). The 13 credits encompass the following required courses 208, 221, 222, 309, and 405 or 406.

The concentrated minor Students wishing to concentrate in a particular area of Political Science may elect the following minors:

1. American Government Political Science 221, 222, and a minimum of eight credits from among 231, 240, 241, 242, 276, 301, 302, and 407.

2. Comparative Government Political Science 208 and a minimum of nine credits from among 315, 316, 318, 321, 408, 412, and 413.

3. International Relations Political Science 309 and a minimum of nine credits from among 215, 312, 320, 402, and 409.

4. Political Theory Political Science 405, 406, and a minimum of six credits from among 306, 407, 410, and 420.

Minors associated with other majors The following Political Science courses are suggested as being especially relevant to the majors indicated. The student may choose a minor consisting of 12 or more credits in any of these courses:

Suggested for a Sociology major Political Science 240, 276, 315, 316, 407, 408, and 420.


The selective minor The Department of Political Science will also devise a minor from its course offerings to fulfill the particular needs and desires of a student in any major area of concentration. Such a minor must be structured in consultation with the student’s faculty adviser and the Department Chairman.

101 Introduction to Political Science (Prerequisite to all courses) 3 cr

An investigation of the most fundamental concepts involved in the study of political society.

201 American Political System 3 cr

Case studies in the American Political System—An intensive investigation of selected problem areas in the American System of government.

208 Comparative Political Systems 3 cr

A systematic, multifocused analysis of selected political systems.

215 National Strategy 3 cr

A study of the elements that constitute the strategic environment and the forces that affect the application of these elements in the formulation and determination of national security strategy.

221, 222 American Federal Government 2 cr each

An intensive analytical description and evaluation of the American Constitutional system with emphasis upon the basic institutions of government.

231 Constitutional Law 3 cr

An intensive investigation of the role of the Supreme Court in the American system of government, concentrating upon the study of selected key court decisions. Prerequisites 221, 222.

240 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.

241 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.

242 The American Congress 3 cr

An investigation of the operation of the Congress of the United States within the American system of government.

276 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. For majors only.

301 State and Local Government 2 cr

A study of the position of the state and local governments in the Federal Union.

302 Municipal Government 2 cr

A study of the role of local government in the state and federal systems.

306 Comparative Communism Ideologies 3 cr

An analysis of the major ideological themes expressed by the communist regimes of the USSR, Eastern Europe, China and Cuba.
309 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

312 International Law and Organization 3 cr
A survey of the historical development and present role played by international law in the world community and the formation and operation of such organizations as the United Nations and its specialized agencies

315 Politics of the Emerging Nations 3 cr
A topical study of the politics of the emerging nations including nationalism, political integration, political parties, and the role of the military and elite

316 Politics of Africa 2 cr
A study of the principal theories and issues in the politics of sub-Saharan Africa

318 Nationalism 3 cr
A study of the dynamics of nationalism with emphasis on the role of nationalism in the developing nations

320 United States Foreign Policy 3 cr
A study of American 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

325 Juniors Honor Seminar 2 cr
Intensive study of selected topics in Political Science Admission by invitation of the Department

401 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

402 Soviet Foreign Policy 3 cr
An analytical study of the development of Soviet foreign relations since 1917, with special emphasis upon the post-Stalinist era

404 Simulation in International Politics 3 cr
Students spend the semester simulating an international conflict situation. They act as foreign policy decision-makers, applying the principles, concepts, and instruments of international politics. For majors only

405, 406 Western Political Thought 3 cr each
A study of political ideas as distinct from and yet related to political institutions which constitute our perennial western political heritage

407 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

408 Theory of Comparative Government 3 cr
An examination of the basic theories and concepts in contemporary approaches to comparative political systems

409 Theory of International Relations 3 cr
A study of various theoretical approaches to an understanding of international relations including political realism, systems analysis, decision-making, and equilibrium analysis

410 Oriental Political Thought 3 cr
This course purports to explore the cultural heritages of China and India insofar as and to the extent that, they reveal themselves either directly or indirectly in expressions of political thought

412 Government and Politics of Germany 3 cr
A study of the government systems of Germany in their historical and ideological development

413 Government and Politics of the USSR 3 cr
An intensive analysis of the origin and evolution of the Soviet political system, with particular emphasis upon the developments of the post-Stalinist era

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

430 Internship in Practical Politics 3 cr
A work and observation experience in government and political offices at the city, county, state, and national levels in the Pittsburgh area

436 Senior Honors Colloquium 3 cr

Department of Political Science

Chairman Rev. David L. Smith, C.S.Sp., Ph.D.

The undergraduate program of the Department of Political Science is designed (a) to introduce and familiarize students with the fundamental content, issues, and interests of various areas of political science, and critically evaluate and reformulate these in the context of political science as a human science, (b) to foster intellectual and personal freedom and critical thinking as essential to the humanizing process, (c) to provide a foundation for careers involving human services. To these ends, the department offers a wide variety of courses covering political science as a human 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 humanistic psychology is the most viable and encompassing approach to the study of man, 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 123-Introduction to Psychology plus a minimum of 24 semester hours. These credits must include 220 and 223. Majors desiring to pur-
sue 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 225 Statistics in the Mathematics Department, which may also be considered a 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. The three credits earned in practicum may be included in 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 course advisor.

The psychology department has set up a dual advisement system: the course advisor and the faculty advisor. Prospective majors should consult the Department Course Advisor concerning the special procedure followed for the declaration of the major.

REQUIREMENTS FOR THE MINOR
Requirements for a minor are 103 and 223 and any three of the following: 225, 280, 328, 340, 352, 361, 390, plus 400 level courses with permission of the department head.

Psychology 103 is prerequisite to all courses.

103 Introduction to Psychology (3 cr)
An introduction to fundamental concepts, methods and points of view of psychology. These will be examined from both traditional and phenomenological perspectives. This course is a prerequisite to all other courses in the department.

220 Systematic Psychology (3 cr)
A course designed for and open only to Majors. Its purpose is to offer an in-depth study of some standard interests of psychology, such as sensation, perception, learning and motivation. These will be examined from various traditional perspectives, for example, from behavioristic, physiological and psychoanalytic perspectives.

223 Introduction to Existential Phenomenological Psychology (3 cr)
An examination of the assumptions implicit in psychology's historical development as a natural science, and an introduction to alternative foundations, literatures, and practices of psychology conceived as a specifically human science. This course is a prerequisite for Psychology 356 and 410, and is a requirement for psychology majors.

225 Developmental Psychology I (Infancy and Childhood) (3 cr)
Growth and development of the child with an emphasis on understanding of personality development.

226 Developmental Psychology II (Adolescence and Maturity) (3 cr)
The description and understanding of the behavior and development of the growing person from adolescence through the stages of adulthood to the experience of death.

227 Human Development (3 cr)
Basic principles of human development over the life span. This course is primarily intended to fulfill a requirement for Education and Nursing students. Not counted toward a major.

230 Psychology of Community Experience (3 cr)
This course is an exploration into different phenomena of a community. Issues such as one's openness to the group, individual priorities versus group priorities, intimacy versus privacy, etc are examined. This exploration emphasizes personal participation by class members in the class. Community and interpersonal exercises will be used often in the classroom. Registration is limited and requires permission of the instructor.

280 History of Psychology I (3 cr)
An overview of the principal figures and issues constituting the history of psychology from its precursors to contemporary contributors.

328 Psychology of Personality (3 cr)
A critical examination of fundamental issues and themes of the major personality theories of personality and the integration within these constructs of theoretical and empirical contributions of psychology and psychiatry, implications for research, diagnostics and psychotherapy.

340 Social Psychology (3 cr)
The foundations of social behavior-culture, social processes, and social movements, social attitudes, values and roles, public opinion, propaganda and communication, personal participation in society.

352 Abnormal Psychology (3 cr)
An examination of the theories and data of disordered human existence. Included will be the traditional diagnostic categories, such as neuroses and psychoses, examined in terms of personal, social, and cultural aspects of these disorders.

356 Research Psychology Theory and Practice (3 cr)
A description and interrogation of the meaning of scientific investigation in psychology, including both standard and human science approaches and methods. The values and limits of these approaches, and a consideration of the meaning of investigation in psychology conceived as a human science. Permission of department head for non-majors. Students will participate in research projects. Prerequisites 220, 223.

361 Psychology of Identity and Fulfillment (3 cr)
This course is explicitly designed to be personally relevant to the life of the student. Texts, lectures, group discussions and written work all focus on the way in which identity is lived individually and collectively. Identity is seen and descriptively articulated as a contextual phenomenon involving culture, interpersonal relations, learned traditional ways of living, as well as a developing sense of self given to the individual. (Open to Juniors and Seniors only).

370 Psychology of Aesthetic Experience (3 cr)
A psychological articulation of the aesthetic dimension of human existence. The course content will be both theoretical and empirical.

390 History of Psychology II (3 cr)
A dialogue with particular historical figures in psychology geared to an understanding of contemporary themes. Students will be engaged in the reading of selected primary sources. Prerequisite: 280.

410 Advanced Existential Phenomenological Psychology (3 cr)
A detailed investigation of selected works in existential-phenomenological philosophy and psychology. Prerequisite: 223.
415 Applied Psychological Practicum
A setting of applied psychology provides an opportunity for active participation with professionals in their work. In addition to a practicum in a psychiatric hospital, from time to time other settings will also be available, such as community mental health centers and youth programs. Prior coursework in psychology is a prerequisite. Abnormal Psychology is required for clinical settings. Psychology majors only, with permission of department head. Repeatable for a maximum of six credits.

425 The Individual and His World
A social psychology course that examines the contemporary individual's relationships to society from a developmental and cross-cultural perspective. Emphasis is on communication processes and theories of speech as they relate to interest groups and special communities.

432 Gestalt Psychology
An examination of the contributions of Gestalt Psychology to the development of both traditional and human science psychology. Emphasis is on such phenomena as thinking, perception, insight, and concrete and abstract behavior, especially through the works of Koffka, Kohler, and Goldstein. Permission of department head for non-majors.

433 Principles of Psychoanalytic Thought
An examination of the times and contributions of Freud and selected other major psychoanalytic theorists. Permission of department head for non-majors.

434 Psychology of Language and Expression
A consideration of communication as a live, embodied relation of the person to world and to others. Emphasis is on phenomenological theorists. Permission of department head for non-majors.

450 Contemporary Issues in Clinical Psychology
An examination from a human science perspective of the approach, methods, and current issues of clinical psychology. Clinical psychology includes psychological assessment, intervention and therapy, and promotion of optimal existence. Prior coursework in psychology is advisable, especially 221. Permission of department head for non-majors.

457 Independent Studies
This course is designed to provide the exceptional student with an opportunity for pursuing a particular course of study in which he is keenly interested under the guidance of a faculty member. As such it is restricted to the psychology major and presupposes that he is well into the field of psychology. For the most part it is reserved for seniors, particularly those who intend graduate study in psychology, and is conducted after the manner of a tutorial. A student who wishes to take this course should clear it with a particular faculty member and then receive in writing permission of the department head.

490 Special Topic
This course is a variable one. For the most part, it is reserved for visiting professors who are invited by the psychology department of the University to introduce the students to their own areas of expertise. It may also be used to introduce experimental courses or highly specialized studies by one of the regular faculty. In such instances the instructor may establish prerequisites. Repeatable. Permission of department head for non-majors required.

DEPARTMENT OF SOCIOLOGY

Department of Sociology

Chairman Chester A. Jurczak, Ph.D.

Undergraduate instruction in sociology contributes to the liberal education of students regardless of major and to the preprofessional training leading to graduate work in sociology and social work, urban affairs, urban planning, and criminology. Helping students in practical ways to live effectively and to become effective in practical attacks on social problems is another objective of the department.

Sociology studies all of this formally in courses designed to give students a sense of direction, a selective taste of materials and methods, and motivation so that they can devote some of their energies to independent observation and experimentation, and develop their own concepts about how society functions.

REQUIREMENTS FOR THE MAJOR
A minimum of 24 semester hours, not including 101, are required for a major in Sociology; these credits must include 201 and 304, in addition, the courses 210 and 314 are strongly recommended.

REQUIREMENTS FOR THE MINOR
A minimum of 12 semester hours, not including 101, are required for a minor, 450, 451, 488, and 492 are reserved for majors only.

Sociology 101 is a prerequisite to all courses except 102 and 203, 102 can be substituted for 101 as a prerequisite for 306, 307, and 310. All 300 and 400 courses are for Juniors and Seniors only.

101 Survey of Sociology
A broad survey of the social and cultural aspects of environment

102 Survey of Anthropology
An introduction to the field of Anthropology, both physical and cultural

195 Military in Society
A study of the organizational setting, the social processes, and recent fundamental changes of the American military

201 Sociological Theories
A study of selected European and American theorists. For sociology majors and minors only

202 Sociology of Social Problems
Study of person-structure-change framework applicable to contemporary social issues

203 Survey of Social Work
Survey of the history and areas of social work-carework, group work, and community organization, public and private welfare programs

205 Person and Society
An exploration of socialization—person's interaction with structure and culture, small groups and collective behavior
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<tr>
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<tr>
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<td>304</td>
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<td>Personality and Culture</td>
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<td>Social Development—Infancy to Death</td>
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<td>The Helping Process An Introduction</td>
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<td>327</td>
<td>Sociology of Work and Industry</td>
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<td>329</td>
<td>Religion in American Society</td>
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<td>334</td>
<td>Delinquency</td>
<td>3 cr</td>
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<td>Criminology</td>
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<td>Corrections</td>
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<td>338</td>
<td>Race Relations—Black and White</td>
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<td>340</td>
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<td>Field Work II</td>
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<td>3 cr</td>
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<tr>
<td>492</td>
<td>Selected Readings</td>
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Department of Speech Communication and Theatre

Chairman Eva C. Robotti, M.A.

The program provides training essential to the several areas of speech communication. The department offers both its majors and interested students from other fields the opportunity to choose courses from a particular area of concentration or the whole range of the discipline.

AREAS OF CONCENTRATION

Social Communication This focuses on the theories and techniques of human communication on both the personal and societal levels. The student of social communication examines the concepts and procedures which govern men's interactions as individuals and as parts of the mass. He also learns the practical arts of critical analysis and persuasive communication. This training is excellent preparation for careers in law, government administration, personnel, public relations, industrial communications, advertising, sales, social work, and all fields which involve human symbolic interaction.

Recommended courses 101, 102, 204, 206, 300, 304, 311, 406, 421

Theatre/Media The Theatre/Media concentration prepares the student for the fields of applied communication: theatre, radio-television, and public relations. This area lays a solid groundwork for careers in acting, directing commercially or in educational theatre, producing, the many aspects of broadcasting, and public relations. Along with classroom theory, students will have opportunity to obtain practical experience on stage and backstage in Red Masquer productions, and by on-and-off-the-air work at WDUQ (90.5 FM), Duquesne's twenty-five thousand watt National Public Radio affiliate. Ideally, the Theatre/Media student combines both activities.

Recommended courses 190, 200, 201, 301, 305, 306, 307, 309, 310, 405, 407, 421

Aesthetics of Communication This is designed to introduce the student to the aesthetic values of the spoken language by providing courses which are related to speech as a presentational art. Among such offerings is a course dealing with the art of vocally projecting the experience of literature as manifested in works of great poetry and prose and courses in the vocal presentation of dramatic characters. One of the more singular department offerings is a course training the student in the art of orally presenting Biblical literature, considered by Duquesne to be a rare experience.

Students interested in this area have the opportunity to display their artistic skills in oral presentation through Duquesne University Reader's Guild, oral presentation of poetry and oral performance of dramatic works are two of the major functions of this organization.

Recommended courses 190, 201, 301, 307, 309, 310, 419, 421

Speech Pathology The profession of speech pathology and audiology is concerned with impairments in the processes of communication—speech, language, and hearing. Upon completion of graduate education, a speech pathologist or audiologist may provide clinical services or work in basic and applied research. He or she may be employed in schools, hospitals, laboratories, community service centers, or colleges and universities. Speech pathology and audiology is a rapidly growing field, and the demand for trained personnel far exceeds the supply.

This area of concentration at Duquesne is a pre-professional program designed to prepare the student for graduate study in speech pathology and audiology.

Recommended courses 201, 203, 204, 303, 308, 409, 410, 420

REQUIREMENTS FOR THE MAJOR

A minimum of 30 semester hours is required for a major in Speech Communication and Theatre. Majors will be required to enroll in three of the following four courses: 101, 102, 190, 201.

A maximum of 12 transfer credits in speech can be applied to the major requirements.

REQUIREMENTS FOR THE MINOR

The minor consists of 18 credits, six credits in required introductory courses and 12 additional credits. There are five emphases that the student may follow:

1. Social Communication 101, 102, plus 12 credits in any of the following: 204, 206, 300, 304, 311, 406, 421
2. Theatre/Media 190, 201, plus 12 credits in any of the following: 200, 305, 306, 307, 309, 310, 405, 407, 421
3. Aesthetics of Communication 190, 201, plus 12 credits in any of the following: 301, 307, 309, 310, 419, 421
4. Speech Pathology 201, 203, plus 12 additional credits. Courses 303 and 409 are required, the remaining six credits may be taken in any of the following: 308, 410, 420
5. General Speech Communication and Theatre 190 and either 101 or 102, with 12 additional credits apportioned in the following manner: six credits in any of the following: 204, 206, 300, 304, 311, 406, plus six credits in any of these: 200, 201, 301, 305, 306, 307, 310, 405, 407, 419

Suggested activities for majors and minors in Speech Communication and Theatre include the Red Masquer Dramatic Organization, the department-sponsored Reader's Guild, WDUQ Radio and Television, the Debate Team, Intercollegiate Conference on Government, The Duke (student newspaper), and United Nations Organization.

101 Process of Communication 3 cr.

Provides an understanding of the nature of the communication process by examining man from the perspective of how he believes
DEPARTMENT OF SPEECH COMMUNICATION AND THEATRE

102 Techniques of Oral Communication 3 cr
Topics those communicative skills necessary to critically analyze verbal discourse and develop form effectively in public speaking situations which confront the educated person to perform action to Theatre Arts

190 Introductory Survey of the principles of proper delivery to the field of oral reporting and communication announcing, including enunciation, pacing, selective emphasis, tonal variance, timbre of technical material, and an introduction to foreign language pronunciation The facilities of WDUQ-FM and WDUQ-TV will be available for laboratory experience

200 Radio and Television Announcing 3 cr

201 Phonetics An approach to the English language based upon the fundamentals of vocal and articulatory speech sounds as systematized by the International Phonetic Association

203 Problems in Speech 3 cr
Survey of various speech disorders, their causes, recognition, and possible therapy

204 Interpersonal Communication 3 cr
A course designed to investigate the various aspects of interpersonal communication. Special consideration will be given to face-to-face human interaction in a variety of settings

206 Development of those communicative skills essential for functioning effectively in the small group situation and Debate 3 cr
Development of the Theatre

300 Articulation in applying the principles and methods of critical deliberation to a significant contemporary social issue Emphasis will be on advocating, defending, and refuting a position of policy Prerequisite 102 or permission of the instructor

301 Oral presentation in terms of its oral traditions with special emphasis on techniques preparatory to the act of oral presentation

303 Introduction to Speech Pathology 3 cr
The course will focus upon the clinical management of speech and hearing problems and current therapeutic approaches and techniques will be presented in relation to the disorders of speech and hearing Different organizational procedures and practices will be included Prerequisite 203 or permission of the instructor

304 Preparation and application of principles and practices that influence people's beliefs and attitudes in the classroom, preparation of the teacher

305 History of the origin and development of theatre and drama from pre-Greek to the present, an investigation in light of the particular world view which it expresses

306 Development of the Theatre II A study of the development of theatre and drama from the seventeenth century to the early twentieth century, investigated in light of the particular world view which it expresses

307 Acting I A study of the basic principles, theories, and techniques of acting, including various problems confronting the actor in the creation and interpretation of a role

308 Anatomy and Physiology This course will study the basic neurological, skeletal, and muscular structures involved in the speech and hearing process Prerequisite 203 or permission of the instructor

309 Advanced Oral Communication of Literature 3 cr
A continuation of 301, with special emphasis on techniques for the oral presentation of specific literary genres Prerequisite 301

310 Acting II An advanced course dealing with the principles and techniques of various acting styles with major concentration on the oral communication of a dramatic role Prerequisite 307 or permission of the instructor

311 Communication Theories 3 cr
Communication theories applied to contemporary systems of belief Prerequisite 101 or permission of the instructor, recommended 304

405 American Theatre and Drama Survey of the major American theatrical movements and dramatic literature from the Colonial period to the present with emphasis on the twentieth century Playwrights, designers, and theatrical companies are studied as reflections of American culture

406 American Public Address Examines the interrelated impact of verbal communication and significant political issues in American history

407 Stage Directing Studies principles, theories, and practices involved in the staging of a play for performance, emphasizing problems of staging and interpretation confronting the director Enrollment by instructor's permission only Prerequisite 190

409 Hearing and Audiology This course will consider the nature of sound, the process of hearing, and hearing impairment The different types, causes, and the measurement of hearing impairment will be discussed Exposure to audiometric testing will also be available Prerequisite 203 or permission of the instructor

410 Speech Problems for the Classroom Teacher This course focuses on the speech problems encountered in the classroom Emphasis is placed on the recognition, and remediation of those speech problems The classroom teacher will be exposed to the speech therapy program in the schools as well as to the teacher's role in speech remediation in the classroom Prerequisite 203 or permission of the instructor

419 Oral Communication of Biblical Literature 3 cr
A course devoted to the consideration of the Bible in terms of the spoken language with its accompanying oral interpretative connotations and techniques Prerequisite 301 or permission of the instructor
420 Speech Problems of the Exceptional Child 3 cr
This course will investigate the speech and language development, speech problems, and speech remediation of the mentally retarded, brain injured, aphasic, learning disabled, and cerebral palsied child. The role of other professionals, in addition to that of the speech pathologist in speech remediation, will be explored. Prerequisites: 203 or permission of the instructor.

421 Independent Study 1-3 cr
The student will work on a selected project under the supervision and guidance of a faculty member. Prerequisite: Permission of the instructor and the department chairman.

422 Speech Pathology Clinical Practicum 3 cr
Provides an opportunity for active participation with professionals in their work in varied settings. For Speech Pathology concentration majors only. Written permission of department chairman required.

Department of Theology

Chairman Rev Charles J Fenner, C S Sp., Ph D

Duquesne's Department of Theology affirms that the academic study of man's religious experience is essential to a complete education of man. The Department fulfills its role in theological studies by the pursuit of the following aims: 1) it emphasizes Catholic Theology, in brotherly 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 man's universal search for religious meaning and experience, and seeks not only to offer the possibility of a study of the varying approaches to religion witnessed in history, but also to place Catholic Theology in communion with that quest; 3) it aspires to a fruitful encounter with other university disciplines, since the department is convinced that theology's concerns are related to all vital human issues, some of which other university disciplines explore. Accordingly, the department has organized its courses into three divisions: Biblical Studies, Christian Studies, and Selected Religious Studies.

REQUIREMENTS FOR THE MAJOR

The major program consists of a minimum of 27 credits beyond the 100 level. These must include 201, 213, 214, 220, 498; the remaining credits will be chosen in consultation with the student's advisor.

REQUIREMENTS FOR THE MINOR

A minor consists of four courses beyond the 100 level. The department has also prepared suggested sequences which may be helpful to a student wishing to concentrate in a certain area of theology, e.g., Biblical Studies, Roman Catholic Theology, World Religions, Religion and Culture, Christianity in History, etc. These sequences are available in the department upon request.

COURSE INFORMATION

The numbering of the course indicates the level of approach.

100 These courses are of the basic, survey type, wherein emphasis is on breadth rather than on depth, and serve as background for other courses.

200-300 These courses treat of subject matter in a specific area of theology and in greater depth than in the 100 category.

400 Selected topics are dealt with at a more advanced level, independent research is required.

BIBLICAL STUDIES

114 Interpreting Bible 3 cr
This course presents the tools necessary to understand an ancient literary work and affords a unified view of the historical events of the Old and New Testaments that are essential to an understanding of Jewish and Christian faiths, as well as the prominent religious experiences reflected in these events as interpreted by the biblical writers. Practical interpretation of biblical passages is stressed and ample exercises are provided.

213 Special Introduction To The Old Testament 3 cr
A presentation of the Old Testament writings in their dynamic context of culture, politics, geography as well as an introduction to their literary modes, theologies and themes.

214 Special Introduction To The New Testament 3 cr
The books of the New Testament are studied from the point of view of their literary makeup, historical origin and testimony and theological content. Included are practical approaches in interpreting key passages of the New Testament.

313 Biblical Archaeology 3 cr
A survey of the history of emerging civilization as revealed by archaeology, focusing principally on Palestine and the Ancient Near East. A general introduction to the techniques of archaeological investigation is included.

321 Jesus In The Gospels 3 cr
A presentation of the portrait of the person of Jesus as evidenced in the Gospels.

413 Theology Of The Old Testament 3 cr
This course examines the various books or blocks of writings in the Old Testament according to their theology, and attempts to draw together and present the major themes, motifs and concepts of the Old Testament, and studies the relationship between the Old Testament and the New Testament.

414 Theology Of The New Testament 3 cr
Major theological traditions of the New Testament are presented. Emphasis is given to the diversity of Christian belief and practice as well as to the underlying unifying principles of the early Christian experience. Advanced techniques of biblical interpretation are employed throughout the course and the student is given the opportunity to practice such techniques.
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<td>Christian Understanding of Man</td>
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<td>260</td>
<td>Origins of Protestantism</td>
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<td>274</td>
<td>Church History I</td>
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<td>Church History II</td>
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<td>351</td>
<td>Sexuality, Sex, and Morality</td>
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<td>352</td>
<td>Value of Human Life and Current Ethical Problems</td>
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<td>361</td>
<td>Questions in Protestant Theology</td>
<td>3 cr</td>
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<td>370</td>
<td>Early Christian Thought</td>
<td>3 cr</td>
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<td>470</td>
<td>Christian Mysticism</td>
<td>3 cr</td>
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<td>471</td>
<td>Eastern Christian Theology</td>
<td>3 cr</td>
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<td>106</td>
<td>Rational Foundations of the Catholic Faith</td>
<td>3 cr</td>
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<tr>
<td>201</td>
<td>Introduction to Theology and Theological Method</td>
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<td>202</td>
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**CHRISTIAN STUDIES**

A Christian Studies In General

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<td>202</td>
<td>Catholicism</td>
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SELECTED RELIGIOUS STUDIES

180 The Phenomenon of Religious Experience 3 cr
The course examines mankind’s universal experience of religious realities. It seeks to explore the way the divine is sensed and responded to, to discover what is common in all religious experience, and to discern differences in external response.

241 Studies in Black Theology 3 cr
A study of the literature and the content of Black Theology and Religion as it has developed in America, the Caribbean, and on the African continent. Emphasis will be placed upon American Black Theology and religious experience.

245 Religion and Culture Some Personal Dimensions 3 cr
A study of the influence of religion on the individual’s experience in work, leisure, love, art, dying and death, etc.

280 World Religions 3 cr
The history, comparative theology, ritual, and contemporary influence of the world’s major religions.

283-284 Jewish Thought and Religion 3 cr
A survey course of Jewish Theology and Ethics as delineated in the Bible, the Talmud, and in medieval and modern Jewish thinkers.

340 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, media of communications, etc.

343 Religious Impact of Secular Thinkers 3 cr
A study of the effect of modern writers (e.g., Herbert Marcuse, Marshall McLuhan, Hugh Hefner, Alvin Toffler, etc.) on the religious consciousness and behavior of today.

345 Women in Religion 3 cr
The role and position of women in Hinduism, Islam, Judaism, and Christianity.

372 Religious Themes in Literature 3 cr
An exploration of the relationship between the imagination and the intellect, the artistic and the scientific, in the literary expression of fundamental theological concepts. The course examines significant literary works—past and present, English and continental (in translation)—of Western man as they explicitly or implicitly express man in his relationship to himself, other men, and God.

373 Religion in America 3 cr
Analysis of the role of religion in the discovery, colonization, constitutional development, immigration trends, and growth of the American republic.

481 Islam 3 cr
A study of the origin and the historical development of Islam, its theology, institutions, and practices.

482 Religions of India 3 cr
An introduction to the basic concepts of Hinduism and Buddhism, their origin, development, and interrelationship.

492 Reading Seminar Selected Topics 1-3 cr
An analysis of selected books and topics by students under the direction of a faculty member.
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
5 Sufficient knowledge in a professional area so that they can assume positions of responsibility with a background of learning-method and learning-impulse that will enable them to progress rapidly

DEGREE
The School of Business and Administration grants the degree of Bachelor of Science in Business Administration. This degree may be awarded to those who satisfy the entrance requirements and complete successfully the School’s degree program

BUREAU OF RESEARCH AND COMMUNITY SERVICES
Activity complementing direct instruction takes place in four ancillary units grouped under the Bureau of Research and Community Services. All function to provide students and faculty with an opportunity for professional development as well as to provide services to the University and the community at large.

BUREAU OF RESEARCH
The Research Bureau carries out an independent research program, and cooperates with divisions of the School in facilitating the research of individual faculty members. Through the University Press, the Bureau issues monographs and other publications. From time to time contract research is undertaken for business, community, and governmental agencies, as far as this may fall within its academic aims of discovery and dissemination of knowledge.

The Bureau is a member of the Association for University Business and Economic Research, and maintains an interchange of publications with similar organizations in other universities throughout the country.

CENTER FOR ADMINISTRATION OF LEGAL SYSTEMS
The Center serves as the focal point for research activity in the administration of law. Its approach encompasses the outlook and makes use of the investigative techniques of the physical scientist, the educator, the lawyer, the social scientist, the behavioral scientist, and the administrator. Present research activities include studies of the interactions of law and psychology, the administration and management of the courts, educational programs in fundamentals of the law for youth.

The Center also serves as the coordinating agency for education and training programs of a non-credit nature for persons currently employed within the legal system. Such programs are tailored to meet the needs of specific groups and agencies.

SCHOOL OF BUSINESS AND ADMINISTRATION
The objectives, content, time and length of all programs are cooperatively determined with the agency involved. The Center calls upon professionally trained practitioners from the local community as well as full-time faculty to instruct in these programs.

CENTER FOR ECONOMIC EDUCATION
The Center is charged with the responsibility of initiating and promoting economic education in the society at large. More specifically, it develops and coordinates economic education within the Western Pennsylvania and Tri-State area where the primary thrusts of the Center focuses on upgrading economic literacy and teaching competency in the school systems at the area.

CENTER FOR INTERNATIONAL MANAGEMENT
The objective of the Center is to develop a better understanding of the American involvement in international affairs and business and in management abroad through teaching and research, it is achieved by an interdisciplinary approach.

The areas of current research focus are:
1. Trade expansion between the USA and Eastern Europe
2. Management in foreign nations
3. Problems in international business
4. International economic development with a stress on interaction among developed countries, and on the relationship developed countries—less developed countries
5. International political and legal issues

The Center has no teaching program of its own, most of its staff are faculty members from various schools and departments of the University or visiting foreign professors.

DIVISION OF CONTINUING EDUCATION
The Division conducts management training programs for industry ranging from the foreman level up through executive personnel, touching every phase of management to make the individual a better rounded person in meeting the current demands of business.

Also administered are non-credit programs which consist of courses in business and administration or special areas, these courses are offered for the continuing education of adults in the community.

STUDENT ORGANIZATIONS
Several organizations, limited to students in the School of Business and Administration, exist for the promotion of the scholarly and professional interests of members.

The Beta Alpha Phi Fraternity is a national professional commerce sorority established at Duquesne University. Membership in this honorary fraternity is limited to juniors in the highest five percent of their class and to seniors in the highest 10 percent of their class.

The Beta Alpha Psi Fraternity is the honorary scholarship society of the school.

Phi Chi Theta is a national professional commerce sorority.
The Student Accounting Association provides for the interests of those who intend to become accountants. 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.

Omicron Delta Epsilon, a national honor society in Economics, is open to all students specializing in studies in Economics. The society is open to those having an overall academic average of B in their Economics courses. Delta Sigma Pi, a national professional business fraternity, is represented by Theta Rho chapter.

DIVISIONS AND PROGRAMS

The School of Business and Administration is comprised of three Divisions: Quantitative Science, Behavioral Science, and Economic Science.

A student entering the School of Business and Administration is expected to state to his advisor his career objective along with his academic area of concentration, the latter of which can be several of the junior and senior courses indicated in the three divisions. The student's proposed curriculum must, of course, include the University requirements and Business Administration Core requirements as indicated in the illustrations set forth in this catalog. Consistent with his stated career objective and with the concurrence of his advisor, the student is free to select any junior and senior courses from the School of Business and Administration curriculum to complete the 15 hours required for graduation. The single exception to this is the student who selects Accounting as his area of concentration. The regulations for certification in Accounting make this program very rigid; this is dealt with in the paragraphs following the Sample Program.

The faculty advisor in the School of Business and Administration plays an extremely important role in the academic guidance of each student. Because of this, each student is permitted to select his own advisor based on personal knowledge and available biographical sketches.

FOUR-YEAR SAMPLE PROGRAM

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in management science or operations research.

The honors program emphasizes a mathematical approach and is intended for students who have a stronger interest and aptitude for mathematics. This program will cover essentially the same topics as the regular program, but in more depth and from a more theoretical viewpoint. The honors program provides the student with adequate preparation for advanced study in management science and operations research.

101, 102 Introductory Analytic Methods

Selected topics from algebra, analytic geometry, and calculus are covered. Among the topics are linear, parabolic, hyperbolic, exponential, and logarithmic functions, fitting functions to empirical data, instantaneous rate of change and the difference quotient, integral calculus and the area under a curve, arithmetic and geometric progressions, compound interest, and an introduction to computers and computer programming. Prerequisite work is related to a business and economics setting. Must be taken in sequence 101, 102.

201, 202 Intermediate Analytic Methods

This sequence includes the basic ideas of descriptive and inductive statistics. Among the topics covered are frequency distributions, measures of central tendency, measures of dispersion, sets and set operations, elementary probability theory, probability distributions, sample distributions, statistical estimation, testing of hypotheses, time series analysis, sample linear regression and correlation. Prerequisites: Analytic Methods 101, 102.

301, 302 Advanced Analytic Methods

This sequence stresses the model building approach in the analysis of business and economic problems and introduces a number of operations research techniques. Topics include matrices and vectors, linear programming, transportation problems, multiple regression and correlation, statistical decision theory, Monte Carlo methods and simulation, and optimization models using numeric methods. Prerequisites: Analytic Methods 201, 202, and all 200-level required business courses.

401 Operations Research

Advanced treatment and analysis of operations research techniques and methodologies, including linear programming, Monte Carlo simulation, Markov processes, dynamic programming, queuing problems, sequencing and coordination in networks, competitive bidding and decision-making, deterministic and probabilistic inventory and production problems, and the design of research experiments. Prerequisites: Analytic Methods 301, 302.

FINANCE CURRICULUM

204 Business Finance

The aim is to combine the descriptive study of external sources and processes of financing with the tools of financial analysis and to apply them to financial decision making. Primary attention is given to short- and long-term financing and to funds-flow approaches, with secondary emphasis placed upon securities markets, financial projections, and financial-structure planning. Prerequisites: Accounting 101, 102.

308 Financial Markets

A broad introduction to the markets for lending and borrowing of capital, both short- and long-term, together with discussion of the institutions serving as sources, intermediaries, and users of funds. Emphasis is placed on interrelationships among financial institutions participating in these markets, and among the various markets. Prerequisite: Finance 204.

310 Investment Analysis

This course is a case method approach to investment problems of individuals of various financial institutions. It provides a comprehensive grounding in all types of investment analysis, including interpretation of statements, construction of pro-forma reports, preparation and use of industry norms, and cash and capital budgeting. Reliance is placed upon use of prepared cases and upon original data assembled by the students. Special emphasis is placed upon methods of evaluated results of such analyses and projections, and recognizing their short-comings. Prerequisites: Finance 204, Securities Analysis 417 or consent of instructor.

311 Money and Banking

The primary aim of this course is to give students an understanding of the influence of money and the activities of monetary institutions on price levels, levels of income and employment, and the rate of economic growth. The first half of the course is devoted largely to study of the evolutionary development of money and the banking system and of the structure and operations of the present United States monetary system. Although attention is concentrated on the domestic operations and policies of the commercial banking system, the significant role of other private and governmental financial institutions is emphasized and occasion is taken throughout to illustrate international monetary relationships. Prerequisites: Economics 211, 212.

315 Risk Management

A study of the broad spectrum of risk exposures in business enterprise, with attention to the need for identifying these in terms of nature and magnitude. Methods of alleviation, avoidance, and insurance are studied. Emphasis is placed not only on the traditional forms of insurable hazards, but also upon implicit risks such as those of loss in market value of inventories, use value of plant and equipment, and liquidation value of receivables.

321 Corporate Financial Problems

A study of the financial problems unique to corporations, using the case method. Topics will center around the various types of securities and their issuance, conversion and repayment, direct placements, mergers, acquisition, spin-offs, and sales of assets, determination of policy with respect to surplus, reserves, dividends, pension funds, and executive compensation. Effects of taxation and cash management, capital budgeting, and financial-structure planning. Prerequisites: Finance 308, 310.

415 Financial Commercial Transactions

A study of the financial aspects of various types of business transactions such as sales, loans, leases, consignments, shipments, and storage, also of the financing of the assets involved such as goods, receivables, plant, equipment, and intangibles. Particular attention is given to loans made by commercial banks, factors, and finance companies from the point of view of both lender and borrower. Use is made of case problems in the field of working-capital management. Prerequisite: Finance 204.

416 Credit Management

Consideration of the problems involved in extension of short-term and installment commercial credit by financial institutions, manufacturers, and wholesalers. Case problems are used exclusively in developing principles applicable in establishing terms of sale, approving credit limits, handling difficult collections, working out insolvent situations,
ACCOUNTING CURRICULUM

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 approved by the State Board of Education may sit for the CPA examinations. The degree program of the University is so approved. Graduates may sit for the CPA examination in other states, among which are Colorado and New Jersey.

101, 102 Introductory Accounting 3 cr each

An introduction to the language of accounting, basic accounting concepts and terminology, and recording and preparation for the income statement and financial statements for management decisions. Laboratory attendance to two hours per week is required.

201, 202 Intermediate Accounting 3 cr each

This course is primarily concerned with an investigation and analysis of the accounting problems and practices of the corporation, with detailed study of the component elements of the balance sheet and income statement. Basic topics are accepted and alternative methods in the accounting cycle, financial statements, their form, content and use, accounting problems of the corporation, detailed analysis of the balance sheet accounts, determination of net income, statement of sources and uses of working capital. Prerequisites: Acct 101, 102.

DIVISION OF QUANTITATIVE SCIENCE

State Board of Education may sit for the CPA examinations. The degree program of the University is so approved. Graduates may sit for the CPA examination in other states, among which are Colorado and New Jersey.

101, 102 Introductory Accounting 3 cr each

An introduction to the language of accounting, basic accounting concepts and terminology, and recording and preparation for the income statement and financial statements for management decisions. Laboratory attendance to two hours per week is required.

201, 202 Intermediate Accounting 3 cr each

This course is primarily concerned with an investigation and analysis of the accounting problems and practices of the corporation, with detailed study of the component elements of the balance sheet and income statement. Basic topics are accepted and alternative methods in the accounting cycle, financial statements, their form, content and use, accounting problems of the corporation, detailed analysis of the balance sheet accounts, determination of net income, statement of source and uses of working capital. Prerequisites: Acct 101, 102.

203 Managerial Accounting 3 cr

A study of the technique involved in the gathering, recording, and interpretation of accounting and financial data used in the solution of internal problems of management. Some of the topics covered are construction analysis and interpretation of reports, establishment of operating and financial standards, measurement of managerial performance, use of budgets in managerial control, use of cost data and interpretation of cost reports, use of quantitative data in the formulation of policies, consideration of various aspects of Federal, State and local taxes and their effect on managerial decisions. Prerequisites: Acct 101, 102.

305 Advanced Accounting 3 cr

This course applies fundamental theory to a number of important activities in business. Activities studied are partnerships, special sales procedures, consolidations and subsidiaries. Prerequisites: Acct 201-202.

309, 310 Cost Accounting 2 cr each

Basic cost accounting procedures are discussed from the following viewpoints: cost principle, cost determination, cost control, cost analysis. Topics treated include cost terminology, planning and control techniques, and development and application of overhead rates. Cost behavior patterns are studied in conjunction with development and application of overhead rates. Standard costing, job order costing, process costing and joint products, by-product costing are treated in detail. The emphasis of this course is on cost data used in capital budgeting. Methods of capital budgeting are also stressed. Prerequisites: Acct 201, 202 or 203.

411 Auditing 3 cr

Standards and procedures employed by auditors in the examination of financial statements for the purpose of rendering an opinion are studied and evaluated. Emphasis is placed on theory and philosophy of auditing, however, case problems are used to demonstrate the application of the principles studied. Prerequisites: Acct 202, 305.
451 Introductory Income Tax Accounting

This course is a study of basic tax and procedure affecting primarily individuals and to a lesser extent partnerships and corporations. Principal topics include returns, rates, exemptions, income, deductions, sales and exchange of assets and credits. Emphasis is placed on problems to demonstrate the application of the principles studied and use is made of official forms for demonstration purposes. Prerequisite: Acct 202 or 203

461 Seminar in Accounting

This course is designed to develop a student's ability in technical expression, deepen his understanding of accounting theory, and acquaint him with contemporary accounting problems and literature. Students are made acquainted with the philosophy and methodology of research and required to prepare a research paper. Prerequisite: Acct 201, 202

463 Business Information Systems

A course designed to cover common-language machines and integrated data processing. It entails survey and design techniques for setting up systems and procedures to satisfy the flow-of-information objectives of modern-day management. The course presumes a familiarity with basic computer programming as covered in the Analytic Methods sequence. Prerequisites: Acct 201, 202

Division of Behavioral Science

Chairman: Serge Grosset, Ph.D.

PROGRAM GUIDE FOR STUDENTS

The present combination of required courses and free electives gives the student a solid foundation in business and, at the same time, allows him to follow his inclination in a special field of endeavor. At the same time, the greater the freedom of choice, the greater the need for helping the student in selecting courses in a meaningful way.

Students should be aware that they can use this freedom either

1. To broaden their cultural background by expanding in many different fields of knowledge, or
2. To establish, with the help of their advisor, a background of specialized knowledge in the field in which they have their strongest interest.

Several Study Programs—combining a concentration in Business (15 credits) with a judicious choice of electives from the College (21 credits)—are given as illustrations of the flexibility and the depth possible under the present program. Presently Study Programs are offered in:

- Industrial Relations
- Law Administration
- Production
- Transportation & Traffic
- International Business
- Marketing Management
- Public Administration
- Environment & Ecology

The listing of these Study Programs is only indicative, not inclusive, others may be structured, and the suggested areas can be modified according to the occupational objectives and preferences of the student.

LAW ADMINISTRATION CURRICULUM

This curriculum is designed to prepare professionals to aid in the solutions of one of society's most critical problems, that of the administration of legal systems. Future executives in court management, correctional institutions, and control systems (law enforcement) receive a broad interdisciplinary educational experience with the basic core coursework in the School of Business and Administration. Students in this program should take these courses:

- 453 Administration of Legal Systems
- 311 Behavioral Science
- 311 Personnel Management
- 411 Public Administration, and either
- 309 Administrative Organization, or
- 463 Business Information Systems

To supplement the basic core, students in the Law Administration sequence select the following or related courses in satisfaction of the School of Business and Administration requirement regarding liberal arts electives:

- 478 Youth and Drug Abuse
- 002 Drug Abuse
- 328 Psychology of Personality
- 352 Abnormal Psychology
- 353 Abnormal Psychology II
- 334 Delinquency
- 335 Criminology
- 336 Social Control
- 337 Corrections

Other coursework may be appropriate to fit a student's career objective. Counselors and school officers should be consulted.

PRE-LEGAL PROGRAM

The curriculum of the School of Business and Administration meets the requirements for registration for general purpose of the State Board of Law Examiners in Pennsylvania, and of the State Education Department of New York. Coursework in the various areas of the School of Business and Administration provides good preparation for the professional study of law.

251 Legal Process

An introductory course exploring the nature of law, its sources, its relation to society and government, relation of the judicial to the executive and legislative functions, law as an instrument of social change and control, understanding of the legal rights and duties of persons. Acquaintance with areas of legal concern to the administrator such as labor, environmental controls, products liability, anti-trust concerns such as pricing and mergers.
353 Contract 3 cr
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. Prerequisite 251 Legal Process

354 Commercial Transactions 3 cr
Study of the provisions of the Uniform Commercial Code with reference to the nature and legality of sales of goods, the formalities of the sales contract, transfer of title to goods, warranties, nature and kind of commercial paper, requisites and meaning of negotiability methods of transfer. Prerequisite 251, Legal Process

355 Business Organizations 3 cr
Consideration of the nature, creation, and dissolution of the proprietorship, various types of partnerships, other unincorporated organizations, and the corporation. Duties, rights, remedies, and liabilities of owners and managers are studied. Prerequisite 251, Legal Process

453 Administration of Legal Systems 3 cr
Study of the legal system and the procedures by which legal rights and duties are effectuated and enforced, current problems and issues related to the system in the attainment of its objectives, administrative problems in the legal system. Prerequisite 251, Legal Process

454 Business Organizations 3 cr
Consideration of the nature, creation, and dissolution of the proprietorship, various types of partnerships, other unincorporated organizations, and the corporation. Duties, rights, remedies, and liabilities of owners and managers are studied. Prerequisite 251, Legal Process

MANAGEMENT CURRICULUM

201 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. Planning, organizing, accounting, and controlling comprise the fundamental functions of management, making up the management process. These functions constitute the framework around which this course is built. Emphasis is given to planning which is rapidly growing in managerial importance. Decision making, managerial creativity and the art of management are thoroughly developed.

301 Behavioral Science 3 cr
This course is an introduction to the scientific study of behavior. It incorporates concepts from the disciplines of anthropology, psychology, sociology, economics, law, and political science, as well as from the newer fields of organization theory, game theory, and decision theory. This interdisciplinary approach to behavior provides an integrative framework for transfer to any organizational setting. Prerequisite 201 Principles of Management.

308 Operations Management 3 cr
A follow-up course to Principles of Management in which all important phases of management are developed. Topics such as purchasing, inventory control, motion and time study, plant layout, pricing, etc. are covered. An intermediate course to be used as a basis for further specialized treatment of management areas in the advanced courses. Prerequisites 201 Principles of Management, 202 Advanced Analytic Methods.

309 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 201 Principles of Management.

311 Personnel Management 3 cr
A course presenting techniques of manpower management. Involves study of recruiting and screening techniques, training programs, merit rating, wage payment plans, safety, disciplinary programming, etc. Current practice is presented in the form of case material. Prerequisite 201 Principles of Management.

314 Industrial Relations 3 cr
A course developed to present to the student historical knowledge of the labor movement, present 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 201 Principles of Management.

403 Human Relations in Administration 3 cr
An advanced course treating of the human aspect as it is encountered in the industrial organization. Involves an analysis of behavioristic patterns of individuals as individuals and as members of work groups. Deals with motivation, goals, needs, frustrations, etc. as they relate to the industrial situation. Prerequisite 201 Principles of Management and senior standing.

409 Executive Action Simulation 3 cr
A course incorporating the Games 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 assigned and several teams compete against each other in an attempt to operate the "firm" on the optimum profitable basis. Required of all seniors. Prerequisites 201 Principles of Management and Senior Standing.

411 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. Discussion, case studies, and participative methods are employed. Prerequisite 201 Principles of Management.

438 Wage and Salary Administration 3 cr
An advanced course involving a study of the major wage administrative problem. Wage evaluation programs are covered with emphasis placed on the point system and the factor comparison method. A study of wage payment plans and wage incentives comprises the second phase of the course. Merit rating and other areas related to the wage problem are also included. Prerequisite 201 Principles of Management.

442 Collective Bargaining 3 cr
Study of the relation of federal and state legislation to collective bargaining, analysis of substantive issues and administrative aspects of collective agreements, specific provisions including adjustment of grievances, conciliation, mediation and arbitration, collective bargaining and public policy. Prerequisite 201 Principles of Management.
MARKETING CURRICULUM

101 Physical and Economic Geography 3 cr
This course examines the present and potential products of the world's major geographic regions. The course concerns itself essentially with man's utilization of natural resources in earning a living. Attention is given to the geographical foundations and operations of major industries including agriculture, manufacturing, extractive activities, and transportation. Principal domestic and world trade movements are analyzed.

204 Principles of Marketing 3 cr
The emphasis throughout this course is on problem solving and decision making in marketing. The basis for the course is a systematic analysis of consumer behavior, and the development of marketing policies and programs. Marketing strategy and designing a marketing mix are stressed to give the student an insight into these areas, and the reduction of risks is emphasized through the use of quantitative and qualitative market research techniques.

315 Marketing Problems 3 cr
This course employs the case method illustrative of typical marketing problems such as merchandising, advertising, selection of channels of distribution and development of new products. These problems are analyzed as they affect different middlemen in the marketing structure including manufacturers, wholesalers, jobbers, brokers, agents, and similar functions. Theories of marketing are subjected 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: Mktg 204.

322 Sales Administration 3 cr
An introduction to the fundamentals of salesmanship and the problems confronted by the sales manager. Topics include such areas as production planning, pricing, packaging, qualitative and quantitative market analysis, and specific sales management functions of selection, training, equipping, compensating, supervising, and controlling salesmen. Prerequisite: Mktg 204.

406 International Business 3 cr
A study of the techniques of international trade. Emphasis is given to the contract, overseas equipment, customs procedure in this country and abroad, marine insurance, packing for overseas trade, financing exports and import shipments, foreign exchange and carriage of goods by air. Prerequisites: Mktg 204, Econ 211-212.

411 Marketing Research 3 cr
This course examines the means and methods business management uses to get the necessary information for decision making involving what to produce, how much to produce, and how to distribute goods that are produced. The various types of marketing research—consumer research, motivational research, market analysis, sales analysis, and sales forecasting—product research and advertising research—are studied in some detail. Prerequisite: Mktg 204.

412 Transportation 3 cr
A comprehensive analysis of the historical evolution, operation and economic development of the railroads, motor carriers, water 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. Prerequisites: Com 204, Econ 211-212.

Division of Economic Science

Chairman Som Prakash, Ph.D.

ECONOMIC SCIENCE CURRICULUM

101 Elements of Economics 3 cr
Economics 101 is an introductory course in economics intended to afford an understanding of how our economic system works, of the forces which affect the level, composition, and distribution of the output of the economy, and of the issues behind current economic problems. The course content will define concepts, provide background materials, and develop economic ideas necessary to an understanding of the policy issues constantly before a complex dynamic economy.

102 Introduction to Macroeconomics 3 cr
The emphasis is on the application of macroeconomic principles. A series of basic economic problems and issues will be examined in terms of understanding of the basic problem. How society can achieve and maintain a full employment economy with reasonable economic stability.

103 Introduction to Microeconomics 3 cr
The primary aim of this course is to enhance and deepen the student's understanding of the market mechanism and how this mechanism responds to various governmental policies. More specifically, this course should enable the student to apply microeconomic reasoning to current public issues, and use benefit-cost methodology in analyzing government expenditures.

104 Economic Development of Europe and America 3 cr
A survey of the economic development of Europe and America. Emphasis is
given to the origin of capitalism, the Commercial and Industrial Revolutions, the rise of the bourgeoisie and the spread of capitalism. A study is also made of the institutional development and productive growth of the United States economy.

211 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.

212 Principles of Economics II 3 cr
This course is primarily concerned with aggregate economic relationships. The theory of the determination of national income is developed and attention is given to the construction of national income accounts. Attention is given to money and fiscal policy and their implications. Prerequisite: Econ 211.

301 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. Prerequisites: Econ 211, 212 or 101, 102, 213.

302 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. Prerequisites: Econ 211, 212 or 101, 102, 213.

312 Public Finance 3 cr
A study of the organization and management of government revenues and expenditures with emphasis on American practices and policies of the various levels of government. Welfare economics and benefit cost analysis receive heavy consideration. Prerequisites: Econ 301 or 302.

402 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. Prerequisites: Econ 211, 212 or 101, 102, 213.

403 Urban Economics 3 cr
Urban economics is intended to afford an understanding of how the urban economy works, of the forces which affect the level, composition, and distribution of the output of the urban economy, and of the economic issues behind current urban problems. The course analyzes the processes, stages and determinants of urban economic growth and development. Urban economics focuses on the problems and policy in the urban economy income inequality, manpower, local public finance, housing and land use patterns, and transportation. A particular emphasis of the course is to provide the student with the theoretical tools and show their application to the dynamic, complex urban economy. Prerequisites: Econ 211, 212 or 101, 102, 213.

405 International Economics 3 cr
This course is an introduction to international trade theory and the principles of inter-
422 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 Wicksell, Fisher, J. M. Clark, Keynes, Robertson and Modigliani, 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. Prerequisites: Econ 211, 212, 311 or 101, 102, 213.

423 Theory of Economic Development 3 cr
The course is designed to acquaint students with the area of economic development. The subject matter of this course conveniently divides itself into five major categories: the nature of development and problems of measurement, theories of development, factors and forces affecting economic growth, different approaches to a higher standard of living, and problems of domestic and international stability. Approach to this course encompasses detailed study as well as a strong emphasis on theoretical and critical analysis. Prerequisite: Econ 301.

424 Problems, Policies and Case Studies in Economic Development 3 cr
This course is a continuation of the first semester course in economic development. An attempt is made in this semester to apply the tools, techniques, and theories of development to selected regions and countries of the world. The course is divided into four broad areas—the nature and problems of the case study method, the nature of the socioeconomic structure and its impact on development problems of measurement and of comparison, and the changing role of the base factors of production. Considerable time will be devoted to a critical study of the actual policy measures adopted for development by selected countries. Prerequisite: Econ 423.

451 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: Econ 301, 302, plus permission of the instructor.

School of Education

HISTORY

Prior to 1929, teacher preparation courses were offered through a department of the College of Liberal Arts and Sciences. In that year the newly-organized School of Education granted its first degrees in programs of secondary education. The following programs have since been approved for certification by the Department of Education of the Commonwealth of Pennsylvania: music education, 1930; graduate education, 1936; elementary education, 1937; guidance, 1952; school administration and supervision, 1952; library science, 1956; special education, 1964; reading specialist and reading supervisor, 1969; school psychologist, 1969; early childhood education, 1975.

SELECTION AND ADMISSION

Candidates who express a desire to become teachers are admitted to the School of Education through the University Office of Admissions (apply to Director of Admissions, Duquesne University, Pittsburgh, Pa 15219). The curriculum for the first two years (approximately 60 credits) is devoted to the broad learnings in general education and beginning course work in a major discipline or area of concentration.

The School of Education includes and maintains in its enrollment only those students who give definite indication of teacher potential. Students are, therefore, expected to demonstrate developing personal and professional characteristics, attitudes, and competencies which will recommend them as worthy candidates for the teaching profession. Evaluation and approval by the faculty is based on the student's development of:

1. A well-balanced personality as evidenced through personal appearance, health and vitality, emotional maturity, verbal fluency, self-confidence, cooperation, judgment, and tact; adaptability and resourcefulness, cultural appreciation, and social relationship.

2. Professional attitudes and competencies as evidenced through interest in teaching, preparation in subject matter and teaching methods and techniques, participation in laboratory experiences, including observation and student teaching, and the demonstration of necessary abilities and skills.

CURRICULUM

GENERAL EDUCATION

The School of Education requires completion of the established core program which includes courses in the humanities, social sciences, natural and behavioral sciences, and, for Catholic students, theology.
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. Special professional education programs introduce the student to the specific teaching techniques and methods required for specific fields of concentration—elementary, secondary, special, or early childhood education.

PROFESSIONAL LABORATORY EXPERIENCES
The School has developed a broad and diversified professional laboratory experience program designed to provide opportunities for observing and working with children and youth. These include:
1. Programs in neighborhood and community centers, hospitals, recreational and youth organizations, and summer camps
2. Planned observation in public and private school classrooms
3. Group observation in schools and institutions dedicated primarily to the care of exceptional children
4. Teacher aide or tutorial service in public and private schools
5. Student aide service at educational television station WQED
6. Student teaching in a public or private school for an entire semester or year

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

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 Phi Kappa, national education fraternity
- Kappa Delta Epsilon, national education sorority

HONOR AWARDS
These permanent awards, presented at the annual Honors Day Convocation, are open to undergraduates in the School of Education.
- “Who’s Who in American Colleges and Universities” certificates
- School of Education Faculty Award for General Excellence in Secondary Education
- School of Education Faculty Award for General Excellence in Elementary Education
- School of Education Faculty Award for General Excellence in Special Education

SCHOOL OF EDUCATION
- Kappa Phi Kappa National Professional Education Fraternity Award for Outstanding Member of Beta Pi Chapter
- Kappa Delta Epsilon National Professional Education Sorority Award for Outstanding Member of Alpha Kappa Chapter
- Kappa Delta Epsilon National Professional Education Sorority President’s Award
- Lawrence A. Roche Memorial Award to a Junior Student for General Excellence in the School of Education
- Philip C. Niehaus Memorial Award for outstanding achievement in the School of Education
- Helen S. Platt Memorial Award to a Senior student majoring in Special Education who is in need of financial aid
- Council for Exceptional Children Award for outstanding work in the organization

TEACHER CERTIFICATION
Through completion of a degree, a student will be eligible for a Pennsylvania Instructional I (Provisional) Certificate to teach a subject or in an area for which the curriculum pursued is designed. All programs are approved by the State Department of Education, and certification in Pennsylvania enables a student to meet certification requirements in various other states. Application for the certificate must be made through the Dean’s Office during the semester in which the student expects to be graduated.

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 credit units, not in periods the class meets, in other words, three cuts for a three credit course.

DEGREE
Curriculums in Early Childhood, Elementary, Secondary, and Special Education lead to the degree of Bachelor of Science in Education.

PROGRAMS
*EARLY CHILDHOOD EDUCATION
The program, in accord with the philosophy and objectives of the School of Education, offers students opportunity to qualify for:
1. The Instructional I (Provisional) Certificate to teach early childhood education classes in the schools of Pennsylvania for a period of three years
2. Admission to graduate programs in education
This program cannot be completed on a part-time basis. The last 30 credits attempted must be earned at Duquesne University. The minimum number of credits for graduation is 120.

### General Education Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Area</td>
<td>15</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>English Elective</td>
<td>3</td>
</tr>
<tr>
<td>Communications Area (Speech, Journalism, English)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and/or Science</td>
<td>12</td>
</tr>
<tr>
<td>Social Science (Anthropology, Economics, Geography, History, Political Science Sociology)</td>
<td>12</td>
</tr>
<tr>
<td>Philosophy and/or Theology</td>
<td>9</td>
</tr>
<tr>
<td>Psychology</td>
<td>6</td>
</tr>
</tbody>
</table>

*Professional Education Credits*

All courses, for a total of 39 credits, are required.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Child Development I</td>
<td>3</td>
</tr>
<tr>
<td>Child Development II</td>
<td>3</td>
</tr>
<tr>
<td>Early Childhood Education I</td>
<td>3</td>
</tr>
<tr>
<td>Early Childhood Education II</td>
<td>3</td>
</tr>
<tr>
<td>Curriculum Development I</td>
<td>3</td>
</tr>
<tr>
<td>Curriculum Development II</td>
<td>3</td>
</tr>
<tr>
<td>Language Development and Reading</td>
<td>3</td>
</tr>
<tr>
<td>Research Seminar</td>
<td>2</td>
</tr>
<tr>
<td>Planning Programs for Young Children</td>
<td>2</td>
</tr>
<tr>
<td>Student Teaching in Early Childhood</td>
<td>2</td>
</tr>
<tr>
<td>Student Teaching in Early Childhood</td>
<td>2</td>
</tr>
</tbody>
</table>

**ELEMENTARY EDUCATION**

This program, in accord with the philosophy and objectives of the School of Education, offers students opportunity to qualify for:

1. The Instructional I (Provisional) Certificate to teach in the elementary schools of Pennsylvania for a period of three years.
2. Admission to graduate programs in education.

### Education Electives Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select from below</td>
<td>9</td>
</tr>
<tr>
<td>Field Observations</td>
<td>1-5</td>
</tr>
<tr>
<td>Introduction to Art</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Language</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Mathematics and Science</td>
<td>3</td>
</tr>
<tr>
<td>Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>Music for the Classroom Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Problems in Speech</td>
<td>3</td>
</tr>
<tr>
<td>Reading in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>Problems in Teaching Reading</td>
<td>3</td>
</tr>
<tr>
<td>Learning Resources</td>
<td>3</td>
</tr>
<tr>
<td>Human Development</td>
<td>3</td>
</tr>
<tr>
<td>Eurhythmics</td>
<td>2-4</td>
</tr>
<tr>
<td>Independent Study</td>
<td>1-2</td>
</tr>
</tbody>
</table>

### Professional Semester Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Teaching in Early Childhood</td>
<td>8</td>
</tr>
<tr>
<td>Research Seminar</td>
<td>2</td>
</tr>
<tr>
<td>Planning Programs for Young Children</td>
<td>2</td>
</tr>
<tr>
<td>Mainstream Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Language Arts and Social Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Other Electives Credits

*As this program has been cooperatively developed by Duquesne University and Carlow College for State approval, some or all of the professional courses in Early Childhood Education may be offered on the Carlow campus.*

### Supporting Courses Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia Area</td>
<td>12</td>
</tr>
<tr>
<td>New York Area</td>
<td>18</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>English Elective</td>
<td>3</td>
</tr>
<tr>
<td>Communications Area (Speech, Journalism, English)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and/or Science</td>
<td>12</td>
</tr>
<tr>
<td>Social Science (Anthropology, Economics, Geography, History, Political Science, Sociology)</td>
<td>12</td>
</tr>
<tr>
<td>Philosophy and/or Theology</td>
<td>9</td>
</tr>
<tr>
<td>Psychology</td>
<td>6</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Art</td>
<td>3</td>
</tr>
<tr>
<td>Music for Classroom Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Psychology of Identity and Fulfillment</td>
<td>3</td>
</tr>
<tr>
<td>Learning Resources</td>
<td>3</td>
</tr>
<tr>
<td>Eurhythmics</td>
<td>1-2</td>
</tr>
<tr>
<td>Field Observation</td>
<td>1-5</td>
</tr>
<tr>
<td>Independent Study</td>
<td>1-2</td>
</tr>
<tr>
<td>Mainstream Seminar</td>
<td>3-6</td>
</tr>
<tr>
<td>Independent Study</td>
<td>1-2</td>
</tr>
<tr>
<td>Youth and Drug Abuse</td>
<td>2</td>
</tr>
</tbody>
</table>

### Professional Education Credits

A minimum of 36 hours must be taken in this area.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology, Child Development, or Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>Reading in Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Language Arts and Social Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Other Electives Credits

*As this program has been cooperatively developed by Duquesne University and Carlow College for State approval, some or all of the professional courses in Early Childhood Education may be offered on the Carlow campus.*

### Supporting Courses Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia Area</td>
<td>12</td>
</tr>
<tr>
<td>New York Area</td>
<td>18</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>English Elective</td>
<td>3</td>
</tr>
<tr>
<td>Communications Area (Speech, Journalism, English)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and/or Science</td>
<td>12</td>
</tr>
<tr>
<td>Social Science (Anthropology, Economics, Geography, History, Political Science, Sociology)</td>
<td>12</td>
</tr>
<tr>
<td>Philosophy and/or Theology</td>
<td>9</td>
</tr>
<tr>
<td>Psychology</td>
<td>6</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Art</td>
<td>3</td>
</tr>
<tr>
<td>Music for Classroom Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Psychology of Identity and Fulfillment</td>
<td>3</td>
</tr>
<tr>
<td>Learning Resources</td>
<td>3</td>
</tr>
<tr>
<td>Eurhythmics</td>
<td>1-2</td>
</tr>
<tr>
<td>Field Observation</td>
<td>1-5</td>
</tr>
<tr>
<td>Independent Study</td>
<td>1-2</td>
</tr>
<tr>
<td>Mainstream Seminar</td>
<td>3-6</td>
</tr>
<tr>
<td>Independent Study</td>
<td>1-2</td>
</tr>
<tr>
<td>Youth and Drug Abuse</td>
<td>2</td>
</tr>
</tbody>
</table>

**No student may register for additional course work during this professional semester.**

### MUSIC EDUCATION

General and professional course work and professional education courses required for this program are outlined in the School of Music section, page 148.

### SECONDARY EDUCATION

The Secondary Education Program, in accord with the philosophy and objectives of the School of Education, offers students opportunity to qualify for:

1. The Instructional I (Provisional) Certificate to teach certain subjects in the...
secondary schools of Pennsylvania for a period of three years. Four-year programs lead to certification in biological science, chemistry, communication arts, English, general science, history, Latin, mathematics, modern languages (French, German, Spanish), physics, social studies (economics, history, geography, political science, sociology), and speech.

2. Admission to graduate programs in education

This program cannot be completed on a part-time basis. The last 30 credits attempted must be earned at Duquesne University. The minimum number of credits for graduation is 120.

### General Education

| English Area          | 15 | Communications Area (Speech, Journalism, English) | 6 | Mathematics and/or Science | 12 | Social Science (Anthropology, Economics, Geography, History, Political Science, Sociology) | 12 | Philosophy and/or Theology (Includes 3 credits in Theology required for Catholics) | 9 | Total General Education Requirements | 54 |

### Professional Education

<table>
<thead>
<tr>
<th>Mercantile Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology, Child Development, or Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>Professional Semester</td>
<td></td>
</tr>
<tr>
<td>Secondary Student Teaching</td>
<td>8</td>
</tr>
<tr>
<td>Methods in Major Field</td>
<td>2</td>
</tr>
<tr>
<td>Secondary Teaching Techniques</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td></td>
</tr>
<tr>
<td>Reading, School Law and Pupil, or Youth and Drug Abuse</td>
<td>2</td>
</tr>
<tr>
<td>Secondary Teaching Techniques (Laboratory)</td>
<td>2</td>
</tr>
</tbody>
</table>

### Subject Area Certification Requirements

A minimum of 30 credits (semester hours) is required for certification in the following disciplines: biology, chemistry, communication, English, general science, Latin, mathematics, modern languages, physics, and social studies. This is in addition to the General Education requirements.

<table>
<thead>
<tr>
<th>Major</th>
<th>Major Field Requirements</th>
<th>Supporting Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Consult with Biology Department</td>
<td>Mathematics, chemistry, and physics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Consult with Chemistry Department</td>
<td>Mathematics and physics</td>
</tr>
<tr>
<td>Communication</td>
<td>Consult with Communication Department</td>
<td></td>
</tr>
<tr>
<td>English Emphasis</td>
<td>Consult with English Department</td>
<td>Journalism, speech</td>
</tr>
<tr>
<td>Journalism Emphasis</td>
<td>Consult with Journalism Department</td>
<td>Speech, English</td>
</tr>
</tbody>
</table>

### Special Education (Mentally and Physically Handicapped)

The program, in accord with the philosophy and objectives of the School of Education, offers students opportunity to qualify for:

1. The Instructional I (Provisional) Certificate to teach special education classes in the schools of Pennsylvania for a period of three years.

2. Admission to graduate programs in education

This program cannot be completed on a part-time basis. The last 30 credits attempted must be earned at Duquesne University. The minimum number of credits for graduation is 120.

In addition to the General Education requirements (see page 134), a student must earn the following credits:

<table>
<thead>
<tr>
<th>Professional Education (Required)</th>
<th>Credits</th>
<th>Special Education (Required)</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Education</td>
<td>3</td>
<td>Field Experience PH</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
<td>Intro to Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td>Seminar in Education</td>
<td>3</td>
<td>Reading in Elementary</td>
<td></td>
</tr>
<tr>
<td>Selected one of the following:</td>
<td></td>
<td>School</td>
<td>3</td>
</tr>
<tr>
<td>Child Development</td>
<td>3</td>
<td>Music for Exceptional Children</td>
<td>3</td>
</tr>
<tr>
<td>Adolescent Development</td>
<td>3</td>
<td>Teaching the Physically Handicapped</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teaching Children with Learning and Behavior Disorders</td>
<td>3</td>
</tr>
<tr>
<td>Special Education (Required)</td>
<td></td>
<td>Psychology M/R</td>
<td>3</td>
</tr>
<tr>
<td>Select three experiences</td>
<td></td>
<td>Teaching the Severely and Moderately Handicapped</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience MR</td>
<td>2</td>
<td>Teaching the Mildly</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience LD</td>
<td>2</td>
<td>Handicapped</td>
<td></td>
</tr>
<tr>
<td>Field Experience Ed</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

**Educational Foundations and Psychology**

201 Child Development 3 cr
   Behavior and personality characteristics of children from birth to adolescence as they
   relate to school and home situations

202 Adolescent Development 3 cr
   Physical, mental, moral, emotional, and social development of the adolescent, including
   needs, interest, and adjustment problems

203, 204, 205, 206, 207 Field Experience 1 cr each
   Classroom and other school experience as an aide or observer. Enrollment with consent
   of the Director of Student Teaching or a School of Education faculty adviser, one credit
   each semester for a maximum of five semesters

301 Foundations of Education 3 cr
   Introduction to the study of the philosophical, social, and historical foundations of
   education and the relationships between the school and other institutions of society. Required
   for all types of state certification

327 Human Development 3 cr
   Growth and development of the child, with an emphasis on understanding personality
   development and problems of growing up

351 Educational Psychology 3 cr
   The genetic approach to mental development, the laws of learning and the principles of
   memory, motivation, transfer and personality development. Measurement in the school
   program will be studied, coupled with basic statistical concepts for the functional
   application of these principles

361 Psychology of Identity and Fulfillment 3 cr
   Implications of the psychology of personality for the wholesome development of personal-
   ity and for the prevention of lasting personality disturbances

478 Youth and Drug Abuse 3 cr
   Problems of drug abuse and today's youth, including drugs used, the primary toxic and
   psychological effects, historical and legal aspects. Methods of teaching drug abuse at
   various levels in the school system are covered, together with availability of literature
   and visual aids and demonstrations of drugs
305 Early Childhood Education II 3 cr
Students will examine the humanistic, behavioristic, cognitive-developmental, and psychodynamic theories of child development. In-depth study of early childhood education models—Montessori Method, Bank Street Early Education Program, Demonstration and Research Center for Early Education, Berenstain-Engleman Curriculum, etc.—will be a requirement along with participation in pre-school programs.

307 Curriculum Development I 3 cr
Focuses upon the development of creative abilities in children, age three through eight. Areas covered will include art, music, creative dramatics, and physical activities. Planning and implementing activities is required.

308 Curriculum Development II 3 cr
Focuses on fostering the young child's curiosity in the environment as reflected in the physical and social sciences. Planning and implementing activities are required.

401 Language Development and Reading 3 cr
Emphasis is placed on oral expression as a base for development of all language skills including reading. Reading readiness programs and reading programs for the primary level are examined.

403 Research Seminar 2 cr
Designed to acquaint the undergraduate student with general research methodology in child development as preparation for critical consumption of research.

405 Planning Programs for Young Children 3 cr
Emphasis is placed upon principles and techniques involved in planning and administering programs such as parent involvement, law and the young child, community relations, licensing procedures, health regulations, equipment selection, and classroom management.

490 Student Teaching in Early Childhood Education 8 cr
The student teaching experience is considered to be one of the most important single elements of the program. The prospective teacher is involved in a pre-school primary setting where he/she share the teacher role, applies and constructs theory and develops his/her own teaching style.

Elementary Education

203 Problems in Speech 3 cr
A survey of various speech and hearing disorders, and causes, recognition and possible therapy. Prerequisite: Speech 201.

320 Introduction to Art 3 cr
Designed to acquaint the student with materials, methods, and techniques used in relating arts and crafts to purposeful learning activities, with particular attention given to the needs of the mentally retarded child.

325 Reading in Elementary School 3 cr
Principles, materials, and methods of instruction in reading on the elementary school level, growth toward independent reading skills, development of techniques, appraisal, record and report of progress.

331 Teaching Elementary Language Arts and Social Studies 3 cr
The theories, techniques, practices, and content pertaining to the areas of language arts and social studies. Pre-professional laboratory experiences in a public school.

Secondary Education

362 Teaching Elementary Mathematics and Science 3 cr
The theories, techniques, practices, and content pertaining to areas of mathematics and science. Pre-professional laboratory experiences in a public school.

484 Children's Literature 3 cr
A general survey of books and other printed materials for children, criteria for the evaluation and analysis of children's books, types of books available, considered in terms of interests, needs, and abilities of children.

490 Elementary Student Teaching 9 cr
Student teaching in approved public elementary school under the direct supervision of a cooperating teacher.

493 Seminar in Elementary Teaching 3 cr
Exploration of learning styles, methods and practices of meeting individual differences in the classroom, role-playing and simulated experiences.

Special Education

309 Introduction to Exceptional Children 3 cr
Survey of the social, psychological, and physical characteristics of the various types of exceptional children and of methods for meeting their educational needs, includes field trips to schools and classes which specialize in the education of the atypical child.

374 Music for the Exceptional Child 3 cr
Singing and rhythmic movement activities are basic to the course. It also includes folk dance, listening, and instrumental (percussion instruments) experiences.

376 Teaching the Physically Handicapped 3 cr
Overview of the education of children whose mental sensory motor, language and emotional limitations and deviations are the result of a physical disability. Emphasis is placed on instructional models and techniques, curriculum content and evaluation aspects.
Teaching Children with Learning and Behavior Disorders 3 cr
Psychological effects of learning and behavioral disorders on children and youth. Attention is given to the use of psychological and educational evaluations, educational placement, and desirable teacher competencies through case studies. Consideration will be given to meeting the needs of such children in an educational setting including those referred to as learning disabled and socially and emotionally disturbed.

Psychology of the Mentally Retarded 3 cr
Study in depth of the etiology and characteristic syndromes representative of the mentally retarded. Patterns of development, nature and needs, will be considered in relationship to education and rehabilitation.

Teaching the Severely and Moderately Handicapped 3 cr
Evaluation and integration of the various theories, methodologies, curriculum content, instructional techniques, and evaluation procedures for the profoundly and trainable mentally retarded.

Teaching the Mildly Handicapped 3 cr
Evaluation and integration of the various theories, methodologies, curriculum content, instructional techniques, and evaluation procedures for the mildly handicapped.

Student Teaching—Special Education 9 cr
A full semester of supervised classroom experience at a carefully-selected school for mentally retarded pupils.

Seminar in Special Education 3 cr
Analysis of the problems of mental retardation as they relate to etiological factors, home community adjustment, personality development, and educational management. Emphasis is placed on current issues in the field and their application to the learning disorders of the mentally retarded.

School of Music

HISTORY
Duquesne University, recognizing that it was most fortunately situated to offer outstanding opportunities for professional preparation in music, in 1926 established a School of Music with a four-year course of study leading to the Bachelor of Music degree. The music education program was approved by the Pennsylvania Department of Education in 1930. In 1959 the School became an associate member of the National Association of Schools of Music and in 1966 was elected to full membership. On April 29, 1967 a new air-conditioned music building was dedicated. Van Cliburn was awarded an honorary Doctor of Music degree on this occasion.

PHILOSOPHY AND OBJECTIVES
The administration and faculty of the School of Music believe that the development of the artistic personality is entirely compatible with the highest objectives of scholars in all fields. It is felt that the best place to educate music students to take their place in society is in a situation where they have an opportunity to share their academic courses in classes with students from other schools of the University. The great advantage of a solid musical preparation and the opportunity to participate in nationally recognized organizations and in performances of professional caliber are available to all of our students.

The faculty of musical scholars and artists with whom Duquesne students work believes that fine talents are best encouraged and developed in an atmosphere that is friendly while at the same time committed to the development of excellence. The faculty, selected with care, includes the names of concert and opera soloists, members of the Casals Festival Orchestra, the Pittsburgh Symphony, nationally known composers, authors, arrangers, conductors, clinicians, and music educators. The Pittsburgh Symphony, Pittsburgh Opera, chamber music and concert series, WDUQ (the Duquesne University radio station) and the high level of interest on the part of other radio and television stations in the arts serve as unusual stimuli to the eager music student.

The Symphony Band and the Concert Band, in their many performances on and off campus, present a wide variety of standard and contemporary repertoire.

The Symphony Orchestra offers fine opportunities for the student interested in orchestral literature. Its associations with teachers who are members of the Pittsburgh Symphony is an exceptional advantage.

The School also maintains various vocal and instrumental ensembles that are receiving national recognition for the excellence of their performances.

The objectives of the School of Music are to educate teachers and performers of music who should possess a sensitive and intelligent musicianship, and who will be...
equipped, by reason of their general and professional education, to accept positions in fields of performance and/or education

ADMISSION

Students who are interested in applying for admission to the School of Music should request an application from the Office of Admissions, Duquesne University, Pittsburgh, Pennsylvania 15219. After applications have been processed, candidates will receive a notice requesting that they contact the Office of the School of Music to arrange an appointment for an audition and a theory entrance examination. Specific instructions concerning the audition will then be mailed to the applicant. A tape recording will be accepted for those living more than 150 miles from the University. However, in the event the recording is not satisfactory, a personal audition may be required. All applicants will be notified of the status of their candidacy as soon as possible.

Students planning to major in Music Education are urged to begin study of piano and theory prior to entrance.

ADVISEMENT

At initial enrollment, every student is assigned a faculty advisor who provides assistance with academic matters, especially during pre-registration periods. Guidance in professional objectives will also be provided by faculty committees established for that purpose.

SPECIAL FEES

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<tr>
<th>Service</th>
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<tr>
<td>Student Teaching</td>
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<tr>
<td>Instruction in voice or instrument as a minor, each semester</td>
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<tr>
<td>Piano Class Fee, each semester</td>
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<tr>
<td>Instrument rental for use in major study (except harp, string, bass, oboe, bassoon, tuba and percussion)</td>
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</tr>
<tr>
<td>Instrument rental for use in minor study (except harp, string, bass, tuba and percussion)</td>
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<tr>
<td>Instrument for class use</td>
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<tr>
<td>Organ practice (major or minor) each semester</td>
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SUMMER SESSION

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<tr>
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<tr>
<td>One hour a week (minor)</td>
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<tr>
<td>Instrument Rental</td>
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</tr>
<tr>
<td>Instrument for class use</td>
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<tr>
<td>Instrument for summer months</td>
<td>$15 00</td>
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<tr>
<td>Instrument for use in six-week Summer Session</td>
<td>$5 00</td>
</tr>
<tr>
<td>Organ practice for use in six-week Summer Session</td>
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</table>

SCHOOL OF MUSIC

SPECIAL STUDENTS—PRIVATE INSTRUCTION

These fees are charged to non-degree students and others taking the instruction without credit.

- One hour a week: $227 00
- One half hour a week: $113 50
- One hour a week (Summer Session): $113 50

FEES WHICH MAY BE APPLICABLE WHEN STUDENT IS TAKING FEWER THAN 12 CREDITS

- Instruction in voice or instrument as a major, each semester: $75 00
- Practice room: $15 00
- Music fee: $10 00

DEGREES

The School offers programs leading to two undergraduate degrees: The Bachelor of Music and the Bachelor of Science in Music Education. The Bachelor of Music degree may be earned with a major in piano, organ, voice, or orchestral instruments. These programs are intended for the student interested primarily in performance careers in concert, television, radio, symphony orchestra, and opera, as well as teaching careers in colleges or private studios. Two Music Education programs are offered, one in general music and the other in music therapy. The former is designed to meet certification requirements for teaching in elementary and secondary schools, while the latter leads to certification as a registered music therapist. All programs begun at the undergraduate level, except music therapy, may be continued at the graduate level.

EQUIPMENT

The School of Music has 73 pianos, including 56 Steinways. All practice rooms have Steinway uprights. There are two Moeller and one Fischer practice organs, a three-manual Moeller organ, and an electronic organ. More than 300 orchestral and band instruments are available for instrument classes, including an EMS Sound Synthesizer. Listening and recording equipment are of professional quality.

STUDENT ORGANIZATIONS

Chapters of the national music fraternity, Phi Mu Alpha Sinfonia, and the national music sorority, 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 the state, regional, and national activities of the association. There are active student chapters of the American Guild of Organists and the National Association of Music Therapists. Student Council is the organization which is designed to represent the total student body at the School of Music. In addition, it provides an excellent vehicle of communication among students, faculty, and administration.
HONOR AWARDS

The Dean's Award is presented to a senior music student for general excellence.

The Seibert Medal is presented to a senior for excellence in violin or piano.

George Barrere Memorial Scholarship: The Pittsburgh Flute Club offers a scholarship in flute in memory of George Barrere, founder of the first flute club in the United States. This $300 scholarship is awarded to a freshman or sophomore flute major.

Polish Arts League Scholarship is made annually by the Polish Arts League of Pittsburgh to an outstanding performer in the School of Music. Preference will be given to a student of Polish ancestry. Other students will not be excluded from consideration.

Pittsburgh Flute Club Award is given to an outstanding woodwind student.

Louis Rocereto Memorial Scholarship: This award of $1,000 is presented to an outstanding junior studying a woodwind instrument.

Ezio Pinza Memorial Scholarship: This award of $1,000 is presented to an outstanding vocal student, male or female, between the ages of 17 and 25 who has not yet completed an undergraduate degree.

TEACHER CERTIFICATION

All undergraduate programs have been approved by the Pennsylvania Department of Education for the issuance of the Instructional I (Provisional) Certificate. Application for the certificate must be made in the semester in which the student plans to graduate.

RECITAL ATTENDANCE

Students are required to attend 75 percent of the recitals and concerts sponsored by the School of Music. While attendance at all events is encouraged, the number need not exceed 25 a year.

THEOLOGY REQUIREMENT

One, three-credit course in theology is required of every Roman Catholic student.

PROGRAMS

Students' interests are served and their abilities furthered through their selection from among six different programs, four in applied music and two in music education.

BACHELOR OF MUSIC—MAJOR IN PIANO

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<th>Dept</th>
<th>Cat No</th>
<th>Title</th>
<th>Credits</th>
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<tr>
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<td>Mus</td>
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<td>1</td>
</tr>
<tr>
<td>Mus</td>
<td>131,132</td>
<td>Theory</td>
<td>2</td>
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<tr>
<td>Mus</td>
<td>133,134</td>
<td>Solfeggio</td>
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SCHOOL OF MUSIC

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<tr>
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<td>Ensemble Chorus</td>
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</tr>
<tr>
<td>Mus</td>
<td>121,122</td>
<td>Physical Education (Eurhythmics)</td>
<td>2</td>
</tr>
<tr>
<td>Eng</td>
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<td>English Composition</td>
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Sophomore Year

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<td>233,234</td>
<td>Solfeggio</td>
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</tr>
<tr>
<td>Mus</td>
<td>243,244</td>
<td>Ensemble Chorus</td>
<td>1</td>
</tr>
<tr>
<td>Mus</td>
<td>251,252</td>
<td>Music and Western Civilization</td>
<td>3</td>
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<tr>
<td>Mus</td>
<td>241,242</td>
<td>Chamber Music</td>
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Junior Year

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<td>Mus</td>
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<td>Music and Western Civilization</td>
<td>3</td>
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<tr>
<td>Mus</td>
<td>343,344</td>
<td>Ensemble Chorus</td>
<td>1</td>
</tr>
<tr>
<td>Mus</td>
<td>347,348</td>
<td>Small Ensemble</td>
<td>(1)</td>
</tr>
<tr>
<td>Mus</td>
<td>335,336</td>
<td>Counterpoint</td>
<td>2</td>
</tr>
<tr>
<td>Mus</td>
<td>341,342</td>
<td>Chamber Music</td>
<td>2</td>
</tr>
<tr>
<td>Mus</td>
<td>191</td>
<td>Human Physiology</td>
<td>3</td>
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<tr>
<td>Mus</td>
<td>253</td>
<td>Visual Arts or Academic Elective</td>
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Senior Year

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<td>313,314</td>
<td>Piano Methods</td>
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<td>Mus</td>
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<td>Orchestration</td>
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Includes performance classes required by the piano department.

BACHELOR OF MUSIC—MAJOR IN ORGAN

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<th>Title</th>
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<td>Mus</td>
<td>133,134</td>
<td>Solfeggio</td>
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<td>Mus</td>
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<td>Ensemble Chorus</td>
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<tr>
<td>Mus</td>
<td>121,122</td>
<td>Physical Education (Eurhythmics)</td>
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<tr>
<td>Eng</td>
<td>101,102</td>
<td>English Composition</td>
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</table>

Includes performance classes required by the piano department.

If 313, 314 Piano Methods is offered in the student's junior year, it should be taken, and counterpoint should be taken in the senior year.

Freshman Year

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<td>Applied Music Minor (Piano)</td>
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<td>Theory</td>
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<td>Mus</td>
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<td>Physical Education (Eurhythmics)</td>
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**Sophomore Year**

<table>
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<th>Course Title</th>
<th>Fall</th>
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<tbody>
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<td>Mus 1</td>
<td>203,204 Applied Music (Organ)</td>
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<tr>
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<td>211,212 Applied Music Minor (Piano)</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Mus 2</td>
<td>231,232 Theory</td>
<td>2</td>
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<tr>
<td>Mus</td>
<td>233,234 Solfeggio</td>
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<td>185,186 Voice Class</td>
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<td>Mus</td>
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**Junior Year**

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<th>Spring</th>
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<tbody>
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<td>303,304 Applied Music (Organ)</td>
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<tr>
<td>Mus</td>
<td>351,352 Music and Western Civilization</td>
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<tr>
<td>Mus</td>
<td>343,344 Ensemble Chorus or</td>
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<td></td>
<td>347,348 Small Ensemble (1)</td>
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<tr>
<td>Mus</td>
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**Senior Year**

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<td></td>
<td>447,448 Small Ensemble (1)</td>
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\(^1\)Includes performance classes required by the organ department.

\(^2\)If 452 Organ Literature is offered in the student's junior year it should be taken, and counterpoint should be taken in the senior year.

**BACHELOR OF MUSIC—MAJOR IN ORCHESTRAL INSTRUMENT**

### Freshman Year

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### Junior Year

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### Senior Year

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\(^1\)Includes performance classes required by the voice department.
BACHELOR OF SCIENCE IN MUSIC EDUCATION

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Sophomore Year

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Junior Year

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Senior Year

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BACHELOR OF SCIENCE IN MUSIC EDUCATION—MAJOR IN MUSIC THERAPY

Freshman Year

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Sophomore Year

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See footnotes following Music Therapy Curriculum.
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<td>Mus 101</td>
<td>Survey of Sociology</td>
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#### Sophomore Year

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### SCHOOL OF MUSIC

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</table>

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1Includes performance classes required by individual departments
2Piano Majors in Music Education select another instrument or voice for their Applied Music Minor. They also continue with the Applied Music Minor 211 (Organ Majors are required to select piano as their secondary instrument).
3For Orchestral Instrument and Voice Majors only
4For Piano and Organ Majors only
5Electives in psychology, sociology and special education will be selected following consultation with advisor
6Take either series A or B

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### COURSE DESCRIPTIONS

#### Applied Music

**101, 102, 201, 202, 301, 302, 401, 402 Applied Music Major for the Bachelor of Science in Music Education**  
2 cr each  
The study of voice, piano, organ, string, wind, or percussion instruments throughout all semesters. The university reserves the right to give equivalent instruction by way of private and class lessons should it seem to the students' advantage to do so.

**103, 104, 109, 110, 203, 204, 303, 304, 403, 404 Applied Music Major for the Bachelor of Music**  
Var cr  
Private study of voice, piano, organ, string, wind, or percussion instruments throughout all semesters. Credits are distributed according to departmental curricula. 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.

**111, 112, 211, 212, 311, 312, 411, 412 Applied Music Minor for all Bachelor Degrees**  
1 cr each  
All students must choose an applied music minor upon entrance. Those students who do not elect piano as a major must study it as a secondary instrument. Students not majoring in piano must satisfy the following piano requirements before graduation: (a) construct and play with facility major and minor scales and cadences in all keys, (b) read simple four-part music, (c) play a simple Clementi Sonata and excerpts from Schumann's "Album for the Young," or their equivalent. A student majoring in piano or organ will select an applied music minor with the guidance of his advisor.
Students who fail to meet the minimum requirements in the time allotted for their particular degree must continue study until the requirements have been fulfilled.

**Transfer of Applied Music Credit**
Transfer credit in the undergraduate Applied Music program can be granted only after the student's proficiency has been evaluated by a faculty panel in the student's area of specialization.

**Changing Assigned Applied Music Teacher**
Changes in assigned teachers can become effective only at the beginning of a new semester and cannot be accomplished while a semester is in progress. The student must discuss the feasibility of a proposed change with the appropriate department chairman.

### BACHELOR OF MUSIC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Scales and arpeggios in all keys, Kovar scales, five note studies and interval studies, selected studies and Weissenborn and Milde, solos by Weissenborn, Foret and Mozart</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Continue scales and arpeggios, Kovar technical studies, Oubradous, Scales and Daily Drills, Milde, Concert Studies, Handel, Sonata in C minor, solos by Bozza and Vidal</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Oubradous, Scales and Daily Drills, Milde, Concert Studies, Orefice, Bravura Studies, selected passages from the Bach Cantatas, Mozart Concerto in B flat, Beethoven, Qnietet, representative contemporary solos, orchestral studies</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Gambare, Etudes for Bassoon, Bozza, Fifteen Daily Studies, Sonatas by Hindemith and Saint-Saens, orchestral and chamber music studies, Bozza, Concertino, the contra bassoon</td>
</tr>
</tbody>
</table>

### CLARINET

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Scales and arpeggios in various articulations, Langenus, Scale Studies, Rose, Forty Studies, Cavallini, Thirty Caprices, Weber, Fantasy, Le Fèvre, Fantasie Caprice</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Scales and arpeggios continued, Rose, Twenty Studies after Rode, Jeanjean, Twenty-five Etudes, Weber Concertos, Mozart, Quintet for Clarinet and Strings, orchestral studies</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Scales and arpeggios continued, Jeanjean, Eighteen Etudes, Labanchi Studies, Brahms sonatas and Quintet for Clarinet and Strings, representative contemporary solos, orchestral studies</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Jeanjean, Sixteen Modern Studies, Perrier, Vingt-deux Etudes Modernes, Spohr Concerto, Debussy, Premier Rhapsodie, representative contemporary solos and sonatas</td>
</tr>
</tbody>
</table>

### DOUBLE BASS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Scales and intervals in all keys Simandl, Thirty Caprices Selected pieces Orchestral studies</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Hrabe, Eighty-six Etudes Short pieces by Koussevitsky and Bottesini, Orchestral studies</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Nanny, Etudes de Kreutzer et de Fiorillo, concertos by Koussevitsky, Dittersdory and Bottesini, Orchestral studies</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Nanny Dix Etudes Caprices, Storch, Twenty Concert Etudes, concertos by Koussevitsky and Dragonetti, Orchestral studies</td>
</tr>
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### FLUTE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Taffanel-Gaubert, Scales, scales in thirds and sixths, chromatic scales, arpeggios and trills, Anderson, Etudes Op 21, Hughes, 40 New Studies, Moyse, De la Sonorite, The Modern Gradus ad Parnassum, Selected duets by Kuhlau, Koechnin and River, concertos by Haydn and Mozart, sonatas by LeClair, J S Bach and W F Bach, solos by Faure, Debussy, and Gaubert</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Continue scale study, Taffanel-Gaubert, Progressives Studies, Barrere, The Flutists Formule, Anderson, Etudes Op 30, Altes-Barrere, 26 Selected Studies, Moyse, Etudes et Exercices Techniques, Torchio-Wummer, Orchestral Studies, Bach, b minor Suite, Sonatas and arias from the religious works, Arrieu, Sonata, Gaubert, Sonata No 2, Telemann, Sute in a minor, Solos by Hue, Enesco, Grifles, Gaubert, and Varese</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Taffanel-Gaubert, Scales, the half note equals MM 120, scales in thirds, sixths, octaves and tenths, Moyse, De la Sonorite, Mechanism and Chromatics, Anderson, Etudes Artistiques Op 15, including the memorization of certain selected studies, Anderson Op 63, Jeanjean, Etudes Modernes, Orchestral Studies, Bach, Sonata in A minor for unaccompanied flute, sonatas by Hindemith, Reneecke, Concerto by Ibert, works by representative contemporary composers</td>
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### GUITAR

Information and course content in preparation.

### HARPSICHORD

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Larriviere Exercises and technical studies, Standard orchestra parts, Bochsa, Etudes opus</td>
</tr>
</tbody>
</table>
DUQUESNE UNIVERSITY

318, Book II  Pieces grade of difficulty of  Grandjany, Aria in Classic Style, Tournier, Images (Suite 1), Saint-Saens, Fantasie

203, 204
Technical studies  Bochsa Etudes, opus 62  Standard orchestra cadenzas  Pieces grade of difficulty of  Tournier, Feene, Rousseau, Variations Pastorales, Grandjany, Fantasie on a Theme of Haydn

303, 304
Technical studies  Orchestra parts  Bochsa Etudes, opus 34  Pieces grade of difficulty of  Hindemith, Sonata, Handel, Concerto in Bb major, Ravel, Introduction and Allegro

403, 404
Technical studies  Pieces grade of difficulty of  Faure Impromptu, C P E Bach, Sonata, Salzedo, Scintillation, Debussy, Danses Sacre et Profane

HORN

103, 104
Scales and arpeggios in all keys, review of fundamentals of tone production, Alphonse, Deux Cents Etudes Nouvelles, Gallay  Thirty Studies, review of muting and trill technique, Dubois Cavatine, Franz Straass, Concerto

203, 204
Alphonse, Deux Cents Etudes Nouvelles, Kopprasch Studies, Strauss, Seventeen Concert Studies, Chabrier, Larghetto, Mozart, concertos, orchestral studies

303, 304
Alphonse, Deux Cents Etudes, Nouvelles, Kopprasch Studies, Gallay, Twelve Caprices, Beethoven Sonata, Mozart, Concert Rondo, orchestral studies

403, 404
Alphonse, Deux Cents Etudes Nouvelles, Studies by Kopprasch and Gallay, R Strauss, Concerto, Saint-Saens, Morceau de concert, Schumann, Adagio and Allegro, Dukas, Villanelle, orchestral studies

OBOE

103, 104
Review of basic technique, Barret Studies, Andraud, Vade Mecum, scales and arpeggios in all keys, Telemann, Sonata in A minor, solos by Schumann, Handel and Bach

203, 204
Continue scales and arpeggios including scales in thirds and measured trills, Barret, Grand Etudes and Duets, Andraud, Vade Mecum, Bleuzet, selected studies from Technique of the Oboe, Handel sonatas, Marcello Concerto

303, 304
Continue scales and arpeggios, Bleuzet, selected studies for range and endurance, orchestral studies, Cimarosa, Concerto, Paris Conservatory solos, representative contemporary compositions

403, 404
Bleuzet, Technique of the Oboe, scales in all articulations, scales in groups of five and seven, scales by interval, arpeggios and broken arpeggios, orchestral studies including the works of J S Bach, sonatas by Telemann and Hindemith, solos by Busser, Jolivet,

SCHOOL GF MUSIC

River, Mozart Concerto, Symphonie Concertante and Quartet, Concerto by Goosens, contemporary solos

ORGAN

103, 104
Glaseon, Method of Organ Playing, Stanley, Voluntaries, Franck, L'Organiste, Vierne, 24 Pieces, Dupre, Chorale Preludes, Pachelbel, Fugues on the Magnificat  Selected compositions by Gabrieli, Frescobaldi, Buxtehude, Bruhns, Bohn and Couperin, Bach, Orgelbuchlein selections, Eight Short Preludes and Fugues, Little Fugue in G minor and Cathedral Prelude and Fugue  Hymn playing, transposition, modulations to closely related keys, counterpoint

203, 204
Brahms, Chorale Preludes, Mendelssohn, Schumann, Hindemith, Sonatas, Jenkins, Six Pieces, Dupre, Antiphons, Messiaen, Le Banquet Celeste or Ascension Suite, movements 1 or 4, Langlais, Franck, Cantabile or Prelude, Fugue and Variation, Schroeder or Pepping, Vierne, Pieces de Fantasie, Bach, Orgelbuchlein, Trio Sonata, Concerts, Prelude and Fugue in G Major, D minor, C minor, F minor, Schubler Chorales  Hymn playing, keyboard harmony, modulations to all keys, counterpoint

303, 304
D'Aquin, Clerambault, deGrigny, Handel, Concerts, Franck, Fantasies, Piece Honeque Soverby and contemporary American selections, Mozart, Sehnck, Bach, 18 Great Chorales, Toccata, Adagio and Fugue, Prelude and Fugue in A minor, D major, Orgelbuchlein  Hymn playing, free harmonizations, keyboard harmony and counterpoint, anthem accompaniment

403, 404
Franck, Chorales, Messiaen, Nativity, Liest, Dupre, Preludes and Fugues, Durufle, Langlais, Vierne and Widor, Symphonies, Alain, Tournemire, selected works by contemporary composers  Bach, Passacaglia and Fugue, Prelude and Fugue in B minor, E minor, G minor  Claverenburg, Part III  Conducting from the console, accompaniment of larger choral works, improvisation

PERCUSSION

103, 104
Fundamental snare drum technique and its application to musical notation, exercises in rhythm phrasing, control  Elements of tympani technique, their application to classical literature, tuning  Rudimentary xylophone technique  scales, arpeggios, forms

203, 204
Advanced snare drum studies, repertoire  Three and four tympan exercises, orchestral literature  Intermediate xylophone studies, transcriptions for solo

303, 304
Tympani study through romantic and contemporary literature  Advanced xylophone exercises, transcriptions  Latin American instrumental techniques, use of special accessories in late 19th and 20th century literature  Repertoire in all instruments

403, 404
Examination of representative solo material for all percussion instruments, preparation of solo for recital
PIANO

103, 104 4 cr each
Bach, Three Part Inventions Haydn and Mozart selected sonatas Beethoven, Op 10 and Op 14, Chopin waltzes, marzarkas nocturnes, selections from modern repertoire
All major and minor scales in different rhythms and tempi, dominant and diminished seventh arpeggios

203, 204 4 cr each
Scarlett: selected sonatas, Bach, selections from Well-Tempered Clavier, Beethoven, Op 22, Op 31, Chopin, preludes, impromptus, and nocturnes, Brahms, rhapsodies, selections from contemporary repertoire
Continue scales and arpeggios

303, 304 4 cr each
Bach, Suites, Partitas, Well-Tempered Clavier, Beethoven, sonatas of the difficulty of Op 10 No 3, Chopin, Scherzi, Ballades, and Etudes, Schumann, Fantasestucke, Debussy, Preludes, Selections from contemporary piano literature
Continue scales and arpeggios

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

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

403, 404 5 cr each
Bach, Suites, Partitas, Toccata, Well-Tempered Clavier, Beethoven sonatas from middle and late periods, more extensive compositions from the Romantic Period, Ravel, Jeux d'eau, at least one work selected from the standard concerto literature

SAXOPHONE

103, 104 3 cr each
Mule, Scales and Arpeggios, Small, 27 Melodious and Rhythmic Exercises, Labanchiulli, 33 Concert Etudes Vol I, Concertino by Mullhaud

203, 204 4 cr each
Mule, Scales and Arpeggios Vol II, Lamos, 18 Studies for Saxophone, Salvaniulli, Exercises in All the Practical Keys, Guillon, Sontaine, Glazounov, Concerto

303, 304 4 cr each
Mule, Scales and Arpeggios Vol III, Left, 24 Etudes, Capella, 20 Grand Etudes, Bozza, 12 Etudes Bozza Concertino, Ibert, Concertino

403, 404 5 cr each
Rascher, Top Tones and Four Octave Studies, Mule, 53 Studies, Lovon, Thirty-two Studies Moritz Concerto, Contemporary solos, orchestral studies

TROMBONE AND BARITONE HORN

103, 104 3 cr each

203, 204 4 cr each
Scales and arpeggios in all keys, review of tone production, Rochut, Melodious Studies Vol I, Blume Studies Vol I, selected solos

303, 304 4 cr each
Rochut, Melodious Studies Vol III, Blume Studies Vol III, selected solos, orchestral and band studies

403, 404 5 cr each
Grigoriev Tuba Studies Bernard Etudes and Exercises for Tuba transcriptions of horn and violoncello literature, solos by Cimera, Barat, Schroen, orchestral literature
VIOLIN
103, 104 3 cr each
Scales and arpeggios in three octaves, two octaves in thirds, sixths, octaves, and tenths, Rode, Caprices, Wieniawski, Caprices, Mozart, Concerto No 4, Vieux-temps, Fantaisie Appassionato
203, 204 4 cr each
Scales and arpeggios continued, Donte, Twenty-four Etudes, Mozart, Concerto No 5, Wieniawski, Concerto No 2, Bach, Sonatas for violin and clavier
303, 304 4 cr each
Continue scales and arpeggios, add all possible four octave scales, Gavines, Twenty-four Matinées, Bruch, Concerto in D minor No 2, Lalo, Symphonie Espagnole, sonatas by Beethoven and Brahms
403, 404 5 cr each
Wieniawski, Ecole Moderne, Paganini, Caprices, Bach, solo sonatas and partitas, concertos by Beethoven, Brahms, Ernst, Elgar, and Prokofiev

VIOLA
103, 104 3 cr each
Scales and arpeggios in three octaves, selected scales in thirds, sixths and octaves, Flesch, Scale Studies, Sevcik, Studies (Lifshey), Campagnoli, Forty-One Caprices, Fuchs, Twelve Caprices, Enesco, Concert Piece
203, 204 4 cr each
All major and minor scales and arpeggios, scales in octaves, thirds, sixths, and tenths, Selected studies from Rode, Caprices, Hermann, Six Concert Studies Op 18, Concertos by C P E Bach, and Hoffmeister, Vaughan-Williams, Suite, Sonata by Milhaud, parts from orchestral and chamber music literature
303, 304 4 cr each
Continue scales and arpeggios, Selections from Rode, Caprices and Gavines, Twenty-four Matinées, Sonatas by Brahms and Creston, Viola parts from orchestral and chamber music literature
403, 404 5 cr each
Selected Studies from Paganini, Caprices, Reger, Three Suites, Bach, unaccompanied violin or violoncello works transcribed for viola, Bloch, Suite for Viola, concertos by Bartok, Walton, Porter

VIOLONCELLO
103, 104 3 cr each
Scales and arpeggios in three octaves with varied bowings, Duport Studies, Franck, Sonatas of Veracini, Locatelli, and Boccherini
203, 204 4 cr each
Scales and arpeggios in four octaves with varied bowings, scales in thirds, sixths and octaves, chromatic scales, and seventh chords, Franck, Sonatas of Duport, Etudes Concertos by Remberg, Popper and Saint-Saëns, sonatas by Boccherini and Haydn, Orchestral studies Contemporary works
303, 304 4 cr each
Continue scales, Etudes by Servas and Piatti, Concertos by Davidoff, Dohnanyi, Lalo,

BACHELOR OF SCIENCE IN MUSIC EDUCATION

BASSOON
101, 102 2 cr each
All scales and arpeggios, Wessenborn Op 8 Vol 1, Milde Studies, Galhard, 6 Sonatas for Bassoon
201, 202  2 cr each
Continue scales and arpeggios with various articulations. Wessenborn Op 8 Vol II, continue Milde Studies, Kovar Studies, Weinberger Sonatine

301, 302  2 cr each
Milde, Studies in All Keys Jancourt Grand Method Book II Kavor Studies, solos by Marcello and Cools, orchestral studies

401, 402  2 cr each
Selected studies from Milde, Concert Studies Vol I, Telemann, Sonata, orchestral studies

CLARINET

101, 102  2 cr each
Scales and arpeggios, Klose Celebrated Method for Clarinet Part II, Baerman Method Book II, selected solos

201, 202  2 cr each
Continue scales and arpeggios in various articulations, continue Klose Method, Rose, 32 Studies for Clarinet, Vosman, Duets, selected solos

301, 302  2 cr each
Langenus, Scale Studies, continue Rose 32 Studies, Klose, 20 Characteristic Studies, Weber, Fantasy and Rondo orchestral and band studies

401, 402  2 cr each
Continue Langenus, Scale Studies, Rose, 42 Studies Polatchak, 12 Etudes for Clarinet, Mozart Concerto in A, solos by Jeanjean, contemporary solos, orchestral studies

DOUBLE BASS

101, 102  2 cr each
All positions up to thumb position, scales and intervals in all keys Simandl New Method for the Double Bass

201, 202  2 cr each
Scales continued including thumb positions Simandl Method continued, selected pieces

301, 302  2 cr each
Scales and intervals continued Simandl Method completed, Simandl, Thirty Etudes, selected pieces, violoncello sonatas by Marcello and others, orchestral studies

401, 402  2 cr each
Simandl, Thirty Etudes, selected studies from Hrable, Eighty-six Etudes, pieces by Koussevitsky and others, orchestral studies

FLUTE

101, 102  2 cr each
Kohler Etudes Book I Terschak Studies, Drouet, 25 Celebrated Etudes, scales and arpeggios in all keys, selected solos Sonata by Marcello, Handel, and Blavet

201, 202  2 cr each
Continue scales and arpeggios, Drouet 25 Celebrated Etudes, Anderson Etudes Op 47 selected solos from 19th century composers, Sonatas of Baroque composers

GUITAR

Information and course content in preparation

HARP

101, 102  2 cr each
Lariviere Exercises and technical studies Standard orchestra parts Bochsa Etudes opus 318, Book II Pieces grade of difficulty of Grandjany, Aria in Classic style, Tournier, Images (Suite I), Saint-Saens, Fantasie

201, 202  2 cr each
Technical studies Bochsa Etudes, opus 62 Standard orchestra cadenzas Pieces grade of difficulty of Tournier, Feerie, Rousseau, Variations Pastorales, Grandjany, Fantasie on a Theme of Haydn

301, 302  2 cr each
Technical studies Orchestra parts Bochsa Etudes, Opus 34 Pieces grade of difficulty of Hindemith, Sonata, Handel, Con certo in Bb major, Ravel, Introduction and Allegro

401, 402  2 cr each
Technical studies Pieces grade of difficulty of Faure, Impromptu, C P E Bach, Sonata, Salzedo, Scintillation, Debussy, Danses Sacre et Profane

HORN

101, 102  2 cr each
Fundamentals of tone production, scales and arpeggios in various articulations, chromatic scales, ability to read in at least two clefs, Mozart, Concerto No 3, selected melodic material

201, 202  2 cr each
Extend range of all scales and arpeggios, diminished seventh chords, muting and preparatory trill studies, ability to read in three or four clefs, Alphonse, Deux Cents Etudes Novelles Book II, selected solos, orchestral studies

301, 302  2 cr each
Continue scales, arpeggios and other drills, Alphonse, Deux Cents Etudes Novelles Book III, selected studies from Kopprasch 60 Studies Book I, R Strauss Concerto, orchestral studies

401, 402  2 cr each
Continue scales, arpeggios and technical drills, Kopprasch, 60 Studies, Gallay, 30 Studies, solos by Mozart Godard, Corelli, representative contemporary solos, orchestral studies
OBOE

101, 102
Review of previous work by student and corrective exercises as necessary, scales and arpeggios, Barret, Exercises in Articulation and Progressive Melodies, selected solos

2 cr each

201, 202
Scales and arpeggios in all keys, continue Barret, selected studies from Bleuzet, Technique of the Oboe Vol I, solos by Handel and Schumann

2 cr each

301, 302
Barret, Progressive Exercises, Bleuzet, Technique of the Oboe Vol II, continue scales and arpeggios in various articulations, Handel sonatas, orchestral studies, contemporary solos, reed making

2 cr each

401, 402
Barret, Etudes, selected etudes by Ferling, continue scales and arpeggios, solos by Bach and Handel, contemporary solos

2 cr each

ORGAN

101, 102

2 cr each

201, 202
Brahms, Chorale Preludes, Mendelssohn, Schumann, Hindemith, Sonatas, Jenkins, Six Pieces, Dupre, Antiphons, Messeae, Le Banquet Celeste or Ascension Suite, movements 1 or 4, Langlaus, Franck, Cantable or Prelude, Fugue and Variation, Schroeder or Pepping, Vierne, Pieces de Fantaisie, Bach, Orgelbuchlein, Trio Sonatas, Concerti Prelude and Fugue in G Major, D minor, C minor, F minor, Schubler Chorales Hymn playing, keyboard harmony, modulations to all keys, counterpoint

2 cr each

301, 302
D’Aquain, Clerambault, deGrigny, Handel, Concerti, Franck, Fantaisies, Piece Heroique Sowerby and contemporary American selections, Mozart, Sweelhnick, Bach, 18 Great Chorales, Toccata, Adagio and Fugue, Prelude and Fugue in A minor, D major, Orgelbuchlein Hymn playing, free harmonizations, keyboard harmony and counterpoint, anthem accompaniment

2 cr each

401, 402
Franck, Chorales, Messeae, Nativity, Lysz, Dupre, Preludes and Fugues, Durufle, Langlaus, Vierne and Widor, Symphonies, Alain, Tournemire, selected works by contemporary composers Bach, Passacaglia and Fugue, Prelude and Fugue in B minor, E minor, G minor Clavurthubung, Part III Conducting from the console, accompaniment of larger choral works, improvisation

2 cr each

431, 432 Improvisation

A practical application of the basic tools of improvisation including harmonization of melodies at the organ, two and three part counterpoint, short ABA forms and chorale preludes with emphasis on their liturgical application

1 cr each

PERCUSSION

101, 102
Rudimentary snare drum technique, analysis of existing methods Elementary tympani technique, uses of tympani in classical literature, tuning

2 cr each

201, 202
Intermediate snare drum studies, elementary xylophone technique Intermediate tympani studies, orchestral literature Beethoven to Wagner Performance techniques of most commonly used equipment

2 cr each

301, 302
Use of tympani and percussion in late 19th and 20th century literature Orchestral studies in all instruments Examination of percussion ensemble materials, group instruction methods Selection and care of instruments for professional and school use Extension of mallet study

2 cr each

401, 402
Deployment of instruments in band and orchestra settings, conducting the percussion ensemble Review of teaching methods in basic techniques, the role of the percussion clinician Problems in writing and scoring for percussion, discussion of available materials and sources for solo performance

2 cr each

PIANO

101, 102
Bach, two part inventions, short preludes and fugues, easier sonatas of Haydn and Mozart, Beethoven Rondo in G, easier nocturnes and mazurkas of Chopin Major scales M M quarter note equals 96, diminished seventh arpeggios M M quarter note equals 88 All scales and arpeggios in triplet and quadruplet rhythms

2 cr each

201, 202
Bach two and three part inventions, sonatas of Haydn and Mozart, easier sonatas of Beethoven nocturnes and waltzes of Chopin Schumann Op 15, Scales Major and Minor M M quarter note equals 104 Dominant and diminished seventh arpeggios M M quarter note equals 96

2 cr each

301, 302
Bach, selected preludes and fugues from Well-Tempered Clavier, Beethoven, Op 10 No 2 Op 27, Chopin, preludes and nocturnes, selections from contemporary repertoire Continuation of major and minor scales, dominant, diminished seventh and traid arpeggios

2 cr each

401, 402
Bach, French Suites, selected preludes and fugues, Beethoven Op 2 No 2 and 3, Op 28 Op 31 preludes and Impromptus of Chopin, Brahms, Intermezzi, selections from contemporary repertoire Scales and arpeggios continued

2 cr each

SAXOPHONE

101, 102
All major and minor scales and arpeggios Universal Method for Saxophone or equivalent material, Basso-lasili, Concert Etudes, selected solos

2 cr each

201, 202
Continue scales and arpeggios with various articulations, Basso-lasili, Concert Etudes, selected solos

2 cr each
TROMBONE AND BARITONE HORN

101, 102 2 cr each
Studies and exercises in tone production and flexibility by Shnider, Arban, Method for Trombone, major and minor scales through two octaves, selected solos

201, 202 2 cr each
All scales and arpeggios, continue drills and Arban Method for Trombone, selected studies from Cimera, 170 Etudes, Study of single, double and triple tonguing, Pryor solos and other selected materials, band and orchestral studies

301, 302 2 cr each
Continue technical exercises, Stacey, Lip Flexibility, Rochut, Melodious Etudes Book I-II, Blume, Studies Book I, La Fosse, Sight Reading Studies, study of tenor clef, Crece-Spinelli Solo de Concours, Alary, Contest Pieces, Morel, Piece in F minor

401, 402 2 cr each
Continue technical exercises, Stacey, Lip Flexibility, Kopprasch Book I-II, Rochut, Melodious Etudes Book III, Blazhevich, Clef Studies, study of bass trombone, Guilbert, Morceau Symphonique, Cimera Valse Petite, Roparly Andante and Allegro

TRUMPET

101, 102 2 cr each
All scales and arpeggios, Schlossberg, Daily Drills Arban, Complete Method for Trumpet, selected short pieces

201, 202 2 cr each
All major and minor scales and arpeggios, Schlossberg Daily Drills, Arban, Complete Method for Trumpet, Kreutzer, Ten Studies, Concerto by Grofe, selected solos, band and orchestral studies

301, 302 2 cr each
Continue scales and arpeggios in various articulations, Schlossberg, Daily Drills, Concone, Fifty Lessons Brandt Etudes for Trumpet Bernstein, Rondo for Liley, Two Pieces for Trumpet by Karzov

401, 402 2 cr each
Continue Schlossberg and Concone, Laurent, Etudes Pratiques Book Land II, Hering, 32 Etudes, Clarke solos, Mouquet, Legende Herosque, Balby, Petite Piece Concertante

TUBA

101, 102 2 cr each
All scales and arpeggios, Arban Method for Trombone and Baritone, selected solo material

SCHOOL OF MUSIC

201, 202 2 cr each
All scales and arpeggios with various articulations, continue Arban, Bell, Foundations of Tuba and Sousaphone Playing, selected solos

301, 302 2 cr each
Continue scales and arpeggios, chromatic scales, Bell, Foundations of Tuba and Sousaphone Playing, Vandercrook, Etudes, Rochut, Melodious Etudes Book I, Blume Studies Book I, Tyrrell, Advanced Studies for the Bb flat Tuba, selected solos, band and orchestra studies

401, 402 2 cr each
Rochut, Melodious Etudes Book II, Blume Studies Book II, Blazhevich, Etudes for the Bb flat Bass, band and orchestra studies

VIOLIN

101, 102 2 cr each
Scales and arpeggios in three octaves, octaves, thirds and sixths separate bows, Kreutzer 42 Etudes selected studies by Sevcik, sonatas by Corelli, Nardini, concertos by Viotti and Kreutzer, DeBeriot, Scene de Ballet

201, 202 2 cr each
Scales and arpeggios continued, Mazas Op 36, Sevcik continued, Sonatas by Handel, Tartini and VDMA, DeBeriot, Concerto No 9, Viotti, Concerto No 22

301, 302 2 cr each
Scales and arpeggios continued, scales in thirds, sixths, octaves and tenths, Rode, 24 Caprices, Mozart sonatas for violin and piano, Mozart, Concerto in G, selected compositions by Kreisler, representative contemporary solos, selected movements of standard concertos

401, 402 2 cr each
Scales and arpeggios continued, Rode, 24 Caprices, Fiorilol 36 Etudes, Greg, Sonata in F, Mozart, Concerto in D, Bruch, Concerto in G minor, selected movements of standard concertos, representative contemporary solos

VIOLA

101, 102 2 cr each
Scales and arpeggios in three octaves, Sevcik Studies (Lischesky), Hermann, Technical Studies, Telemann, Concerto in G, Klenig, Album of Classical Pieces

201, 202 2 cr each
Continue scales and Sevcik Studies, selected studies from Kreutzer, 42 Etudes, Stamitz, Concerto in D, Bruch, Romance

301, 302 2 cr each
Continue scales and arpeggios, scales in thirds, sixths and octaves, Palachko, 24 Etudes, Fiorilol, selected studies from 36 Etudes, Bach, three viola de gamba sonatas adapted for viola

401, 402 2 cr each
Scales and arpeggios continued, selected studies from Campagnoli, 41 Caprices, Concerto in B minor by Handel-Casadesus, Hindemith, Music of Mourning, selected contemporary solos, viola parts from orchestral and chamber music literature
VIOLONCELLO

101, 102  2 cr each
Scales and arpeggios in three octaves, Franchomme, 12 Studies, sonatas by Handel, Corelli, Concertos by Goltermann and Romberg

201, 202  2 cr each
Scales and arpeggios continued, Duport Études, Galeotti, Sonata No. 2, Marass Suite, Romberg Concerto in D minor

301, 302  2 cr each
Scales and arpeggios continued, Duport Études, Gratrmacher Études, Sonatas by Grazioli, Sammartini, Goltermann Concerto No. 1

401, 402  2 cr each
Scales and arpeggios as before but including thirds, sixths and octaves. Duport Études, selected studies from Franchomme, 12 Caprices, Concorato No. 2, Romberg, Sonatas by Nardini and Sammartini, orchestral studies

VOICE

101, 102  2 cr each
Fundamentals of tone production, vocalises and songs to suit the needs of the student. Songs will be chosen from the repertory of easier materials in English and Italian

201, 202  2 cr each
Exercises to develop flexibility, range and power, early Italian art songs by Bononcini, Pergolesi, Caccini, contemporary songs in English

301, 302  2 cr each
More advanced technical study. Italian art songs of Scarlatti and Caldara, representative examples of easier German lieder and moderately difficult contemporary song literature

401, 402  2 cr each
Advanced technical exercises to fit the student's need. Less difficult arias chosen from the standard operatic and oratorio literature, representative songs in French, English and Italian with emphasis on contemporary materials in English

Conducting

379 Conducting  2 cr
This course provides a study of the fundamentals of conducting as a performing skill, teaching technique, and as an interpretive art. Use of the baton, choral and instrumental rehearsal techniques, and score reading. Two hours a week

Ensemble

Required for all students as laboratory work during each semester of full-time enrollment. At least four semesters (usually the first four) must be spent in one of the major ensembles—Orchestra, Band, Concert Choir—after which a student may, with the request or approval of the conductor, take one of the smaller ensembles for credit applicable toward the total ensemble requirement. Students must indicate the specific ensemble for which they are enrolling on forms completed during registration.

143, 144, 243, 244, 343, 344, 443, 444, 445, 446 Ensemble  1 cr each
Bachelor of Science in Music Education
Voice, Piano, and Organ Majors will participate in a choral ensemble for each semester of enrollment. Instrumental Majors will participate in band, orchestra and/or other instrumental ensemble for each semester of enrollment. Instrumentalists are encouraged to take advantage of opportunities to participate in choral, keyboard or voice majors are likewise encouraged to gain experience in one of the instrumental ensembles.

Bachelor of Music
Voice Majors will participate in choir or other choral/vocal ensemble. Piano and organ majors will accompany soloists as approved by the studio faculty. Instrumental Majors will participate in band, orchestra, or other instrumental ensemble.

147, 148, 247, 248, 347, 348, 447, 448 Small Ensemble  1 cr each
The Small or Minor Ensembles include Tamburitza Ensemble, Chamber Singers, Brass Ensemble, Percussion Ensemble, Woodwind Ensemble, and Jazz Ensemble. May be taken by freshmen and sophomores for extra credit or by juniors and seniors for required credit provided that Major Ensemble requirements have been satisfied, and that permission of the conductor has been granted.

116, 117, 216, 217, 316, 317, 416, 417 Opera Workshop  1 cr each
A performing class in which students learn standard and other opera repertory in English and the original languages. There is one major production each semester plus several outside performances. May be taken by freshmen and sophomores for extra credit or by juniors and seniors for required credit provided that Major Ensemble requirements have been satisfied, and that permission of the conductor has been granted.

141, 142, 241, 242, 341, 342, 441, 442 Chamber Music  1-2 cr each
Study and performance of all types of chamber music for the various instrumental combinations.

Conducting

379 Conducting  2 cr
This course provides a study of the fundamentals of conducting as a performing skill, teaching technique, and as an interpretive art. Use of the baton, choral and instrumental rehearsal techniques, and score reading. Two hours a week

Eurhythmics

121, 122 Eurhythmics  2 cr each
Fundamentals of rhythmic movement. Study of pulse, meter, rhythm, and duration, the expressive qualities of music such as tempo, dynamics, and phrasing realized and expressed through bodily movement. Two hours a week.

Music Education

181 Woodwind Class Methods I  2 cr
Fundamental principles and techniques of playing and teaching the clarinet. Study of literature which is appropriate for beginning class instruction. For voice, piano, and
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>182</td>
<td>Woodwind Class Methods II</td>
<td>2 cr</td>
<td>Fundamental principles and techniques of playing and teaching the clarinet. Study of literature which is appropriate for beginning class instruction. Offered in the fall and spring semesters. Two hours a week.</td>
</tr>
<tr>
<td>183</td>
<td>Woodwind Class Methods I</td>
<td>2 cr</td>
<td>Performance technique on clarinet continued. Teaching technique of oboe, bassoon, and saxophone covered. For voice, piano, and organ majors in the music education program. Prerequisite: Music 181. Offered in spring semester. Two hours a week.</td>
</tr>
<tr>
<td>283</td>
<td>Woodwind Class Methods I</td>
<td>2 cr</td>
<td>Performance technique on trumpet continued. Teaching technique of French horn, trombone, baritone, and tuba. For voice, piano, and organ majors in the music education program. Prerequisite: Music 281. Offered in the spring semester. Two hours a week.</td>
</tr>
<tr>
<td>284</td>
<td>Brass Class Methods II</td>
<td>2 cr</td>
<td>Fundamental principles and techniques of playing and teaching French horn, trombone, baritone, and tuba. Study of construction, fingering, and evaluation of class methods and materials. For woodwind, brass, string, and percussion majors in the music education program. Music 283 is not a prerequisite for this course. Offered in the fall and spring semesters. Two hours a week.</td>
</tr>
<tr>
<td>381</td>
<td>String Class Methods I</td>
<td>2 cr</td>
<td>Each student selects one of the string instruments and studies it throughout the semester in order to attain greater technical proficiency. Two hours a week.</td>
</tr>
<tr>
<td>382</td>
<td>String Class Methods II</td>
<td>2 cr</td>
<td>Fundamental principles and techniques of playing and teaching the violin, viola, cello, and bass. Bowing, positions, vibrato, and an examination of class methods and materials are presented. Two hours a week.</td>
</tr>
<tr>
<td>383</td>
<td>Elementary Methods</td>
<td>2 cr</td>
<td>Principles, practices, and materials for the general program in the elementary grades. A program of scheduled observations and discussion periods will be required. Two hours a week.</td>
</tr>
<tr>
<td>384</td>
<td>Secondary Methods</td>
<td>2 cr</td>
<td>Principles, practices, and materials for the general music program in the secondary schools including voice classification, the organization of ensemble activities, concerts, assembly programs, and the relationship of the school to the community. A program of scheduled observations and discussion periods will be required. Two hours a week.</td>
</tr>
<tr>
<td>385</td>
<td>Choral Methods</td>
<td>1 cr</td>
<td>This course deals with all aspects of choral singing and their application to school music programs. Emphasis is placed on the development of performance ensembles, rehearsal techniques, special choral problems, planning musical productions, and practical work in choral conducting and arranging. Includes principles, practices, materials, and an overview of current teaching strategies and curriculum trends as applied to the total music program of the secondary school. Offered Spring semester only.</td>
</tr>
<tr>
<td>387</td>
<td>Marching Band Methods</td>
<td>1 cr</td>
<td>Principles, practices, and materials for the marching band are studied including its role in the total music program, organization and maintenance, planning and executing of the field show, basic maneuvers, and rehearsal procedures. Offered Fall semester only.</td>
</tr>
<tr>
<td>481</td>
<td>Percussion Class Methods</td>
<td>2 cr</td>
<td>Fundamental principles and techniques of playing and teaching the percussion instruments of the band and orchestra with special emphasis on the snare drum. Two hours a week.</td>
</tr>
<tr>
<td>490</td>
<td>Student Teaching</td>
<td>6 cr</td>
<td>Practical teaching in approved elementary and secondary schools under the guidance of a critic teacher and the college supervisor. Note: Before a student will be permitted to begin Student Teaching, all methods classes including instrumental classes, piano, woodwinds, brass, strings, and voice must be satisfactorily completed. Percussion class may be taken in the senior year prior to or concurrently with the student teaching assignment. Students will receive complete instructions, together with lists of materials, when they enroll in the Music Education program. Practical techniques to aid students in fulfilling the requirements will be explored in various methods classes.</td>
</tr>
</tbody>
</table>
Music History, Literature and Art

251, 252, 351, 352 Music and Western Civilization 3 cr each
An historical survey of the ideas and cultural achievements of Western man in the context of the political and sociological developments to which the art of music is bound. The survey embraces four 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.

452 Organ Literature 2 cr
A survey of organ literature and organ building. Outside listening and readings will be required.

349, 449, 450 Vocal Repertoire 1 cr each
Study and performance of vocal solo and ensemble literature. Four semesters encompass Italian, German, French, and Contemporary (United States and Britain) music, with concentration on one category each semester.

253 Visual Arts 3 cr
Designed to give the student a basic vocabulary in the visual arts (painting, sculpture, architecture, and the graphic arts) and to make him conversant with the most important styles he will encounter. During the course of the semester, the course will include several visits to the museums and galleries in the Pittsburgh area.

Music Theory

The Theory Department recognizes the individual differences of students and provides an opportunity for them to advance according to their abilities.

131, 132 Theory 2 cr each
This course is designed to acquaint the student with the materials of musical composition using diatonic harmony. Opportunities for the student to do creative work are provided. Three hours a week.

133, 134 Solfeggio and Ear Training 2 cr each
The goals of the course are to develop good intonation and the ability to sight sing, the ability to identify and notate melodies, rhythms, chords, and complete compositions, and to develop inner hearing and memory. The devices used are solfeggio (singing unison and ensemble music, prepared and on sight), drills on intervals and broken chords, unison and two-part rhythm exercises, keyboard work and clef reaching, and systematically graded dictation. The course uses the moveable Do system, based on the Kodaly method. Two hours a week.

231, 232 Theory 2 cr each
A continuation of 132 introducing chromatic harmony and the basic principles of contrapuntal writing. Creative opportunities continued. Three hours a week.

233, 234 Solfeggio and Ear Training 2 cr each
A continuation of 134. Two hours a week.

335 Counterpoint 2 cr
The course is devoted to a study of the polyphonic technique of the sixteenth century.
DUQUESNE UNIVERSITY

variety of cultures and subcultures beginning with the student's personal experience. Extensive class participation will be expected Prerequisite Psychology

308 Influence of Music on Behavior 2 cr
A study of the uses of music in society including movies, television, industry, churches, schools, hospitals, etc., and the rationale thereof. Discussion, reading and individual research projects will be assigned. Prerequisite General Psychology or equivalent and Junior standing

309 Directed Study in Music Therapy 2 cr
124, 223, 224, 323, 423, 424 Music Therapy Practicum 1 cr each
Supervised field work in an approved agency

Tamburitzans Institute of Folk Arts

154 Introduction to Folklore 3 cr
An introductory examination of the definition and scope of folklore studies, and the role of folklore in people's lives. Examined are various forms of folklore and folk expression such as tales, ballads, myths, legends, beliefs, games, proverbs, riddles, folk songs, and folk customs and their roles in societies

255 Introduction to Balkan Music 2 cr
An analytical study of the primitive and traditional folk music of the Balkans, its musical styles, forms, and characteristics in terms of its geographical setting and historical background, and its general structure and aesthetics

256 Introduction to Balkan Dance 2 cr
A survey of folk dances of the Balkans highlighting their development, form, indigenous characteristics, differences and similarities from one ethnographic region to another

147, 148, 247, 248, 347, 348, 447, 448 Tamburitza Ensemble 1 cr each
The Tamburitza Ensemble involves the study and performance of music specifically composed and arranged for both small and large Tamburitza string ensembles. It encompasses the fundamental principles and techniques for both playing and teaching the Tamburitza. It includes appropriate literature. May be taken by freshmen and sophomores for extra credit or by juniors and seniors for required credit provided that Major Ensemble requirements have been satisfied, and that permission of the conductor has been granted.

NON-MUSIC MAJORS

253 Visual Arts 3 cr
Gives students a basic vocabulary in the visual arts (painting, sculpture, architecture, the graphic arts) and to make them conversant with the most important styles they are likely to encounter. During the course of the semester, the course will include several visits to museums and galleries in the Pittsburgh area

321 Music for the Classroom Teacher 2 cr
The aim of this course is to assist the student in gaining an appreciation of the importance of music in the lives of children, a knowledge of fundamental principles of instruc-

SCHOOL OF MUSIC

tion in music, and a familiarity with the variety of musically enriching experience

GENERAL EDUCATION

191 Human Physiology 3 cr
A study of the fundamental principles of human physiology as a basis for understanding of artistic expression and music therapy

491 Physical Science (Acoustics) 3 cr
A course in the science of sound designed to give the student a knowledge of the basic principles of the nature of sound, its production and transmission. Consideration is also given to the mechanism of hearing and the physical basis of harmony, scales, electronic recording, and reproduction of recorded sound

Descriptions of courses in English, modern languages, psychology, sociology, and education, required in the several curricula will be found in the College of Liberal Arts and Sciences and School of Education sections of this Catalog.
School of Nursing

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. Previously, the School of Nursing offered two programs both leading to the degree of Bachelor of Science in Nursing. Since 1964, the School of Nursing offers one program for both generic nursing students and registered nurse students in which they enroll for courses leading to the degree of Bachelor of Science in Nursing.

PHILOSOPHY
Nursing is a profession which focuses on the maintenance of health, the prevention of illness, and caring for individuals and families who need assistance in coping with their health problems.

Within nursing, the professional practitioner utilizes scientific and humanistic theories and concepts in the performance of the following skills: interpersonal, teaching, management, observing and recording, manual, and problem solving. These skills are necessary for the functioning of the professional nurse in assessing client's needs, prescribing and directing a workable plan of approaches to meet those needs, implementing the prescribed plan, collaborating and coordinating with the health team members, and evaluating the effectiveness of care.

The professional nurse is a creative innovator who finds satisfaction in giving service to others, who regularly evaluates self, and who plans for continual growth. The professional nurse should be educated in an institution of higher learning in a program which grants a baccalaureate degree in nursing.

The student is the focus of the curriculum and shares responsibility with the faculty for the creation of an environment conducive to individuality. Throughout the nursing curriculum, the faculty strives to facilitate the student's growing, learning, adapting, and becoming. Liberal arts courses in the humanities, natural sciences, and behavioral sciences not only aid in the student's development but also serve as a foundation for and are an integral part of the professional nursing curriculum. To assist the student's continuing development, provision is made for electives throughout the program.

Professional nursing courses focus on adaptation with the concepts of life continuum, intersubjectivity and individuality interwoven throughout. The student has
opportunities to learn how one's development on the life continuum can be affected by health and illness and what can be done to aid a person and his family in the process of adaptation

OBJECTIVES
The objectives of the program, designed to prepare students to assume the role of professional nurses in a variety of settings and also provide foundation for further study in nursing, are to
1. Formulate a philosophy of life that reflects concern for self and others
2. Synthesize a philosophy of professional nursing
3. Actively participate within a variety of health care systems
4. Contribute to nursing research as a means for furthering the profession of nursing

ADMISSION REQUIREMENTS
The specific entrance requirements for admission are
1. The applicant's high school curriculum must include a minimum of 16 units distributed as follows
   - English: 4 units required
   - Social Studies: 3-4 units recommended
   - Language: 2 units recommended
   - Mathematics and Science: 6 units recommended (1 unit Chemistry and 1 unit Algebra required)
2. A candidate must have been graduated from an approved secondary school in the upper two-fifths of the class, and must have demonstrated exemplary personal conduct in the institution
3. The primary consideration for admissions is the secondary school academic record. This is considered to be the most important criterion of success at Duquesne University. It is the desire of the Admissions Committee to admit those candidates who possess qualities of character and intellect and who show promise of development into useful and contributing citizens
4. A candidate must present satisfactory scores on the required College Entrance Examination Board Scholastic Aptitude Test in accordance with the standards adhered to by the University

   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 foregoing precise requirements

ADMISSION OF REGISTERED NURSE STUDENTS
Registered nurses who have completed a diploma or associate degree program in nursing who wish to pursue study for a bachelor's degree must follow general admission procedures. In addition, they should
1. Present evidence of registration as a professional nurse in one state or territory before admission or during the first semester of enrollment
2. Submit an official copy of nursing transcript
3. Submit an official copy of transcript from previous college or university attended, if applicable
4. Submit a recommendation for collegiate study from the director of nursing of the school of nursing from which the student was graduated or recommendation from present employer
5. Arrange for a personal interview with the Academic Advisor in the School of Nursing, if applicant resides within a reasonable distance

SECOND BACCALAUREATE DEGREE PROGRAM
Applicants holding a baccalaureate degree with a major other than nursing must follow transfer student admission procedures (see page 9). In addition, they must
1. Arrange for a personal interview with the Academic Advisor in the School of Nursing
2. Submit a letter to the Student Standing Committee of the School of Nursing, stating reason(s) for pursuing the baccalaureate degree in nursing

SPECIAL FEES
All figures are for one semester only. For yearly total, double amounts where applicable

CHEMISTRY LABORATORY COURSES
Laboratory Fee $20

BIOLOGY LABORATORY COURSES
Laboratory Fee $20

   (One $5.00 breakage card a semester will cover laboratory courses in biology, chemistry, and physics)

ANATOMY AND PHYSIOLOGY 209, 210
Laboratory Fee $20
Breakage Deposit $5

CHALLENGE EXAMINATIONS
   each credit hour—$10
   (non-refundable)

MISCELLANEOUS COSTS
Uniforms, approximate total cost $50
Special health requirements
Books and miscellaneous supplies
Transportation to and from agencies, approximate cost $5 weekly
School of Nursing pin for graduation, approximate cost $15
Student Liability Insurance (Professional), approximate cost $41 for three year period

STUDENT ORGANIZATIONS
The nursing student is a member of the general student body and may select and participate in any of the campus organizations. There are numerous social sororities and organizations as well as professional organizations
### DUQUESNE UNIVERSITY NURSES ASSOCIATION—DUNA

Open to all nursing students who are encouraged to participate through their class organizations. Faculty moderators act as liaison persons between the student classes and faculty. Opportunities for the development of leadership qualities are given. Through this organization, students are eligible to join SNAP—the Student Nurse Association of Pennsylvania.

**ALPHA TAU DELTA** is a national professional fraternity for persons in nursing. Theta Chapter was chartered on the Duquesne University campus on April 21, 1938. Only full-time students who have completed a minimum of one semester in the School of Nursing with a cumulative quality point average of 2.5 are eligible.

### HONOR AWARDS

In addition to graduation honors, these awards 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 for general excellence in nursing. The Mary W Tobin Medal is sponsored by Theta Chapter of Alpha Tau Delta National Professional Fraternity for persons in nursing.

### GRADUATION REQUIREMENTS

Specific requirements for the Bachelor of Science in Nursing degree are:

1. Two courses in English and one course in speech.
2. Four courses in philosophy and theology. One course in theology is required for Catholic students.
3. Seven courses in the behavioral sciences including human development, principles of management, two or three courses in psychology and two or three courses in sociology.
4. A minimum of 14 credits selected from chemistry, biology, microbiology, and/or physics.
5. Seven courses for the behavioral sciences including human development, principles of management, two or three courses in psychology and two or three courses in sociology.

### PROGRAM OF STUDY

The School of Nursing offers a program with a major in nursing leading to a baccalaureate degree to qualified high school graduates, registered nurses, and non-nursing baccalaureate degree graduates who wish to prepare themselves for professional responsibilities in beginning positions in nursing. The program includes four years of study, and is designed to provide the student with the knowledge and skills needed to function as a professional nurse generalist upon graduation. The foundations in general and professional education acquired in this program provide a basis for the graduate to progress to positions of increasing responsibility and to undertake graduate study.

### SUGGESTED CURRICULUM PLAN

**Freshman Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science (laboratory)</td>
<td>4 cr</td>
</tr>
<tr>
<td>English</td>
<td>3 cr</td>
</tr>
<tr>
<td>Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>Science (laboratory)</td>
<td>4 cr</td>
</tr>
<tr>
<td>14 cr</td>
<td>14 cr</td>
</tr>
</tbody>
</table>

The curriculum design is basically that of a professional education program. Selected courses in the humanities and the behavioral, natural, and social sciences provide the foundation for the nursing major. 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 the hospital, in the home, and in the community. To strengthen and enrich the personal and professional development of the student, courses in the liberal arts are taken throughout the program.

The faculty of the School of Nursing conduct all of the professional nursing courses and also guide and direct the clinical nursing learning experiences. Several hospitals and agencies cooperate with the School of Nursing to provide a wide selection of excellent clinical nursing practice. Some of these are Allegheny General Hospital, Central Medical Health Services, Mercy Hospital, St. Clair Memorial Hospital, Western Pennsylvania Hospital, St. Francis General Hospital, Leech Farm Veterans’ Administration Hospital, St. Joseph’s Division of South Hills Health Center, Magee-Women’s Hospital, Forbes Health System, Columbia Health Center and Pittsburgh Health Center, the Visiting Nurse Association of Allegheny County, the Allegheny County Health Department, and Home for Crippled Children.

Upon the successful completion of this program, graduates will be eligible to write the 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 it believes are in keeping with the changing health needs of society and/or the best interests of the students and the School to maintain quality professional nursing education.

### REGISTERED NURSES

Registered nurse students who are graduates of a diploma or associate degree program in nursing may receive credit for selected nursing courses depending on evaluation of the previous educational program and satisfactory achievement on challenge examinations offered by the School of Nursing. Non-nursing courses taken at another college or university may be considered for transfer of credit, subject to University policy regarding transfer students stated elsewhere in this catalog.
Sophomore Year

**Fall Semester**
- Anatomy & Physiology 4 cr
- Human Development 3 cr
- Nutrition 3 cr
- Sociology 3 cr
- Philosophy 3 cr

**Spring Semester**
- Anatomy & Physiology 4 cr
- Pathophysiology 3 cr
- Theology 3 cr
- Psychology 3 cr
- Philosophy 3 cr

Junior Year

**Fall Semester**
- Commonalities in Nursing 9 cr
- Speech 3 cr
- Principles of Management 3 cr

**Spring Semester**
- Nursing & The Family I 9 cr
- Philosophy 3 cr
- Psychology or Sociology 3 cr

Senior Year

**Fall Semester**
- Nursing & The Family II 9 cr
- Electives 6 cr

**Spring Semester**
- Nursing Electives 9 cr
- Systematic Inquiry into Nursing 3 cr
- Electives 3 cr

Curriculum Standards

To progress to the junior clinical nursing courses, a minimum QPA of 2.0 is required.

To remain in good standing in the School of Nursing, the student must attain a minimum of a C grade in each clinical nursing course.

A Pass/Fail grade is given in clinical practice. An F in either theory or clinical practice will result in an F grade for the course.

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 clinical practice, even though the quality point average meets required standards.

Course Descriptions

Course descriptions for courses in liberal arts and sciences may be found in the College of Liberal Arts and Sciences section, pages 48 to 110.

209, 210 Anatomy and Physiology 4 cr each

A study of the normal human body structure and function. Laboratory includes physiological experiments, dissection of preserved and fresh specimens, and a study of microscopic slides. Lecture, four hours, Laboratory, three hours each semester.
School of Pharmacy

HISTORY
Plans for establishing a School of Pharmacy were instituted in 1911, when the charter of the University was amended and authority obtained to grant degrees in Pharmacy. On April 20, 1925, the final work of organizing the School of Pharmacy was completed. The first class was received September 21, 1925.

The 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. Muldoon Model Pharmacy, animal operating room, electronics laboratory equipped with individual kits, bionucleonics laboratory, eight additional teaching laboratories, and a manufacturing pharmacy laboratory containing basic pharmaceutical manufacturing equipment and separate tableting and aerosol technology rooms.

PHILOSOPHY AND OBJECTIVES
The School of Pharmacy, as an integral part of the University, embodies as its own, the aims and objectives set forth by the University. Its primary purpose is to afford men and women with an education in the fields of Pharmacy and its allied sciences which will enable them to meet both the present and future demands of their chosen profession. Through a well-integrated curriculum which includes professional elective courses, laboratory work, careful supervision by experienced teachers, and coursework in the liberal and cultural areas, the School of Pharmacy seeks to develop the student both professionally and individually. The comprehensive and specialized nature of this 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 one of many areas.

Within the profession of pharmacy, he may become a community pharmacist, hospital pharmacist, or a pharmacist in government service. Many pharmacists find employment as medical service representatives for drug manufacturers. Some enter the wholesale drug business and the pharmaceutical manufacturing industry. Graduates in pharmacy are exceptionally well-qualified to become agents for the enforcement of narcotic and pure food and drug laws. 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 Graduate School of Liberal Arts and Sciences of Duquesne University offers programs through the School of Pharmacy leading to the Doctor of Philosophy degree in pharmaceutical chemistry, and Master of Science degree in the fields of pharmacy, pharmaceutical chemistry, and pharmacology-toxicology.

The School of Pharmacy directs the professional program leading to the Doctor of Pharmacy degree in Hospital Pharmacy. These graduates are qualified for placement in clinical pharmacy positions in hospitals across the nation.

In the field of Medical Technology, positions of health physicist are available in hospitals and any laboratories and industrial facilities which use radioisotopes.

**PROGRAMS**

**BACHELOR OF SCIENCE IN PHARMACY**

The School of Pharmacy offers a Bachelor of Science degree in Pharmacy 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 up to the start of the 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 may be accomplished has been determined by the faculty to be three years of full-time residency. This residency requirement for the final years of the professional curriculum is in accordance with a policy statement ratified by the American Association of Colleges of Pharmacy and followed by all colleges of pharmacy in establishing minimum residency requirements, as well as guidelines for professional education.

**Curriculum**

A minimum of 15 credits in the combined areas of humanities and social sciences is required for graduation from the School of Pharmacy (nine in the humanities, including theology, and six in the social sciences, including economics). Courses for fulfilling the theology requirement are listed under the Department of Theology in the College of Liberal Arts and Sciences section of this Catalog. A minimum of 160 credits is required for graduation.

The student is cautioned to seek regular advice from the faculty and to keep a record of credits earned and the calculated averages. The School assumes no responsibility for such errors appearing in student records which may prevent the student from being graduated.

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**SCHOOL OF PHARMACY**

**First Year**

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<tr>
<th>Fall Semester</th>
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**Third Year**

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<tr>
<td>11 Physical Pharmacy</td>
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<td>13 Pharmaceutical Law</td>
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**Spring Semester**

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**Fourth Year**

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<tr>
<td>21 Biopharmaceutics and Dosage Forms</td>
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<td>33 Pharmacology</td>
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<td>26 Natural Products</td>
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**Spring Semester**

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<td>37 Pharmacy Administration</td>
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*D — Didactic Hours  L — Laboratory Hours  C — Credit hours
### DUQUESNE UNIVERSITY

#### Fifth Year

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<td>41 Practical Pharmacy II</td>
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</table>

#### Curriculum Majors

During the fourth year (earlier if possible) each pharmacy student is required to select a curriculum major from one of the following major areas: Community Practice, Institutional Practice, Industrial Practice, Radiopharmacy, or Pre-Graduate Study. The student must complete a minimum of nine credit hours in courses listed for that major.

The following courses are approved for the respective major areas:

1. **Community Practice**
   - 29—Emergency Treatment
   - 58—Community Practice I
   - 59—Community Practice II
   - 101—Economics
   - All—Psychology
   - All—Sociology
   - 53—Clinical Pharmacy
   - 201—Principles of Management
   - 39, 41—Practical Pharmacy I, II
   - 567, 568—Clinical Pharmacology

2. **Institutional Practice**
   - 52—Hospital Pharmacy
   - 53—Clinical Pharmacy
   - 530—Principles of Hospital Management
   - 501—Manufacturing Pharmacy
   - 56—Clinical Pharmacy
   - 563—Pathology
   - 201—Principles of Management
   - 539—Bionucleonics
   - 567—Clinical Pharmacology
   - 39, 41—Practical Pharmacy I, II

3. **Industrial Practice**
   - 501—Manufacturing Pharmacy
   - 505—Methods of Pharmaceutical Control
   - 562—Analytic Methods (Statistics and Computer Technology)
   - 502—Pharmaceutical Formulation and Development

*D — Didactic hours  L — Laboratory Hours  C — Credit hours

Courses are to be completed in the designated sequence. Minimum credits for the B.S. in Pharmacy Degree — 160, sufficient elective courses must be taken to satisfy the minimum credit requirements.

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### SCHOOL OF PHARMACY

539—Bionucleonics
525—Electronics for Scientific Instrumentation
39, 41—Practical Pharmacy I, II

4. **Radiopharmacy**
   - 19—Electronics for Health Sciences
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radio Pharmaceuticals
   - 541, 542—Radiological Health
   - 431—Introduction to Biostatistics

5. **Pre-Graduate Study**

Students who elect 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./M.S. program is available to qualified students.

### BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY

This program, leading to the degree B.S. in Medical Technology, is a joint effort between Duquesne University and Mercy Hospital, Pittsburgh, Pa. The program involves completion of 125 credits, with 30 of the credits being taken in Mercy Hospital's School of Medical Technology in the fourth year of the program. Graduates from the program are eligible for the National Examinations conducted by the Board of Registry of Medical Technologists.

The School of Medical Technology at Mercy Hospital is approved by the Board of Schools of Medical Technology which acts as advisor to the Council on Medical Education of the American Medical Association. It is responsible for establishing and maintaining high standards of education in A.M.A.-approved schools of medical technology.

Students in the program enroll in the School of Pharmacy as medical technology majors. These students are advised through the office of the Dean of the School of Pharmacy.

Admission to the fourth year of the program will be on a competitive basis with these as the determining factors:

1. A student must have a quality point average of 2.5 in the sciences.
2. No student with a grade lower than C in any chemistry course will be considered for admission.
3. Written recommendations.
4. Personal interview with the Education Coordinator of Mercy School of Medical Technology.

Applications for entrance to the fourth year are to be made before October 31 of the third year. Information about applications is available from the School Office or the Education Coordinator for Medical Technology.

During the fourth year of the program, students will register and pay tuition to Duquesne University. They will be permitted to reside in the University dormitories and enjoy all of the privileges of Duquesne University students.

Failure in any of the major courses included in the fourth year will lead to immediate dismissal from the Mercy School of Medical Technology.
## BACHELOR OF SCIENCE IN RADIOLOGICAL HEALTH

Since 1972 the School of Pharmacy has offered a four-year 123-credit program leading to a Bachelor of Science degree in Radiological Health. Graduates from the program qualify for positions of health physicist in any facilities using radioactive isotopes.

Students in the radiological health program enroll in the School of Pharmacy as radiological health majors. These students are advised through the office of the Dean of the School of Pharmacy.

### Curriculum

<table>
<thead>
<tr>
<th>First Year</th>
<th>D</th>
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<th>Spring Semester</th>
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### Third Year

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### Fourth Year

The fourth year of the program will begin in June and continue for twelve consecutive months. Courses and laboratory assignments will be held primarily at Mercy Hospital. The following syllabus will be covered with 30 credits awarded for completion of the courses:

- **Clinical Chemistry**: 7 credits
- **Urinalysis**: 2 credits
- **Hematology**: 2 credits
- **Blood Banking**: 2 credits
- **Bacteriology**: 5 credits
- **Parasitology**: 2 credits
- **Immunology**: 2 credits
- **Mycology**: 1 credit

### Notes

* D — Didactic hours  
* L — Laboratory hours  
* C — Credit hours
ADMISSION

Students who plan to enter any of the programs offered by the School of Pharmacy are encouraged to meet with the Dean of the school for a personal interview. Entrance requirements are listed under Admissions Policies in the General Information section of this catalog. Applications should be submitted as early in the year of matriculation as possible.

The National Pharmacy College Admissions Test (PCAT) may be taken by applicants. Results should be reported to the Admissions Office and to the School of Pharmacy. The test is not required for admission to the School, but the results are used by advisement personnel to assess the level of knowledge in pertinent areas related to the program. Superior performance in certain topics will alert the student to enroll for advanced placement examinations.

SCHOOL OF PHARMACY

The School of Pharmacy admits students into each of the first three years of the pharmacy, medical technology and radiological health baccalaureate programs. Procedures for entrance are outlined under Application Procedures in the General Information section.

All transfer students must be interviewed by the Dean or Assistant Dean of the School of Pharmacy. Students intending to transfer into the School of Pharmacy should prepare themselves by completing the program of courses, or their equivalents, presented in the curricula of interest. Advisors at the School of Pharmacy are available to meet with students attending other institutions to suggest plans of study which will qualify them for future placement in the School's programs.

Pharmacy students in good standing at any accredited college of pharmacy and eligible to continue their studies at that institution may transfer to Duquesne University School of Pharmacy upon written recommendation of their Dean and fulfillment of all requirements for transfer students as determined by the Admissions Committee. In all cases, transfer applicants must have been granted honorable dismissal from their previous institution and have the academic average currently required for admission to the programs in which they are interested.

Transfer pharmacy students must fulfill a residence requirement of one year or more depending on their sequence of professional courses. This sequence extends through a minimum of three academic years of residence in an accredited college 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 requires the pharmacy students to complete a minimum of six semesters in residence as full-time students.

Advanced credit may be allowed for those courses which appear in the Duquesne curriculum. No credit is allowed in any subject in which a grade lower than C was earned or for a course not equivalent to one among the School's curricula. Transfer applicants must have completed a minimum of 30 credit hours for entrance into the second year and 60 credit hours for entrance into the third year.

Advanced standing is conditional until the student completes a minimum of one semester's work (16 semester hours). If his 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 as detailed under College Level Examination Program in the General Information section.

LABORATORY FEES

Required laboratory courses scheduled by all schools of the university are subject to fees as published. Pharmacy laboratories require a fee of $30 each semester. Other courses offered in the program of medical technology and radiological health are subject to special fees. No laboratory fees are assessed for courses scheduled in the fourth year of the medical technology program.
PHARMACY ACTIVITIES FEE

Instituted by student request, this fee of $25 a semester covers such miscellaneous items as local and national Student American Pharmaceutical Association dues and journal subscription, laboratory jacket rental and laundry fees, class dues and support of the pharmacy student newsletter, Phorum, and travel expenses for one required field trip to a pharmaceutical manufacturing firm. Payment is made at registration each semester. This fee is assessed only to those students in the last three years of the pharmacy program.

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 is normally essential for maximum educational advantage and is strongly encouraged. The responsibility for all course material rests wholly with the student. Under no circumstances will class attendance be used as the basis for altering a grade in a course. This principle shall not modify the prerogative of each instructor to establish policy for attendance at tests, examinations, class lectures, deadlines for reports, and other specific school or course requirements.

A student who is absent is expected to complete all of the work in the course. It is the student's responsibility to make up all assignments and to be familiar with any instructions which may be given in his absence.

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.

3. Required Programs

Pharmacy students in the fourth year of the curriculum are required to participate in one industrial visit arranged by the School. The School of Pharmacy arranges for students to participate in a special course in surgical appliance fittings offered by a field representative of a manufacturer of such devices. The biennial programs are required for all pharmacy students in the last two years of the curriculum. Record of participation is made in the students' permanent files.

STUDENT ORGANIZATIONS

THE STUDENT AMERICAN PHARMACEUTICAL ASSOCIATION whose membership includes all pharmacy students registered in the last three years of the School of Pharmacy aims to promote their interests, scholastic, 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 one year's student membership to the American Pharmaceutical Association and a year's subscription to its Journal. Interested pharmacy students enrolled in their first and second years at the University are also eligible for membership.

THE ALPHA BETA CHAPTER OF RHO CHI, national pharmacy honor society at Duquesne University, was organized to promote the advancement of the pharmaceutical sciences. Pharmacy students who have completed three and one-half years of work at the University level and have achieved a B average are eligible for membership. A maximum of 20 per cent of the class enrollment may be admitted to membership. Doctor of pharmacy candidates are eligible under the same conditions. Faculty and graduate students in the pharmaceutical sciences may also be invited to join.

TAU CHAPTER OF LAMBDA KAPPA SIGMA, an international pharmaceutical fraternity for women, was established at Duquesne University in 1932. The organization numbers among its members some of the most outstanding women in pharmacy. Its purposes are to promote the profession of pharmacy and to create a center of culture and enjoyment for its members.

THE BETA GAMMA CHAPTER OF PHI DELTA CHI, an international professional pharmaceutical fraternity, was chartered at Duquesne University in 1960. The fraternity endeavors to integrate academic, spiritual and social activities and thereby foster the highest professional and personal ideals among its members. Membership is open to students in pharmacy.

THE DELTA EPSILON CHAPTER OF KAPPA PSI PHARMACEUTICAL FRATERNITY was chartered in 1967. This international fraternity strives to develop industry, sobriety, and fellowship and to foster high ideals, scholarship, and pharmaceutical research while supporting all projects advancing the profession of pharmacy. Membership is open to students in pharmacy.

CLASS ORGANIZATIONS 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 regardless of major curriculum.

HONOR AWARDS FOR GRADUATING STUDENTS

Allegheny Wholesale Drug Company Award—Annually an award of $25 is presented to the graduate who has shown outstanding ability and interest in the field of pharmacognosy.
American Institute of the History of Pharmacy Award A recognition certificate and gift membership is awarded annually by the American Institute of the History of Pharmacy for superior achievement in pharmaco-historical study or activity.

American Pharmaceutical Association Award A certificate of recognition is presented annually to the graduate who has made the most significant contribution to the Student American Pharmaceutical Association at Duquesne University.

Bernard and Blanche Schiller Award in the Humanities and Social Sciences An award of $25 is presented annually to the graduate who has demonstrated an understanding of the value of the humanities and social sciences in his development as a professional person. This award is to be used for the purchase of books on any aspect of the humanities in which the student is interested.

Mary McPartland Beck Award An award of $25 is presented annually to the graduate who has shown outstanding ability and interest in the clinical practice of pharmacy.

Bristol Award An award is presented annually by the Bristol Laboratories, Inc., New York City, to a Doctor of Pharmacy candidate for excellence in scholastic achievement.

Bristol Award A copy of a standard reference book is awarded annually by the Bristol Laboratories, Inc., New York City, to the graduate who has in the opinion of the faculty attained unusual distinction in the work in pharmaceutical administration.

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 exceptional qualities of academic excellence and a QPA of over 3.75.

Maurice H. Finkelpearl Award An award of $50.00 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 An award of $25 is presented annually to the graduate who has shown outstanding ability and interest in the field of pharmaceuticals.

Johnson and Johnson Award A replica of a rare Revolutionary War Mortar and Pestle is awarded annually to an outstanding student of Pharmacy Administration.

Lilly Achievement Award A gold medal is presented annually to the member of the graduating class who has demonstrated superior scholastic and professional achievement as well as qualities of leadership.

Merek Sharp and Dohme Award Each year Merek and Company, Rahway, New Jersey, offers a set of valuable reference books to a member of the graduating class who attains the highest average in medicinal chemistry.

Rexall Award The Rexall Drug Company of Los Angeles, California, annually awards a bronze mortar and pestle to a graduate who has demonstrated outstanding leadership and interest in the field of community pharmacy.

Rho Chi Award Alpha Chapter of Rho Chi awards annually a suitably inscribed key to the student who earns the highest general average in all subjects during the first two years of the pharmacy program. The award is presented at a meeting of the Student Chapter of the American Pharmaceutical Association.
12 Physical Pharmacy 4 cr
 A continuation of Physical Pharmacy 11. Prerequisite: Physical Pharmacy 11. Lecture, three hours, Laboratory, four hours

14 Pharmaceutical Mathematics 3 cr
 A course designed to familiarize the student with the mathematical problems and calculations encountered in pharmaceutical practice. Lecture, two hours, Recitation, one hour

16 Biochemistry 4 cr
 Designed to emphasize primarily the manner in which energy is derived from food. Metabolisms of carbohydrates, lipids, and proteins are discussed and interrelated. The function of enzymes, vitamins, and hormones is discussed in relation to their role in metabolism. The relationship of biochemistry to disease states is stressed. Prerequisite: Organic Chemistry. Lecture, three hours, Laboratory, three hours

19 Electronics for Health Sciences 4 cr
 A course for science students who have little or no background in electronics but who need a working knowledge of electronic devices and circuitry. Principles of electronics, servomechanisms, operational amplifiers, and digital control problems are covered. Prerequisites: Calculus I, general physics class, three hours, Laboratory, four hours

21 Biopharmaceutics and Dosage Forms 4 cr
 A study of the pharmaceutical, physico-chemical, and biological factors which affect the absorption, availability, and distribution within the body, of drugs from the various classes of dosage forms. Emphasis is placed on the formulation and evaluation of specific official and unofficial solid, semisolid, liquid, and gaseous dosage forms, and the development of the skills necessary for their preparation. Prerequisite: Physical Pharmacy 12. Lecture, three hours, Laboratory, four hours

22 Biopharmaceutics and Dosage Forms 4 cr
 A continuation of Biopharmaceutics and Dosage Forms 21. Prerequisite: Biopharmaceutics and Dosage Forms 21. Lecture, three hours, Laboratory, four hours

23 Medicinal Chemistry 3 cr
 Relationship between chemical structure and the biological action of drug molecules. Emphasis is on underlying principles as well as on specific therapeutic agents. Organization is by pharmacological classification, with chemical properties relating to mechanism of action, stability, biodistribution and metabolism considered for each class. Lecture, three hours. Prerequisites: Physical Pharmacy 11, 12, or its equivalent.

24 Medicinal Chemistry 3 cr
 A continuation of Medicinal Chemistry 23. Prerequisite: Medicinal Chemistry 23. Lecture, three hours.

27 Analytical Chemistry 4 cr
 Rigorous training in stoichiometric relationships and in the application of equilibrium principles, with laboratory experience in the principal methods of gravimetric and volumetric analysis. Prerequisites: Physical Pharmacy 11, 12 or Physical Chemistry Lecture, three hours, Laboratory, seven hours.

28 Organic Pharmaceutical Analysis 3 cr
 A course devoted to the identification and determination of the relative amounts of active constituents in pharmaceutical and medicinal substances. Prerequisite: Analytical Chemistry 27. Lecture, three hours.

37 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 community pharmacist. Lecture three hours.

39 Practical Pharmacy I 3 cr
 Practical Pharmacy Program required of all final year pharmacy students and involving placement in operating pharmacies with a pharmacist preceptor. Off-campus placement may be necessary. Note: calendar change for fifth year students may be required.

39 Practical Pharmacy II 3 cr
 A course designed to present the pharmacological and toxicological properties of substances of abuse. The major classes of drugs are described with direct reference to toxic and adverse effects. The myths and misconceptions commonly attributed to some substances of abuse are clarified. The philosophy of the course is to present an objective picture of the "drug abuse era" in this country. The course is intended for all students beginning their collegiate studies. Admission to this course for students who have completed Pharmacology 33 or its equivalent is by approval of the instructor.
62 Urinalysis 2 cr
The study of renal function and its abnormalities as portrayed by alterations in the composition of the urine

63 Hematology 5 cr
Detailed study of the anatomy and physiology of the blood and various laboratory methods used in establishing inherited or acquired abnormalities of blood or blood forming organs

64 Blood Banking 3 cr
Essentials and importance of proper selection of blood for transfusion, pretesting methods, records, and administration of blood. Also included are studies of tests pertaining to isosensitization

65 Bacteriology 5 cr
The study of clinical bacteriology, including culture methods, biochemical and immunological aspects of identification, and the application of these to the disease state

66 Parasitology 5 cr
Methods of identification of the various parasites infesting man, with detailed study of their morphology and habitat

67 Immunology 2 cr
Study of the procedures used in analysis of immune mechanisms of the body, and their application in disease processes

69 Mycology 1 cr
The study of the pathogenic fungi, the diseases they cause, and the techniques of identification

70 Virology 1 cr
The study of the viruses causing disease and the technical methods of identification

71 Radiosotopes 2 cr
The study of the use of radioisotopes in the diagnosis and treatment of disease

Department of Radiological Health

Chairman Mitchell L. Borke, Ph.D.

51 Radiological Health Practice 4 cr
Designed to provide the student with practical experience in at least four broad areas of radiological health: industrial, hospital, reactor, and university. This experience will be acquired through observation and participation in daily practical problems of radiation protection within local organizations representative of the four broad areas of radiological health. Emphasis will be placed on personnel monitoring and dosimetry, radiochemical assaying of biological and environmental materials, field surveying of plant operations involving large quantities of fission products and other radioactive materials, environmental monitoring practices, decontamination procedures, and radiation protection record keeping. Prerequisites: Bionucleonics 539, Radiological Health 541, Co-requisite: Radiological Health 542, Laboratory, 16 hours

SCHOOL OF PHARMACY

431 Introduction to Biostatistics 3 cr
The purpose of this course is to familiarize the beginning student with some statistical techniques and their applications to clinical problems in the life sciences. Prerequisites: Mathematics 115, Lecture, three hours

525 Electronics for Scientific Instrumentation 3 cr
A course for science students who have little or no background in electronics but who need a working knowledge of electronic devices and circuits. Principles of electronics, servomechanisms, operational amplifiers, digital control problems. Prerequisites: Mathematics 115, Physics 212

539 Bionucleonics 3 cr
A study of the fundamental techniques of manipulation and measurement of radioisotopes. Experiments performed individually by each student include measurement of radioactivity with G-M counters, flow counters, ionization chambers, proportional counters, crystal and liquid scintillators, study of the characteristics of radiation, gamma spectrometry, some applications of radioisotopes in pharmacy, chemistry, biology etc. Prerequisites: Chemistry 121, 122, Physics 211, 212

540 Advanced Bionucleonics and Radiopharmaceuticals 3 cr
A course devoted to the practical applications of radioactive isotopes in chemistry, biology, pharmacy, and medicine. The scope of the course includes neutron activation analysis, gamma spectrometry, tracer methods, and radiopharmaceuticals. Prerequisite: Bionucleonics 539

541, 542 Radiological Health I and II 4 cr each
A course designed to review the fundamental physical and biological principles of radiation protection, and the application of these principles to the measurement techniques, radiation hazard evaluation, radiation protection surveillance and administration. Scientific principles most applicable to solving problems of protecting humans from unacceptable levels of radiation exposure both in occupational and public environment are emphasized.

RECOMMENDED PROFESSIONAL ELECTIVES

The following elective courses are taught in the School of Pharmacy and may be chosen by students who have met the prerequisites

29 Emergency Treatment 3 cr
A lecture-demonstration course. The course teaches how to render first-aid care to a patient. Special emphasis is placed on emergencies which the pharmacist is most likely to be confronted with, e.g., epileptic seizures, heart attacks, fainting, diabetic coma, etc. Prerequisites: Anatomy and Physiology 17 and 18. Lecture three hours, demonstrations included during lecture hours

52 Hospital Pharmacy 3 cr
An introductory course designed to acquaint the student with the history, organization, and development of pharmacy practice in hospitals. The responsibilities of the pharmacist in the modern hospital are discussed. Field trips to area hospitals complement the lecture material. Prerequisite: Physical Pharmacy 12. Lecture, three hours

54 Sterilization and Parenteral Pharmaceuticals 1 cr
Sepsis and asepsis sterilization, bacterial filtration, pyrogen and sterility testing. Class size limited to 18 students. Laboratory, 16 hours. Prerequisite: Physical Pharmacy 12
53 Advanced Clinical Pharmacy 3 cr
A course designed to present the pharmacy student with actual patient-drug relationships as observed in the hospital. Lecture, one hour, Recitation, one hour, Laboratory, three-four hours

56 Clinical Chemistry 3 cr
A course adapted to familiarize the student with qualitative and quantitative determinations of biochemical body constituents in order that the information may be utilized in clinical medicine. Prerequisite: Biochemistry I. Lecture, three hours, Laboratory, four hours

58 Community Practice I 3 cr
The course considers the principles and functions of management as applied to a community pharmacy operation so that the objectives of the pharmacist-manager are attained with maximum efficiency. Prerequisite: Pharmacy Administration 37. Lecture, three hours

59 Community Practice II 3 cr
The course concerns itself with the operational aspects of a community pharmacy with emphasis on the business or commercial matters pertinent to a successful operation. Prerequisite: Pharmacy Administration 37. Lecture, three hours

Any course taught in the University may be chosen as an elective course by students who have met the prerequisites. The following courses offered by the Graduate Department of Pharmaceutical Sciences are available to qualified upperclassmen in the School of Pharmacy:

501 Manufacturing Pharmacy
502 Pharmaceutical Formulation and Development
505 Methods of Pharmaceutical Control
510 Advanced Biopharmaceutics
523, 524 Medicinal Chemistry
525 Electronics for Scientific Instrumentation
539 Bionucleotides
540 Advanced Bionucleotides and Radio Pharmaceuticals
541, 542 Radiological Health
543 Biostatistics and Epidemiology
560 Biosynthesis of Natural Products
561 General Toxicology
563 Pathology
567, 568 Clinical Pharmacology
569 Toxins: Their Chemistry, Biology, and Toxicology

Descriptions of these courses may be found in the Graduate School Bulletin.
Reserve Officer Training Corps

PROGRAMS
The Army Reserve Officer Training Corps (ROTC) program is open to male and female students on a voluntary basis. Two-year and four-year programs are offered, both are taken in conjunction with the required course of study in all the University's undergraduate degree programs. Interested incoming students are encouraged to enroll immediately so that the ROTC program and their academic major are phased properly for graduation. For entry into the two-year program, the student must have two academic years remaining, either at the undergraduate or graduate level, or a combination of the two. The Professor of Military Science invites letters or telephone calls of inquiry. Questions will be answered promptly.

ARMY ROTC SCHOLARSHIPS
Army ROTC offers a number of scholarships for cadets enrolled in the four-year and two-year programs. These scholarships include tuition, fees, and textbooks. For details see ROTC Scholarships in the Financial Aid section, pages 26 and 27.

Department of Military Science

Department Head Colonel James R Bambery, USA

FOUR-YEAR PROGRAM
All students in the four-year Military Science program are required to take 12 credits in Military Science and eight non-credit pre-professional laboratories. One three-credit course offered within the University's curriculum approved by the PMS will be taken each academic year and one non-credit Military Science laboratory will be taken each semester.

Basic Course students (first and second year) will select two of these courses:

His 348 Modern American Military History 3 cr
Soc 195 The Military and Society 3 cr
Pol Sci 215 National Strategy 3 cr

(Soc 195 is offered by the Department of Sociology and Pol Sci 215, by the Department of Political Science.)

In addition, students will take Military Science pre-professional Laboratories 001, 002, 003, and 004.
Advanced Course students (third and fourth year) are required to take these courses:

- **MS-301 Dynamics of Group Presentations**: 3 cr
- **MS-401 Professional Seminar**: 3 cr
- **MS Laboratories 005, 006, 007 and 008**

(MS 301 must be taken in the Junior Year or prior to attendance at Advanced Summer Camp.)

**TWO-YEAR PROGRAM**

All students in the two-year program are required to successfully complete the six-week ROTC Basic Summer Camp prior to their last four semesters at the University and to fulfill all the requirements of the foregoing Advanced Course.

**SAMPLE PROGRAM**

**Freshman Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Courses in Academic Major</td>
<td>12</td>
</tr>
<tr>
<td>Military Subject (fulfills elective requirement)</td>
<td>3</td>
</tr>
<tr>
<td>MS-001 Leadership Development</td>
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**Spring Semester**

<table>
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<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

| Courses in Academic Major | 15 |
| MS-002 Leadership Development | 0 |

**Sophomore Year**

<table>
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</thead>
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<tr>
<td>Courses in Academic Major</td>
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</tr>
<tr>
<td>MS-003 Leadership Development</td>
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</tr>
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</table>

**Spring Semester**

<table>
<thead>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

| Courses in Academic Major | 12 |
| Military Subject | 3 |
| MS-004 Leadership Development | 0 |

**Junior Year**

<table>
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<th>Fall Semester</th>
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<tr>
<td>Courses in Academic Major</td>
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</tr>
<tr>
<td>MS-005 Leadership Development</td>
<td>0</td>
</tr>
</tbody>
</table>

**COURSE DESCRIPTIONS**

**Basic Course**

**His 348 Modern American Military History**

The course will systematically study modern U.S. conflicts from 1914 to the present. The course focuses on the political, social, and economic conditions leading to each major conflict, evaluates in general terms the conduct of military operations, and assesses the impact of the conflict upon the nation. Special emphasis is placed upon the role of the U.S. as a world leader, modernization of the armed forces, military-business relationships, selective service, and public opinion.

**Soc 195 The Military and Society**

To relate to the student the military's social processes and organizational setting. To treat the military profession as an object of social inquiry, to enable the student to gain a fuller and more accurate assessment of the military. Furthermore, to attempt to present the military as objectively as possible. In addition, the fundamental changes that the American military has undergone in the 1960's and 1970's will be presented and how these changes relate to the civilian environment. Prerequisite: Soc 101

**Pol Sci 215 National Strategy**

In examining national security strategy, analysis will address such independent variables as qualitative and quantitative power factors, perceptions, physical and subjective bargaining capability, and the external and internal environment. Attention is focused also on the perceived institutional role of the military and its impact on the evolution of strategy with particular emphasis placed on the national strategies of the United States in the post World War II era.
Advanced Course

MS 301 Dynamics of Group Presentations
Designed to give students opportunities to improve their techniques of oral instruction through formalized teaching and practical exercises. Topics for student presentations will relate to the theories of leadership as they apply to the learning process.

MS-401 Professional Seminar
To relate to the student facts concerning Army Career Development organization and traditions, which he should know prior to Active Duty, specifically, those facts which he will receive little or no orientation during his basic officer course. To give the student information concerning the establishment of a financial plan for himself and his family, whether in the Army or in civilian life. Furthermore, to give the student an orientation on the other services. In addition, the student will have a chance to broaden his knowledge on current military and civilian affairs by researching and presenting certain topics outlined by the course.

PRE-PROFESSIONAL LABORATORIES
MS-001, 002 Leadership Development
MS-003, 004 Leadership Development
MS-005, 006 Leadership Development
MS-007, 008 Leadership Development

MILITARY SCIENCE MINOR
The introductory course for the minor is History 348, Modern American Military History (no credit toward the minor). The required, three-credit hour courses are Sociology 195-The Military and Society, Political Science 215-National Strategy, and Defense Management. To complete the minor, one elective must be selected from among the following:

College of Liberal Arts and Sciences

History
231, Development of the U.S. to 1877
232, Development of the U.S. since 1877
356, Diplomatic History of the United States
358, Civil War and Reconstruction

Political Science
309, International Relations
315, Politics of Emerging Nations

Psychology
326, Developmental Psychology II - Adolescence and Maturity
340, Social Psychology

Speech
300, Argumentation and Debate

RESERVE OFFICER TRAINING CORPS

304, Persuasion

School of Business and Administration
201, Principles of Management
309, Administrative Organization

ROTC FLIGHT TRAINING
Army ROTC Flight Instruction is offered to students in the second year of the Advanced Course. It is an FAA approved flight program consisting of 35 hours of classroom instruction and 36 hours of flight training. Successful completion of the course leads to a private pilot's license. The course is free to students selected for instruction.

AIR FORCE ROTC
The Air Force ROTC program is offered on a cross-enrollment basis at the University of Pittsburgh. Students interested in Air Force ROTC should contact the Department of Aerospace Studies, University of Pittsburgh for detailed information and enrollment procedures.
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S.T.L., Gregorian University
S.S.L., Pontifical Biblical Institute

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FACULTY

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University

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The School of Music

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Robert Shankovich, M M

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Dean Emeritus

Assistant Dean

Dean

Lecturers

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M S., Duquesne University  
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The School of Music

ADMINISTRATION

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Dean Emeritus

Assistant Dean

Dean
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**M.M., Post-graduate study, University of Kansas**

**Music Therapist-Consultant, Ohio Division of Mental Health**


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**M.M., East Kentucky University**


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**First Trumpet, Pittsburgh Symphony**


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**Ph.D., Pittsburgh Public Schools**


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**Director of Graduate Studies**

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**M.A., Duquesne University**  
**Ph.D., Eastman School of Music, University of Rochester**


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**B.S., St. Joseph's College, Philadelphia, Pa**  
**B.M., M.M., Eastman School of Music, University of Rochester**  
**Ph.D., Catholic University of America**


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**Ecole Normale, Paris**


Adrian Brown  
*Pupil of Ildar Philipp, Camille Descuss Nadie Boulanger, and Emil von Sauer***


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**Diploma, Kodaly Music Training Institute**

**Teaching Certification (Kodaly)**

**Listvit Academy of Music, Budapest**


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**M.Ed., Duquesne University**


Eugenia Popescu Jethetz  
*Visiting Professor, Tamburitzan Institute of Folk Arts*

**Bucharest, Romania**


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**M.A., Wayne State University**


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*Director, Tamburitzan Institute of Folk Arts, and Associate Professor*

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Stephen Kovacev  
*Assistant to the Director, Business Affairs, Tamburitzan Institute of Folk Arts, and Assistant Professor*

**M.Ed., Duquesne University**


Louis Munkaczy  
*Assistant Professor of Music Theory*

**Associate Professor, Wood and Percussion Department**

**Chairman, Duquesne Universities School of Music Mid-East Instrumental Music Conference**

**B.S. in M.Ed., Indiana University of Pennsylvania**

**Navy School of Music**

**M.M., Chicago Musical College**

**Mus D. Honors Causa, Huron College**


Melinda McCulloch  
*Teacher of Voice*

**B.A., Carnegie-Mellon University**

**M.M., Duquesne University**


Josephine McGrail  
*Teacher of Voice*

**B.A., Carnegie-Mellon University**


Michael Maglio  
*Assistant Professor Music Education*

**B.S.E., Lowell State College**

**M.A., Teachers College, Columbia University Specialist in Music Education**

**Study at Lecole Normale de Musique Paris**


David Maars  
*Teacher of French Horn*

**B.M., M.M., University of Michigan**

**B.M., M.M., University of Michigan**

**Associate First French Horn, Pittsburgh Symphony**


Cynthia Marr  
*Teacher of Violin*


Julia May  
*Professor of Voice, and Chairman, Voice Department*

**B.M., M.M. Northwestern University**

**Juilliard School of Music**

**University of Kansas**

**Studies in Stuttgart, Germany under a Fulbright Scholarship**

**Pittsburgh Opera**


Vincent Manteleone  
*Teacher of Trumpet*

**B.S., M.M., Duquesne University**


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*Teacher of Piano and Chairman Piano Department*

**B.M., M.M., Yale University**

**Pittsburgh Symphony**

**Pupil of Harold Bauer Alfred Cortot, and Isabella Vengerova**
 sharpenie 

ADMINISTRATION AND FACULTY

Robert L. Shankovich
Associate Professor of Music Theory, and Director of Strings
B A , M M , Duquesne University

Matthew Shiner
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B A , Brooklyn College

Salvatore Seligna
Associate Professor of Opera
B A , Juilliard School of Music

Edwin Shiner
School of Nursing
Assistant Professor of Piano
B A , M M , Duquesne University

Anton Shostakov
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Lembens Institute, Mechelen, Belgium—First Prize in Organ

Constance Rapp
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B A , M M , Duquesne University

Paula Stafura
Teacher of Percussion
B A , M M , Duquesne University

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School of Nursing

ADMINISTRATION

Regina E. Fegan, R.N., M.Ed
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Assistant Professor of Nursing
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FACULTY

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M. M., University of Michigan
Fulbright Grant
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Diplome (Mention Maximum), Schola Cantorum, Paris
Ecole Normale, Paris

Glyds Stein
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Diploma, B S , M S , Juilliard School of Music
Special Artist Degree, Vienna State Academy
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Assistant of Rosina Lhevinne

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Teacher of Guitar
Phyllis Susan
Teacher of Harp

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Diploma, Julliard School of Music

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M Ed , Duquesne University

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Allegheny County Health Department Bureau of Public Health Nursing
Irene McLenahan, R N
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Allegheny General Hospital
Lads Grapski, M B A
President
Richard W. Ashton, R N , M P H
Associate Vice President
Robert N. Gibson, M B A
Assistant Vice President

Central Medical Health Services
Thomas M Gallagher, B S , M A
President
John E. Schmidt, R N , B S , M A
Vice President, Patient Care Services

Barbara M. Moulton, R N , B S , M A
Director of Nursing

Forbes Health System
(Columbia and Pittsburgh Health Centers)
Barry H. Roth, B A , M H C A
Chief

V For Allegheny General Hospital
Lads Grapski, M B A
President
Richard W. Ashton, R N , M P H
Associate Vice President
Robert N. Gibson, M B A
Assistant Vice President

V Magee-Women's Hospital
C. Robert Youngquist, B A , M B A
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Barbara M. Moulton, R N , B S , M A
Director of Nursing
Mercy Hospital
Sister M Ferdinand, R S M , Ed D
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Sister M Bertin, R N , M Litt
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SCHOOL OF PHARMACY

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Chief, Division of Radiation Physics  
Mercy Hospital

SCHOOL OF PHARMACY

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President, Applied Health Physics, Inc  
Bethel Park, Pennsylvania

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Greenwood Radiation Consulting

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Livingston and Miller, Attorneys at Law

Carl Kaplan, M.D.  
Chancellor  
Division of Radiation Therapy  
Radiology Department, Mercy Hospital

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Radiology Department  
Mercy Hospital

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Director of Trade Relations (Retired)  
Merck, Sharp & Dohme Laboratories, West Point, Pennsylvania

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Drug Enforcement Administration, U.S. Department of Justice

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Mercy Hospital

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Director of the Department of Anesthesiology  
St. Francis General Hospital

Joshua A. Perper, M.D., LL.B., M.Sc.  
Chief Forensic Pathologist  
Allegheny County Coroner's Office

Frank J. Pohl, L.L.B.  
Burgwin, Ruffin, Perry & Pohl, Attorneys at Law

Silvestri Silvestri  
Judge  
Court of Common Pleas, Fifth Judicial District, Commonwealth of Pennsylvania

Cyril H. Wecht, M.D., J.D.  
Adjunct Professor of Pathology  
Coroner Allegheny County

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Dickson Drug Store  
2900 West Liberty Avenue  
Pittsburgh, Pa
Reserve Officer Training Corps

ADMINISTRATION

Colonel James R. Bambery, USA

FACULTY—DEPARTMENT OF MILITARY SCIENCE

Colonel James R. Bambery
Coordinator and Head of Department, Professor of Military Science
B.S., United States Military Academy
M.A., American University

Major Thomas L. Adams, Jr
Assistant Professor of Military Science
B.S., South Carolina State College
M.Ed., University of Maryland

Captain John W. Hawbaker
Assistant Professor of Military Science
B.S., Illinois Wesleyan University
M.B.A., University of Georgia

Captain Eli Homza
Assistant Professor of Military Science
B.A., Carnegie-Mellon University
M.B.A., University of Pittsburgh

Captain William D. Jacobsen
Assistant Professor of Military Science
B.A., University of Nebraska
M.Ed., University of Southern California

Captain Edward F. Munson
Assistant Professor of Military Science
B.A., M.A., Duquesne University

FACULTY—DEPARTMENT OF AEROSPACE STUDIES

Colonel Donald M. Goldstein
Professor of Aerospace Studies and Head of Department
B.A., M.A., University of Maryland
M.S., Georgetown University and George Washington University
Ph.D., Denver University

Major Thomas W. Collins
Assistant Professor of Aerospace Studies
B.A., Mississippi State University
M.A., Golden Gate University

Major Bruce D. Mills
Assistant Professor of Aerospace Studies
B.S., Lincoln University
M.A., Missouri University

Captain Larry J. Mills
Assistant Professor of Aerospace Studies
B.S., M.S., Oklahoma State University
## Degrees and Programs Offered

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### Requirements

- Early Admission: 13
- Deferred Payment: 15
- Degree: 16
- Arts and Sciences: 36
- Business and Administration: 112
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