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 Canenv 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 (412) 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) 434-6685/6686/6687

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

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

FINANCIAL AID—Loan, Scholarship, Student Employment Applications
Administration Building, Ground Floor
Telephone (412) 434-6007/6008/6009

FOREIGN STUDENT ADVISOR—Duquesne Union, Third Floor
Telephone (412) 434-6669

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

LEARNING SKILLS PROGRAM—Administration Building, Third Floor
Telephone (412) 434-6661/6662

PSYCHOLOGICAL COUNSELING—Center for Testing and Research
Telephone (412) 434-6656/6657/6658

PUBLIC SAFETY—University Hall, First Floor
Telephone (412) 434-6001/6002/6003

REGISTRAR—For Transcripts and Records, Rockwell Hall, Concourse
Telephone (412) 434-6214 (Transcripts) 434-6215 (Records)

RESIDENCE LIFE—For Housing, Duquesne Towers, Second Floor
Telephone (412) 434-6655/6656 (Billing Contract) 434-7802/7803/7804 (Room Assignments)

STUDENT HEALTH INSURANCE—Administration Building, Second Floor
Telephone (412) 434-6056

TESTING BUREAU—Administration Building, Third Floor
Telephone (412) 434-6024/6025

Duquesne University
Pittsburgh, Pennsylvania

UNDERGRADUATE CATALOG
1978-1980

Published annually, in July, by Duquesne University, 600 Forbes Avenue, Pittsburgh, Pennsylvania 15219
Duquesne University admits students of any sex, race, color, national and ethnic origin to all rights, privileges, programs, and activities generally accorded or made available to students at the school. It does not discriminate on the basis of sex, race, color, national or ethnic origin, or non-performance related handicap in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University-administered programs

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The provisions of this catalog are to be considered directive in character. The University reserves the right to make any changes that seem necessary or desirable, including fees, tuition and room and board.
### ACADEMIC CALENDAR

#### 1978-1979

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<td><strong>September 4 Tuesday</strong></td>
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SPRING SEMESTER – 1980

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January 10-12 Thursday through Saturday Final Registration

January 12 Saturday Latest Date to Cancel 1980 Spring Semester Registration Without Penalty

January 14 Monday Spring Semester Begins

January 16 Wednesday Latest Date for May 1980 Graduates to Apply for Graduation

January 19 Saturday Latest Date to Register and for Change of Schedule and also Latest Date to Declare Pass/Fail (No remission of charges for a reduced class schedule after this date)

January 26 Saturday Latest Date for 80% Tuition Remission for Total Withdrawal from the University

January 30 Wednesday Latest Date for May 1980 Graduates to submit Thesis Outline

February 2 Saturday Latest Date for 40% Tuition Remission for Total Withdrawal from the University

February 9 Saturday Latest Date for 20% Tuition Remission for Total Withdrawal from the University

February 18 Monday Reading Day

February 29 Friday Latest Date for Undergraduates to Remove Temporary I Grade for 1979 Fall Semester Courses (I Grades not removed on or before this date convert to F's)

February 29 Friday Latest Date for Reporting Mid-Term Grades

March 5 Wednesday Latest Date for Instructors to Submit I Grade Removal Grades for 1979 Fall Semester Courses

March 7 Friday Latest Date for Undergraduates Other Than First Semester Freshmen to Withdraw with W Grade (See Withdrawal from a Course, Semester Schedule of Classes)

March 24-29 Monday through Saturday, and May 1-3 Thursday through Saturday, and

March 31 Monday May 5-7 Monday through

April 1 Tuesday May 7 Wednesday

April 2-8 Wednesday through May 9 Friday

April 9 Wednesday May 9 Friday

April 15 Tuesday May 10 Saturday

April 29, 30 Tuesday, Reading Days

April 9 Tuesday Latest Date for May 1980 Graduates to Submit Thesis and Schedule Comprehensives

April 9 Wednesday Latest Date for May 1980 Graduates to Pay Accounts

April 15 Tuesday Latest Date for May 1980 Graduates to Pay Accounts

April 29, 30 Tuesday, Reading Days

May 1-3 Thursday through

May 5-7 Monday through

May 7 Wednesday

May 9 Friday

May 9 Friday

May 10 Saturday

May 3 Thursday

May 5-7 Monday through

May 7 Wednesday

May 9 Friday

May 9 Friday

May 10 Saturday

May 1-3 Thursday through

May 5-7 Monday through

May 7 Wednesday

May 9 Friday

May 9 Friday

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May 1-3 Thursday through

May 5-7 Monday through

May 7 Wednesday

May 9 Friday

May 9 Friday

May 10 Saturday
Part I:
General Information
All Degrees and Programs Offered in the University

General Information

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, renovation, 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 8000 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), the School of Law (1911), Business and Administration (1913), Pharmacy (1925), Music (1926), Education (1929), and Nursing (1937). The University offers degree programs in 90 areas—35 at the baccalaureate level, 48 at the master's, and seven at the doctoral.

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 professional growth, a well-balanced personality, and an attitude of constant evaluation of oneself as an individual and as a member of the community.

Duquesne offers a wide variety of programs, courses, and curricula from which individuals may select freely in accordance with their desires and capabilities. In emphasizing the relationship of education to the social, cultural, and economic aspects of life, it seeks to produce graduates who, upon entering their chosen careers, will be effectively prepared to discharge their obligations to God, to their community, and to themselves as intellectual and moral beings.

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, and hockey.
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 Art Festival. The theatregoer has a choice of entertainment which includes legitimate, commercial and summer theatre.

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

In the area of participatory sports, golf, riding, fishing, and skiing are all available within a half-hour 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, Cashier’s Office, Career Planning and Placement Center, Chaplain’s Office, Counseling and Learning Center, and Financial Aid. Adjoining this building is the University Chapel where Mass is offered daily.

**Assumption Hall,** a four-story structure, is a women’s residence.

**Canevin Hall,** the oldest lecture hall on campus, built in 1922, was completely renovated and air-conditioned in 1968. It is the home of the School of Education, including a Curriculum Library, Reading and Guidance Clinics, regular and special classrooms, conference and seminar areas. The Institute of African Affairs and Institute of Man are on the fourth floor.

**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.

**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 snackbars. 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 offices of the Dean of Students and Director of Athletics. Facilities include three dining areas, a ballroom and student lounge, and the Bookstore. The Recreation Center on the first floor features eight bowling lanes, pool tables, 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.

**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.

**Rockwell Hall** is the home of the School of Business and Administration and the School of Law, as well as Office Services, Systems Center, and Registrar. The Business Simulation Laboratory of the School of Business and Administration 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** is a women’s residence with a capacity of 324 students. It is air-conditioned, has its own laundry, as well as a number of lounges, television rooms, and a recreation room.

**St Martin Hall,** a 14-story residence, provides modern housing for 560 men. Laundry facilities and a reading 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, the campus Radio Station, WDUQ, and the University’s Public Safety Department. It also houses the Women’s Recreation and Athletics Office, gymnasium, and sports facilities.

**University Library** houses a collection of 380,000 bound volumes, subscribes to more than 3,200 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 3,500 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.

The new library, dedicated in 1978, provides 65 per cent more seating and study carrels and tables. It has provided increased study opportunities and research areas. Audio visual facilities give patrons the choice of private or group use of media. Special facilities are available for the handicapped.

**ACCREDITATION AND AFFILIATION**

**University**

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

Membership
American Association of Collegiate Registrars and Admissions Officers
American Association of Urban Universities
American Council on Education
Association of College Admissions Counselors
Association of Governing Boards of Universities and Colleges
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 May and run through mid-August. Short-term offerings of one and two-week duration, usually at the graduate level, are scheduled before and after the regular session.
Part II:
Programs and Courses
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. Courses taken in an interdisciplinary minor do not satisfy area requirements. Students who choose an inter-school minor must take all electives from liberal arts and sciences offerings.

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 overall 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.

**DEGREES**

The College confers two undergraduate degrees: Bachelor of Science and Bachelor of Arts. Students who complete the major in biology, chemistry, and physics receive the B.S. degree. Students who complete the major in classics, economics, English, history, journalism, modern languages, philosophy, political science, psychology, sociology, speech, and theology receive the B.A. degree. Students majoring in mathematics can follow a curriculum leading to either a B.A. or B.S. degree.

**PROGRAMS**

**PRE-LAW**

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-PROFESSIONAL HEALTH EDUCATION**

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.

**INTER-SCHOOL MINORS**

Inter-school minors are available in Business and Administration, Education, Music, and Pharmacy. For complete details students should consult the Director of Academic Advisement.

**BACHELOR-MASTER'S**

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**

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. The additional 30 credits must be completed at the University and may not be taken through cross-registration.

**THREE-YEAR BACHELOR'S**

For information contact the Office of Admissions or the Dean of the College.

**CLEP AND ADVANCED PLACEMENT**

See page 186.

**ACADEMIC REGULATIONS**

**ELECTIVES**

A maximum of 12 Non-Arts-and-Science elective credits will be accepted toward the B.A. or B.S. degree.

**ACADEMIC LOAD**

Students may normally carry five courses in one semester. A schedule of more than five courses of 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. Requirements may be changed without notice or obligation.

**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. Being one of the closest of all disciplines to ourselves, it is, therefore, a basic element in a balanced liberal education and offers both intellectual insight and knowledge vital to societies facing serious problems having biological implications.

The undergraduate program is basic and flexible, providing a core of experience around which continuous, future personal development may be centered. It offers opportunity to develop professional attitudes and technical competence which aid in opening avenues for advanced study and career fulfillment as well as personal enrichment. The course of study pursued can aid in preparation for professional careers in teaching, research, medicine, dentistry, veterinary medicine, and advanced study in various graduate school specialties. While many students choose to pursue the benefits of advanced study in graduate and professional schools, others prefer to follow technical level opportunities in pure and applied research and service in
hospitals, universities, private industry, and civil service. Diverse opportunities are available in specialty sales, pharmaceutical, medical, atomic energy research and chemical laboratories, food technology and processing, fisheries, oceanography, conservation, health services, space biology, agricultural technology, food and drug administration, environmental services, and other industries and agencies.

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 biology of inheritance, structure, and function at the molecular, cellular, and organismal levels. Within that context, students may follow their preferred interest in subject matter selection and concentration. The specific program selected is individually formulated with the student through consultation with an advisor. Courses 107, 108, 201, 202, 207, 208, and 220 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. Students also should consider extradepartmental electives in chemistry and mathematics.

REQUIREMENTS FOR THE MINOR
The department offers two minor programs:

1. Professional Minor which consists of 111, 112 and a minimum of 12 credits selected from the department's major courses, numbered 200 or above. Individual course prerequisites must be met.

2. Academic Minor which consists of 107, 108 or 111, 112 and a minimum of 12 credits selected from the department's courses numbered 200-395. Courses which are open to either non-majors or to majors may be selected. Individual course prerequisites must be met.

If a student takes 107, 108—Principles of Biology and 111, 112—General Biology, the credits for the 107, 108 will not apply to the total number required for the degree.

NON-MAJOR COURSES

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

201 BIOLOGY OF MICROBES 3 cr
Examination of microbes as to what they are, how they grow, how they may be controlled, what their relationships to other living things are, why and how some of them cause disease. This course does not carry credit toward a Biology Major. Lecture

202 BIOLOGY OF MICROBES LABORATORY 1 cr
Illustrates methods of observation, growth, and identification of microbes as well as methods of controlling these organisms using sterilization techniques, disinfectants and antibiotics. Prerequisites: Biology 201 (or concurrent registration). Laboratory

207 ANATOMY AND PHYSIOLOGY 3 cr
Studies designed to provide students with a background in the areas of human body structure and the mechanisms underlying normal body functions. Prerequisites: some previous exposure to introductory biology and chemistry is desirable. This course does not carry credit toward a Biology Major. Lecture

208 ANATOMY AND PHYSIOLOGY LABORATORY 1 cr
Laboratory includes examination of the micro and gross anatomy of the body, physiological experiments, and exposure to certain basic clinically important measurements and techniques. Prerequisites: 207 Anatomy and Physiology (or concurrent registration). This course does not carry credit toward a Biology Major. Laboratory

220 SEX AND SEXUALITY 3 cr
Consideration of sex and reproduction as universal biological functions with special emphasis on physiological and psychological basis of human sexuality. The course also aims to examine sexual functioning, sexual behavior and sex therapy. Does not carry credit toward a Biology Major. Lecture

226 GENETICS
See description under Major Courses

MAJOR COURSES

111, 112 GENERAL BIOLOGY 4 cr each
Introduction to the scientific study of life at the molecular, cellular and organismal level. It involves consideration of relevant structure, function, development, reproduction, inheritance, evolution, and ecology. This course provides the basic information and concept necessary to understand living systems, their activity, and interrelationships. 111 is prerequisite to 112. Lecture and laboratory

203 MICROBIOLOGY-A 4 cr
Introduction to microorganisms, their morphology, metabolism, ecology, and cultural characteristics, with emphasis on their interaction with other organisms, including man. Principles of medical and health-related aspects of microbiology, chemotherapy, industrial, agricultural, and marine microbiology are presented. Prerequisites: Biology 111, 112 and organic chemistry (or concurrent registration). Lecture and laboratory

204 MICROBIOLOGY-B 4 cr
Introduction to viruses and immunology with emphasis on host-parasite interactions and patterns of infectious diseases in populations. Prerequisites: Biology 111, 112 and organic chemistry (or concurrent registration). 203 is not prerequisite to 204. Lecture and laboratory

226 GENETICS 4 cr
A study of the mechanisms of inheritance and their resulting effects on individuals and populations, including their implications in the life of man. Principles and details of methods and applications are illustrated with specific examples drawn from a wide range of species, from microorganisms to man. Prerequisites: 107, 108 or 111, 112. Lecture and laboratory

232 VERTEBRATE MACROSTRUCTURE 4 cr
A comparative study of the gross structure of vertebrates and the relationship of that structure to function and evolution. Prerequisites: 111, 112. Lecture and laboratory

238 VERTEBRATE MICROSTRUCTURE 4 cr
A study of tissue and organ structure and the relationship of that structure to function. Prerequisites: 111, 112 and 232 or permission of the instructor. Lecture and laboratory
244 ANIMAL DEVELOPMENT
A comparative study of the morphological and physiological aspects of animal development emphasizing current experimental approaches Prerequisites 111, 112 Lecture and laboratory

250 PLANT DEVELOPMENT
4 cr
Examines the unique features of representative types of plants as revealed by interrelationships of form, function and morphogenesis Prerequisites 111, 112 Lecture and laboratory

306 PLANT PHYSIOLOGY
4 cr
Varied studies of the growth requirements and regulatory mechanisms of important plant types with emphasis upon environmental control Prerequisites 111, 112 and 250 Lecture and laboratory

312 ANIMAL PHYSIOLOGY
4 cr
Examination of the physiological mechanisms of body function in animals including consideration of the basic components of biological control systems and the manner in which various organ systems contribute to the maintenance of physiological homeostasis Prerequisites Biology 111, 112 Lecture and laboratory

318 PHYSIOLOGY OF REPRODUCTION
4 cr
The course includes the anatomy histology physiology biochemistry and endocrinology of vertebrate reproduction. The main emphasis is on the physiology of puberty, estrous and menstrual cycle, conception, pregnancy and parturition. The physiological basis of fertility and infertility also are included. Prerequisites 111, 112, and 232 or 244 Lecture and laboratory

324 REGULATORY PHYSIOLOGY
4 cr
A treatment of physiological and environmental regulations with emphasis on neuroendocrine integration and adaptation. Prerequisites 111, 112, and 312 or 444 Lecture and laboratory

330 INVERTEBRATE BIOLOGY
4 cr
The morphology, systematics, life histories and ecology of invertebrate animals with emphasis on diversity of forms. Prerequisites 111, 112 or equivalent. Lecture and laboratory

336 ANIMAL PARASITOLOGY
4 cr
The principles of parasitism and general biology of animal parasites from protozoans through anthropods. Prerequisites 111, 112 and 330 Lecture and laboratory

348 EVOLUTION
3 cr
The history, development, concepts, and evidences of evolution with emphasis on modern studies in evolutionary biology including an introduction to population genetics. Prerequisites 111, 112 and 226 Lecture

395 SPECIAL TOPICS
1,3 cr
Treatment of topics of current or special interest in biology. Lecture, laboratory or combination

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

411 ECOLOGY
3 cr
The goal is to provide an overall grasp of the principles and procedures underlying ecological thought. Past present and future aspects of environmental studies are considered from the ecosystem viewpoint. Interrelationships of living things with each other as well as the non-living components emphasize the need for inter-disciplinary studies and quantitative data. Both terrestrial and aquatic habitats are used to illustrate concepts such as growth, niche, succession and competition. Applicability to current human problems is discussed, such as waste disposal, pollution, food, fuel, agriculture and urbanization. Prerequisites 111, 112. Not open to students with previous similar course. Lecture

412 ECOLOGY LABORATORY
1 cr
Laboratory including possible field work illustrates selected subject matter of 411 Ecology. Prerequisites 111, 112 and 411. May be taken concurrently with 411. Not open to students with previous similar course.

444 CELL PHYSIOLOGY
4 cr
A study of cells with regard to means of obtaining energy including respiration, fermentation and photosynthesis, work done by the cell including biosynthesis, active transport, and cell movement, cell growth and differentiation, relationships of cell structure to these processes. Prerequisites 111, 112 and organic chemistry. Not open to students with previous similar course. Lecture and laboratory.

Descriptions of the Following Courses are Provided in the Graduate School Catalog

503 CELL AND FINE STRUCTURAL BIOLOGY
3 cr

505 MOLECULAR GENETICS
3 cr

507 LABORATORY TECHNIQUES
3 cr

511 COMPARATIVE VERTEBRATE PHYSIOLOGY
3 cr

512 MAMMALIAN PHYSIOLOGY
3 cr

513 GENERAL ENDOCRINOLOGY
3 cr

520 EXPERIMENTAL EMBRYOLOGY
3 cr

523 INVERTEBRATE PHYSIOLOGY
3 cr

524 IMMUNOLOGY
3 cr

526 PATHOGENIC MICROBIOLOGY
3 cr

528 MICROBIAL PHYSIOLOGY
3 cr

531 BIOLOGY OF FUNGI
3 cr

535 MICROBIOLOGY SEMINAR
3 cr

580 URBAN ECOLOGY
1 cr

DEPARTMENT OF CHEMISTRY

Chairman Andrew J. Glaid, III, 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 AND BIOCHEMISTRY MAJORS

Thirty-two semester hours are required. All students must take 121, 122, 221, 222, 321, 322, and 421. Mathematics 115, 116, Physics 201, 202 or 211, 212, Biology 111, 112, proficiency in German, Russian or French at the 202 or 212 level is required.

If a student takes 111, 112, and 121, 122, the credits for the 111, 112 will not apply to the total required for the degree. Courses 101, 102, 205, 206 will not be counted toward a major.

Chemistry Major All students must take 322, 324, 422 and Mathematics 215.

Biochemistry Major All students must take 401, 524. In addition, two biology electives should be selected from Biology 203, 204, 324, 444, 505. Students planning to enter a graduate chemistry department should take 322, 324.

To meet the American Chemical Society's requirements for Professional Certification, the Chemistry Major must elect two additional courses from the following: 401, 523, 524, 537, 538, 545, 546, 571, 572, Mathematics 216 or 308, Biology 438, Pharmacy Sciences 525, 539, one of these must be a laboratory course. This laboratory requirement can also be fulfilled with 490. The Biochemistry Major must take 322, 324, and 422 for certification.

REQUIREMENTS FOR THE MINORS

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

101, 102 CHEMISTRY AND SOCIETY

3 cr each

The impact of chemistry and society reaches every phase of life. The course attempts to provide a link between chemistry and the changes in our technological society. In the first semester, the basic concepts of chemistry are developed for the non-science student and applied to current topics such as air and water pollution, energy, pesticides, etc. The second semester deals with the biochemistry of living systems. Chemical principles are used to explain the normal life processes of photosynthesis, respiration, etc. as well as abnormal conditions such as drug action, poisons, etc. on metabolic processes. Students with a good high school background do not require the first semester as a prerequisite, others should see the instructor before registering for the second semester. 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, organic 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

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 principle of ionic equilibria including qualitative inorganic analysis.

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

122 Lecture three hours, Recitation 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 spectrums) properties of representative organic compounds are discussed in detail. Prerequisites 121, 122. For 205, 206: Lecture three hours, Recitation, one hour. Laboratory four hours.

321, 322 PHYSICAL CHEMISTRY

3 cr each

A study of the structure and properties of the various states of matter, thermodynamics, chemistry, 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. Prerequisites: 205 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.

490 UNDERGRADUATE RESEARCH

Maximum 2 cr

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

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: Lawrence E. Gaichas, Ph. D.

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

REQUIREMENTS FOR THE MAJOR

The Department offers major programs in Classics (knowledge of Greek & Latin required) and Ancient Civilization (no knowledge of Greek & Latin required). The Classics major 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. (Survey of Sanskrit Literature may be substituted for the minimum of six

...
credits.) Credits applied to the classics major must be at the 200 level or above. Six credits of ancient history (Classics 220, 221, 222, 223) are required in addition for any major.

The major in Classical Civilization is an individually designed program of 24 hours of ancient literature, history, art, and archaeology. Students majoring in Classical Civilization design programs to fit their backgrounds, interests and career objectives with the close advice and approval of the Classics Department. In general, majors will be expected to formulate programs with balanced history and literature components. Majors in Classical Civilization are strongly advised to fulfill the College language requirement in either Greek or Latin. Any courses in Greek or Latin at the 200 level or above may be applied to the Ancient Civilization Major.

REQUIREMENTS FOR THE MINOR

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

101, 102 BASIC LATIN
Study of the fundamentals of Latin grammar and syntax combined with occasional exercises in translation from Roman authors

103, 104 BASIC GREEK
Study of the fundamentals of Greek grammar and syntax combined with frequent exercises on translation from Greek authors

105, 106 BASIC SANSKRIT
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
Survey of major Latin authors

203, 204 INTRODUCTION TO GREEK READINGS
Survey of major Greek authors

205, 206 BIBLICAL AND PATRISTIC LATIN
Selections from Biblical and Christian Latin literature

207, 208 BIBLICAL AND PATRISTIC GREEK
Selections from Biblical and Christian Greek literature

211, 212 SURVEY OF SANSKRIT LITERATURE
Selected readings from major Sanskrit texts including the Mahabharata, Hitopadeśa, Kathasaritsagara, Manavadharmaśastra, Rigveda, and Meghaduta

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 may be repeated as long as a different author or work is read.

301 PRE-FIFTH CENTURY
The Iliad, the Odyssey, the Homeric Hymns, Hesiod, Pindar, and Greek lyric poetry

302 FIFTH CENTURY
Herodotus, Thucydides, Aeschylus, Sophocles, Euripides and Aristophanes

303 FOURTH CENTURY
Greek orators, Plato, Aristotle, Xenophon, Menander

304 ALEXANDRIAN PERIOD
Apollonius, Rhodius, Theocritus, Callimachus, and the lesser Alexandrian authors

305 ROMAN REPUBLIC
Plautus, Terence, Cicero, Lucretius, Catullus, Caesar, and Sallust

306 AUGUSTAN LITERATURE
Livy, Vergil, Horace, Ovid, Propertius, and Tibullus

307 IMPERIAL LITERATURE
Seneca, Lucan, Petronius, Martial, Plutarch, Tacitus, Juvenal, Pliny the Younger, Suetonius, Apuleius, and Lucian

308 POST CLASSICAL LITERATURE
Post-classical, medieval, renaissance, and neo-Latin authors

309 STUDIES IN GENRE
Selected genre of Greek and/or Latin literature

400 INDEPENDENT READINGS AND RESEARCH
Var cr

CLASSICS COURSES IN ENGLISH (NO GREEK OR LATIN REQUIRED)

121 GENERAL ETYMOLOGY
A study of Greek and Latin words to facilitate the comprehension of modern English as it is written by our acknowledged modern masters

122 ETYMOLOGY OF SCIENTIFIC TERMS
Introduction to Greek and Latin elements of scientific terminology

123 CLASSICAL MYTHOLOGY
A presentation of the major myths of Greece and Rome with special attention to contemporary interpretations of myth and the influence of myth on art and literature

124 WORLD MYTHOLOGY
Investigation of the dominant themes of non-Classical mythologies with special reference to Near Eastern, Celtic, Teutonic, African, and American Indian myths

245 GREEK HISTORY
An examination of the development of Greek history and culture from earliest times up to the death of Alexander of Macedon

246 HELLENISTIC HISTORY
A survey of Mediterranean history from the death of Alexander until the accession of Octavian and the establishment of the Roman principate

247 HISTORY OF THE ROMAN PRINCIPATE
Study of the consolidation of the Roman imperial structure from Augustus to the death of Commodus

248 HISTORY OF THE LATE ROMAN EMPIRE
Examination of Roman history from the ascension of Severi to the death of Justian

260 THE CLASSICAL TRADITION IN AMERICA
A study of the influences of Graeco-Roman civilization on American cultural life, with special emphasis on its influence on American literature

290 ANCIENT THEATRE
An examination of the origins and development of ancient tragedy and comedy. Readings from...
the works of Aeschylus, Sophocles, Euripides, Aristophanes, Menander, Seneca, Plautus and Terence.

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

232 ANCENT NOVEL AND ROMANCE
Survey of Greek and Roman prose fiction with special emphasis on the nature and development of narrative technique. Readings from Homer, Herodotus, Xenophon, Apollonius of Rhodes, the Greek Romances, Lucian, Petronius, and Apuleius. 3 cr.

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

240 GREEK RELIGION
An examination of the continuity of Greek religious experience from ancient times to the present and of the interconnection of ancient Greek religious ritual, moral experience and religious thought. 3 cr.

241 ROMAN RELIGION
A study of Roman religious beliefs and practices with attention to the development of hero cults, oriental mystery religions, and philosophical sects as alternatives to traditional religion. 3 cr.

250 CLASSICAL ARCHAEOLOGY
A study of the archaeological discovery of classical civilization from the Greek Bronze Age through the Roman Empire. An introduction to the techniques of archaeological investigation. 3 cr.

300 SEMINAR
Topics variable. 1-3 cr.

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 121, 221, 222, 321, and 322 plus nine elective credits; alternately, a student may take 221, 222, 321, and 322 plus 12 elective credits.

Extracurricular requirements: Analytic methods 281, 282 in the School of Business and Administration or Mathematics 225 in the Mathematics Department of the College. Students planning to do graduate work in Economics are advised to take calculus.

REQUIREMENTS FOR THE MINOR
Eighteen semester hours are required for a minor in Economics. These credits must include 121, 221, and 222 plus nine elective credits; alternately, a student may take 221 and 222 plus 12 elective credits. It is strongly recommended that students having economics as a minor consult with the Economic Department for advisement.

Course Descriptions are Provided in the School of Business and Administration Section of this Catalog on Pages 85-87.

DEPARTMENT OF ENGLISH
Chairman James P. Beymer, M.A., J.D.

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.

Prerequisites—English Composition 101 (or its equivalent) is a prerequisite for admission to English Composition 102. English Composition 102 (or its equivalent) is a prerequisite for admission to all other courses offered by the Department.

The English Department further advises that two 200 level courses should be taken before the student attempts any 300 or 400 level course (except for 307 and 308).

REQUIREMENTS FOR THE MAJOR
The major is individually-designed program of 24 hours of English Department courses 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
A minimum of 12 credit hours beyond the freshman level of which no more than six hours may be taken at the 200 level.

There are five separate emphases that the student may follow:
1. English Literature 201, 202, and six hours in upper division English Literature, courses 409 through 469.
2. American Literature 205, 206, and six hours in upper division American Literature, courses 471 through 477.
3. World Literature 210, 211, and six hours in upper division literature. Course selections, which may include three hours in literature above the 200 level from Classics or Modern Languages, must be approved by the English Department Chairman.
4. Writing 203 and nine hours in 300 level Writing Workshops.
5. English Honors: Students who, by invitation of the Department Honors Committee, complete English 212, 213, and two 300 Honors Seminars, may count that program as an English Minor.

HONORS PROGRAM
Students who give evidence of outstanding ability in English through their performance in English Composition 101 or by virtue of superior national test scores will be invited to participate in the English Honors program at the discretion of the Department Honors Committee.

These students may apply Honors course credits to either an English major or minor, or may use these credits as electives. Further details concerning the Honors program are available through the department office and will be distributed to all nominees at the time of their recommendation for admission to the program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>101, 102</td>
<td>ENGLISH COMPOSITION</td>
<td>3 cr each</td>
</tr>
<tr>
<td>103</td>
<td>ENGLISH COMPOSITION HONORS</td>
<td>3 cr</td>
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<tr>
<td>201, 202</td>
<td>ENGLISH LITERATURE SURVEY</td>
<td>3 cr each</td>
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<tr>
<td>203</td>
<td>ADVANCED WRITING</td>
<td>3 cr</td>
</tr>
<tr>
<td>205</td>
<td>AMERICAN LITERATURE SURVEY I—BEGINNING TO CIVIL WAR</td>
<td>3 cr</td>
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<tr>
<td>206</td>
<td>AMERICAN LITERATURE SURVEY II—AFTER CIVIL WAR</td>
<td>3 cr</td>
</tr>
<tr>
<td>207</td>
<td>THE NOVEL</td>
<td>3 cr</td>
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<td>208</td>
<td>POETRY</td>
<td>3 cr</td>
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<td>209</td>
<td>DRAMA</td>
<td>3 cr</td>
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<tr>
<td>210, 211</td>
<td>READINGS IN WORLD LITERATURE I, II</td>
<td>3 cr each</td>
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<tr>
<td>212, 213</td>
<td>ENGLISH LITERATURE HONORS</td>
<td>3 cr each</td>
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<tr>
<td>300</td>
<td>HONORS SEMINAR</td>
<td>3 cr</td>
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<tr>
<td>307</td>
<td>THE ENGLISH LANGUAGE</td>
<td>3 cr</td>
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<tr>
<td>308</td>
<td>APPLIED LINGUISTICS</td>
<td>3 cr</td>
</tr>
<tr>
<td>370, 371, 327, 373, 374, 375, AND 376</td>
<td>SPECIAL STUDIES IN ENGLISH</td>
<td>3 cr each</td>
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</table>

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

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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>409</td>
<td>CHAUCER</td>
<td>3 cr</td>
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A study of The Canterbury Tales and minor poems.

### Renaissance Studies

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>413</td>
<td>SIXTEENTH CENTURY ENGLISH LITERATURE</td>
<td>3 cr</td>
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Survey including non-Shakespearean drama Sidney, Spenser, Shakespeare, Marlowe and minor figures.

### Shakespeare Studies

<table>
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<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>433</td>
<td>SHAKESPEARE I</td>
<td>3 cr</td>
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</table>

Comedies and romances.

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>434</td>
<td>SHAKESPEARE II</td>
<td>3 cr</td>
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</table>

Tragedies and histories.

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>439</td>
<td>SHAKESPEARE SPECIAL TOPICS</td>
<td>3 cr</td>
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Studies in Shakespeare relating his works to those of his contemporaries or concentrating on the problems of Shakespeare biographical, aesthetic, and critical. Specific works and approaches to be selected by the instructor.

### Eighteenth Century Studies

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>441</td>
<td>ENGLISH CLASSICISM</td>
<td>3 cr</td>
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</table>

Developments of neo-classical literature from the Restoration to the death of Pope. Primary attention given to Dryden, Swift, and Pope.
26

442 LATE EIGHTEENTH CENTURY ENGLISH LITERATURE 3 cr
Johnson and his circle: the development of the novel, the aesthetic movement

449 EIGHTEENTH CENTURY SPECIAL TOPICS 3 cr
Studies in Eighteenth Century thought and aesthetic in the works of one or more of its great writers: Dryden, Swift, Pope, Johnson, Blake, etc. or through the ideas and attitudes conveyed in one of the dominant genres of the Eighteenth Century: the drama, the novel, the essay, etc.

Nineteenth Century Studies

451 ENGLISH ROMANTIC LITERATURE 3 cr
A study of the aesthetic, moral, political and literary aspects of English romanticism approached through the writings of Wordsworth, Coleridge, Byron, Shelley, Keats

452 VICTORIAN LITERATURE 3 cr
A study of the poetry of Tennyson, Browning, Arnold and the prose of Arnold, Carlyle and Ruskin. Attention also given to the poetry of Morris, Rossetti, and Fitzgerald

459 NINETEENTH CENTURY SPECIAL TOPICS 3 cr
Studies in Nineteenth Century thought and aesthetic in the works of one or more of its great writers such as Wordsworth, Tennyson, Browning, Dickens, Hardy, or through the ideas and attitudes conveyed in one of the dominant genres of the Nineteenth Century

Twentieth Century Studies

461 EARLY TWENTIETH CENTURY LITERATURE 3 cr
Selective study of authors representing the major literary types and trends from about 1890 to 1930: Hardy, Moore, Butler, Conrad, Yeats, Hopkins and Joyce

462 CONTEMPORARY LITERATURE 3 cr
Major modern types and trends: Eliot, Woolf, Waugh, Greene, Auden, Spender, Thomas, Golding, and others

469 TWENTIETH CENTURY SPECIAL TOPICS 3 cr
Studies in Twentieth Century thought and aesthetic in the works of one or more of its great writers such as Yeats, Joyce, Eliot, or through the ideas and attitudes conveyed in one of the dominant genres of the Twentieth Century

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 with emphasis 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, including Frost, Fitzgerald, Hemingway, Faulkner, Bellow, etc.

477 AMERICAN LITERATURE SPECIAL TOPICS 3 cr
Studies 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 from specific studies of major authors or from tracing the development of dominant literary genres

499 DIRECTED STUDIES 3 cr
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 architecture, sculpture, and painting. The background of Roman art in Etruscan, Greek, and Egyptian civilizations is investigated, and the impact of Roman art in forming Christian art. Renaissance art and Neo-Classicism is analyzed (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 examination of the Renaissance spirit of the 15th century. Concentration is upon comparisons of Northern and Southern attitudes of man, nature, and social structure, and to materials, techniques, pictorial representation, and iconography (Offered in alternate years)

331 ART OF THE 19TH CENTURY 3 cr
A survey of the visual arts in the 19th century. The visual arts not only reflect the dramatic changes in the artist's use of form, color, line, texture, and light but also emphasize the changing political, religious, and social values in society.

332 ART OF THE 20TH CENTURY 3 cr
A chronological study of 20th century painting and sculpture which "looks beyond visual perception and tries to find the essence and meaning of reality." From cubism to conceptual art from Picasso to Pollock, and Pop. This course offers a thorough exploration of the visual arts of the 20th century.

342 AMERICAN PAINTING AND SCULPTURE 3 cr
An examination of the forms created by American painters and sculptors from the early 17th through the late 20th century. A special class intent involves arriving at a clear understanding of America's concept of reality during these years, particularly in the 20th century.

345 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.

351 SELECTED READINGS VARIABLE TOPICS 3 cr
In-depth research using the resources of Pittsburgh area libraries and source material relevant to the history of Western art. Weekly seminars are conducted. Trips to local and out-of-town museums are arranged. Individual research is programmed. Prerequisite: Permission of instructor.

DEPARTMENT OF HISTORY

Chairman Samuel J. Antonino, 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 fulfills 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, or 113, 114. 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. Transfer students may apply for equivalency.

The stated requirements aim to provide the student with a structured program of learning within which considerable flexibility is encouraged. 111, 112 acquaints the student with the basic themes of world history. 113, 114 deals with the history of the West. A variety of second-year survey courses supply essential knowledge of the major periods of European and American history. Upper and advanced-level courses provide intensive studies of historical methodology of the major cultural areas of the world and of significant themes in history.

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

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 or 113, 114 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 APPROACHES TO WORLD 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.

113, 114 WESTERN CIVILIZATION 3 cr each
An introductory survey of the origins and characteristics of European Civilization, emphasizing the personalities and events and institutions that have made the West the dominant global power today.

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 UNITED STATES TO 1877 3 cr
The historical development of American institutions, ideals, and society from earliest times to 1877.
232 DEVELOPMENT OF THE UNITED STATES SINCE 1877 3 cr
The historical development of American institutions, ideals, and society since 1877

Topical and Area Surveys

253 THE MIDDLE EAST FROM MUHAMMED TO NAPOLEON 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 LATIN AMERICA COLONIAL PERIOD 3 cr
From the Age of Discovery through the revolutions of the early 19th century

262 LATIN AMERICA NATIONAL PERIOD 3 cr
From the revolutions to the present, with emphasis on Argentina, Brazil, Chile, and Mexico

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 Western 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
A survey of social, economic, political, and cultural changes before and after the establishment of the People's Republic of China

274 CHURCH HISTORY I 3 cr
A religious and historical exploration of growth of Christianity from the first century up to the Reformation, discussion of those issues within the Church and the external forces which brought about major conflict and development

275 CHURCH HISTORY II 3 cr
Selected topics in Catholic and Protestant development from 1500 to the present day, special emphasis on the crises, revolutions, and reforms that were central to this development

276 AMERICAN CHURCH HISTORY 3 cr
Emphasizes the historical development of major religious traditions in America, both Catholic and Protestant. Special attention will be given to "the life of the mind" of Christianity in America, the frontier expansion of religion, the often-controversial inter-action between the Church and American culture, the place of religion in the creation of the American character, and the unique separation of church and state.

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

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

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

247 ROMAN IMPERIAL HISTORY 3 cr
A study of the consolidation and dissolution of the Roman imperial structure up to the death of Justinius in 565 B.C.

248 ANCIENT INDIAN HISTORY 3 cr
An investigation of ancient Indian history, art, and literature up to the time of the Muslim invasion

369 HISTORY OF TECHNOLOGY AND MATERIAL CULTURE 3 cr
Explores the tools and physical resource of human civilizations. It is a study of the man-made physical world around us. The course will consider eras of material scarcity and plenty, technological revolutions which change the course of history, and the historical forms of material survival

382 PSYCHOHISTORY 3 cr
Examines the inter-relationships between psychology—especially psychoanalysis—and history. Psychology leadership of group behavior of war, etc

386 HISTORICAL GEOGRAPHY 3 cr
A survey of the physical world which is the basis for a human civilization. Past, present, and future: What are the possibilities and limitations of different places for human development? How successful or unsuccessful were human settlements? Emphasis also on geography as an intellectual discipline and cultural phenomenon

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 in 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.

351 DIPLOMATIC HISTORY OF UNITED STATES I 3 cr
From the Revolution to 1890 with the emphasis upon the establishment of the nation and its diplomatic methods and goals.

352 DIPLOMATIC HISTORY OF UNITED STATES II 3 cr
The second half of the course will be Diplomatic History of the United States 1890 to present. Emphasis is upon involvement of the United States in both World Wars and its role as an imperial power.
357 HISTORY OF THE AMERICAN PRESIDENCY 3 cr
Primarily an investigation and evaluation—personal, political, contemporary, and historical—of each president with some attention to the growth of the office

358 CIVIL WAR AND RECONSTRUCTION 3 cr
An intensive study of the American experience before and after the War for the Union

360 CONSTITUTIONAL HISTORY OF THE UNITED STATES 3 cr
An analysis of the Supreme Court and constitutional development stressing the major controversies in the field

361, 362 HISTORY OF THE UNITED STATES' POLITICAL PARTIES 3 cr each
A detailed examination and analysis of the origins, leadership, and operation of the major political parties in the U.S.

Intellectual and Cultural History

363 CULTURAL HISTORY OF MEDIEVAL EUROPE 3 cr
The development of the body of literature secular and religious, from the decline of the Roman Empire to the Renaissance

365 THE ORIGINS OF THE MODERN MIND 3 cr
Intellectual changes between 1300 and 1800 that set the stage for the modern temper

366 THE MODERN MIND 3 cr
The major ideological tendencies of modern European thought and their connection to society and politics and to the major philosophic and scientific currents of the nineteenth and twentieth centuries

367 THE IMPACT OF SCIENCE ON SOCIETY 3 cr
The economic, social and cultural consequences of the rise of modern science

368, 369 THE AMERICAN MIND I, II 3 cr each
The origins, development, and contemporary modes of American thought, including major "climates of opinion," diverse movements, and selected scientific, political, religious, social, and artistic topics

European Political and Diplomatic History

373, 374 DIPLOMATIC HISTORY OF THE FAR EAST 3 cr each
Western imperialism in Asia, rise of Asian nationalism, analysis of international problems in current tension areas

377 EUROPEAN EMPIRE IN THE NINETEENTH CENTURY 3 cr
Examine the growth of the great colonial empires in the nineteenth century and their decline before the forces of nationalism

378 EUROPEAN DIPLOMATIC HISTORY 1870-1960 3 cr
A study of European international politics since 1870 with emphasis upon the major developments, their origins, and historic significance, and the evolving styles of diplomacy

379 REVOLUTIONS IN THE MODERN WORLD 3 cr
An analysis of the major political and social revolutions in Europe since 1789, the nature of the revolutionary phenomenon, and the inevitable counter-revolutionary trend

380 EUROPEAN FASCISM 3 cr
An intensive study of the major fascist movements and regimes of the twentieth century in light of the political, economic, social, intellectual, and psychological tensions which produced them

Social History

370 CURRENT HISTORY 3 cr
What are the major forces affecting our lives today? Where do they come from? Where will they lead to? Resources will be current media such as newspapers, TV, etc.

384 FAMILY AND SOCIETY IN HISTORY 3 cr
Interactions between the family, the traditional basic unit of society, and the larger world in modern times. Working through family histories, the course will investigate the changing nature of the family in an effort to better understand the modern institution

385 WOMEN IN HISTORY 3 cr
The too often neglected history of one-half of the human race with special emphasis on the life experience of women in past ages

387 FRONTIER, ENVIRONMENT, AND UTOPIA 3 cr
A historical view of man’s attempts to create new societies, concentrating upon ecological issues, world frontier experiences, and utopian or futurist ventures

389 SOCIAL HISTORY OF MODERN EUROPE 3 cr
An examination of major demographic, economic, and social trends in modern European history

391 SOCIAL HISTORY OF RUSSIA 3 cr
The study of the development role, and interrelations of the social classes in Russia and the Soviet Union and in East Central and Southeastern Europe

392 THE EAST EUROPEAN ETHNIC (IMMIGRANT) EXPERIENCE 3 cr
The examination of the social and economic conditions and cultural milieu that the various waves of East European immigrants left behind in Europe and found in America, and the study of their inter-ethnic relationships and adjustment to American society

393 ECONOMIC HISTORY OF THE UNITED STATES TO 1865 3 cr
Investigates the economic factors in the development of the U.S. and their impact on social and political issues

394 UNITED STATES’ LABOR HISTORY 3 cr
Concentrates chiefly on the relations between worker and employer from the early craftsmen to the industrial union member

395 URBAN HISTORY UNITED STATES 3 cr
The rise of urban America, from the colonial period to World War I

396 HISTORY OF AMERICAN IMMIGRATION SINCE 1880 3 cr
Focuses on the nature and problems of the more recent immigrant’s cultural contributions, the effects of selectivity and changing native attitudes

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 UNITED STATES 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—UNITED STATES SINCE 1945 3 cr
A discussion of selected contemporary issues foreign and domestic which illustrate the identity crisis in the U.S.
481 THE MODERN HISTORIAN
The development of modern historical thinking and scholarship as it is related to the major intellectual and social currents of modern times
3 cr

483 SPECIAL PROBLEMS IN EUROPEAN HISTORY
Emphasizes the conflict among historians over interpretations of significant events in European history
3 cr

484 SPECIAL PROBLEMS IN AMERICAN HISTORY
Emphasizes the conflict among historians over interpretations of significant events in American history
3 cr

DEPARTMENT OF JOURNALISM
Chairman Nancy C. Jones, Ph.D.

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 as 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, 367, 369, 376, and 466 or 468 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
An introduction to the role principles and responsibilities of newspapers, broadcasting magazines, advertising and public relations. Course open to non-majors. (Offered both semesters.)
3 cr

267 BASIC REPORTING AND WRITING I
Fundamentals of news reporting and writing. Applied practice in laboratory sections. Typing ability required
3 cr

268 BASIC REPORTING AND WRITING II
Advanced writing of the more complex types of news stories. Applied practice in laboratory sections. Typing ability required. Prerequisite: 267
3 cr

367 RADIO-TELEVISION PRINCIPLES AND WRITING
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
3 cr

369 ADVERTISING PRINCIPLES AND WRITING
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
3 cr

370 DEVELOPING THE BROADCAST PROGRAM
Creation and development 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
3 cr

371 MASS COMMUNICATIONS AND PUBLIC OPINION
A study of the nature of public opinion and the mass communications process. Effects of propaganda and barriers to effective communication. Open to juniors and seniors.
3 cr

372 COMMUNICATIONS LAW
A study of the legal rights, responsibilities and ethics of the mass media. Open to juniors and seniors.
3 cr

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

376 HISTORY OF THE MASS MEDIA
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.
3 cr

378 PHOTOGRAPHY FOR JOURNALISTS
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. Prerequisite: 267 or approval of Department
3 cr

380 SPECIALIZED PUBLICATIONS
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.
3 cr

405 ADVANCED WRITING FOR JOURNALISM
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.
3 cr

409 ADVANCED WRITING FOR ADVERTISING
A lecture-laboratory course in copywriting and design for advertising. Two hours lecture; two hours laboratory. Prerequisite: 369.
3 cr

411 MAGAZINE ARTICLE WRITING
A lecture-laboratory course in writing for the general and specialized magazine. Two hours lecture; two hours laboratory. Open to juniors and seniors. Prerequisite: 267.
3 cr

413 ADVANCED WRITING FOR RADIO AND TELEVISION
A lecture-laboratory course in writing for radio and television. Two hours lecture; two hours laboratory. Prerequisite: 367.
3 cr

420 INTERNATIONAL COMMUNICATIONS
A study of world news systems and an analysis of their roles as instruments of world understanding. Open to juniors and seniors.
3 cr

430 PUBLIC RELATIONS PRINCIPLES AND WRITING
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.
3 cr

440 CRITICAL ARTICLE WRITING
The study, analysis and writing of critical articles on art, books, drama, music, photography, radio, television and other public presentations. Writing of criticism will be stressed with the
emphasis on books along with the reviewing of outstanding examples in recognized publications.

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 communication with emphasis in high school journalism. Open to juniors and seniors. Prerequisites: 167, 267.

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 Business/Professional Advertising Association, 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, 367, 369, 370, 376, 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.)

485 INDUSTRIAL ADVERTISING 3 cr
Deals with the principles and practices of industrial marketing communications. Emphasis will be placed on trade-paper ads, direct-mail advertising, descriptive product folder, sales letters, and presentations. Examination will be made of related crafts such as commercial art typography, printing, plate-making, and media selection. Prerequisites: 167, 267, 268, 367, 369, 376.

490 INDIVIDUAL PROJECTS IN MASS COMMUNICATIONS 1-3 cr
Individual research projects in the mass media. Open to junior and senior majors only. Prerequisite: Permission of instructor and department chairman.

DEPARTMENT OF MATHEMATICS

Chairman Charles F. Sebesta, Ph.D.

The Department of Mathematics offers a sequence of modern courses which will 1) aid students in developing their ability to think scientifically and form independent judgments, 2) provide students with a breadth and depth of knowledge concerning not only manipulative skills but also fundamental and essential theory, 3) enable students to use their knowledge in the formulation and solution of problems, and 4) give students the necessary basis of 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, this must include Physics 211, 212. The remaining courses may be selected from Biology 111, 112 and 226 and above, Chemistry 121 or higher, and Physics 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, 215, 216, 315, 321 are recommended.

For economics and social science majors, 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 or minor or the mathematics/science area requirements.

103, 104 FINITE MATHEMATICS I, II 3 cr each
A course meeting the needs of non-science students in the College for an introduction to some of the applications of mathematics in the world today. It provides an introduction to matrices and linear systems, linear programming, probability and statistics, game theory, and computers. Not counted toward a major or minor.

105 COLLEGE ALGEBRA AND TRIGONOMETRY 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 or minor or the mathematics/science area requirement.

109 COLLEGE ALGEBRA 3 cr
A traditional course in college algebra for students who are not prepared for 111. Not counted toward a major or minor. Credit will not be allowed for both this course and 105.

111 CALCULUS FOR NON-SCIENCE STUDENTS 3 cr
Differentiation and integration of algebraic, logarithmic, and exponential functions, maxima and minima, area, exponential growth. Not counted toward a major. Credit will not be allowed for both this course and 115.

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. Prerequisites 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, 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
A principally theoretical course considering 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 geometrics and some topology. Prerequisite 215. Not offered in regular sequence but available on request.

403 INTRODUCTION TO POINT SET TOPOLOGY
3 cr
A survey of elementary topics including topological spaces, compactness, connectedness, convergence and separation axioms. Prerequisite 215. Not offered in regular sequence but available on request.

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. Not offered in regular sequence but available on request.

415, 416 ADVANCED CALCULUS I, 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. Not counted toward a major.

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 Francesca Colecchia, Ph.D.

The Department of Modern Languages offers courses in French, German, Italian, Russian, and Spanish. On the elementary and intermediate level in French, German, and Spanish, the student may choose from two "tracks" of language courses both of which satisfy College degree requirements. One of these emphasizes reading and the other reading, writing, speaking, and aural comprehension. In 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. Choice of courses dealing with specific works, authors, and auxiliary subjects is also presented.

The student possessing a knowledge of foreign languages will find career opportunities in a number of fields, such as education, government employment, foreign service, social work, industry, and tourism.

REQUIREMENTS FOR THE MAJOR
The Department offers major programs in French, German, and Spanish. In addition, it offers minor programs in these languages and Russian, as well as non-major courses in Italian.

The major program in Modern Languages and Literatures consists of a minimum of 24 semester hours beyond the intermediate level. Required courses are:

French 301, 302, 462, 463 Majors will discuss their courses with their advisors.

German 301, 302, 463, 464 Majors will discuss their courses with their advisors.

Spanish 301, 302, 401, 402, 451, 452 Majors will discuss their courses with their advisors.

Elementary and intermediate courses must be taken in sequence. It is recommended that students not take advanced courses out of progression. Credit toward the major or minor will not be given for 201, 202, 211, 212, or 239, 240 which are intermediate level courses. 302 is the recommended prerequisite to all courses numbered 312 and above.

It is recommended that majors in the Department include a course in the art of the country in whose language they specialize as well as one course of literature in translation in the literature of a country other than that of their major.

A maximum of 12 transfer credits will be accepted toward the major.

Junior Year Abroad Majors are strongly encouraged but not obliged to participate in Department approved programs. Further information may be obtained at the Department office.
**REQUIREMENTS FOR THE MINOR**

The minor program consists of a minimum of 12 semester hours at the 300 level and above.

### 490 INDEPENDENT FIELD STUDY (All Languages)  
Var cr  
The student will participate, under the supervision and guidance of the instructor, in selected tours to various foreign countries to undertake independent study on selected and approved projects involving the exploration and study of history, life work arts and culture. Prerequisite: Permission of the instructor and Department Chairman.

### French

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### 320-345 WORKSHOP IN FRENCH LITERATURE AND CULTURE | 3 cr each |

### 460-475 SEMINAR IN FRENCH LITERATURE | 3 cr each |

### 460, 475 SEMINAR IN GERMAN LITERATURE | 3 cr each |

### German

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### 320-345 WORKSHOP IN GERMAN LITERATURES AND CULTURE | 3 cr each |

### 460, 475 SEMINAR IN GERMAN LITERATURE | 3 cr each |

### 462 CHANSON DE ROLAND THROUGH 17TH CENTURY | 466 19TH-CENTURY FRENCH POETRY |

### 463 18TH CENTURY TO MODERN PERIOD | 467 19TH-CENTURY FRENCH NOVEL |

### 464 17TH-CENTURY FRENCH THEATRE | 468 19TH-CENTURY FRENCH THEATRE |

### 465 18TH-CENTURY FRENCH THEATRE | 469 20TH-CENTURY FRENCH POETRY |

### 470 20TH-CENTURY FRENCH NOVEL | 471 20TH-CENTURY FRENCH THEATRE |

### 480 DIRECTED READINGS Var cr  
Readings of literary texts under close faculty supervision for majors only and only with permission of the Department. Variable credit.

### 490 INDEPENDENT FIELD STUDY (All Languages)  
Var cr  
The student will participate, under the supervision and guidance of the instructor, in selected tours to various foreign countries to undertake independent study on selected and approved projects involving the exploration and study of history, life work arts and culture. Prerequisite: Permission of the instructor and Department Chairman.

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### 460-475 SEMINAR IN FRENCH LITERATURE | 466 19TH-CENTURY FRENCH POETRY |

### 463 18TH CENTURY TO MODERN PERIOD | 467 19TH-CENTURY FRENCH NOVEL |

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### 480 DIRECTED READINGS Var cr  
Readings of literary texts under close faculty supervision for majors only and only with permission of the Department. Variable credit.

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### 320-345 WORKSHOP IN GERMAN LITERATURES AND CULTURE | 3 cr each |

### 460, 475 SEMINAR IN GERMAN LITERATURE | 3 cr each |

### 462 CHANSON DE ROLAND THROUGH 17TH CENTURY | 466 19TH-CENTURY FRENCH POETRY |

### 463 18TH CENTURY TO MODERN PERIOD | 467 19TH-CENTURY FRENCH NOVEL |

### 464 17TH-CENTURY FRENCH THEATRE | 468 19TH-CENTURY FRENCH THEATRE |

### 465 18TH-CENTURY FRENCH THEATRE | 469 20TH-CENTURY FRENCH POETRY |

### 470 20TH-CENTURY FRENCH NOVEL | 471 20TH-CENTURY FRENCH THEATRE |

### 480 DIRECTED READINGS Var cr  
Readings of literary texts under close faculty supervision for majors only and only with permission of the Department. Variable credit.
The following courses represent current seminar offerings, they will be offered on a rotated basis and/or as circumstances warrant from semester to semester. All seminars carry three credits a semester. Recommended prerequisite: German 302.

460 GERMAN LITERATURE TO LESSING

461 GERMAN LITERATURE FROM LESSING TO THE PRESENT

462 ADVANCED GERMAN STYLISTICS

463 THE ART OF TRANSLATION FROM ENGLISH TO GERMAN

464 GERMAN ROMANTIC LITERATURE

465 THE ARTIST AND THE PROCESS OF ALIENATION IN CONTEMPORARY GERMAN LITERATURE

480 DIRECTED READINGS

Reading of literary texts under close faculty supervision, for majors only and only with permission of the Department. Variable credit.

Italian

101, 102 ELEMENTARY ITALIAN

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

201, 202 INTERMEDIATE ITALIAN

Intensified review and continuation of 101, 102. Prerequisite: 102 or equivalent.

314, 315 INDIVIDUAL STUDY

Prerequisite: 202 or equivalent.

Russian

101, 102 ELEMENTARY RUSSIAN

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

201, 202 INTERMEDIATE RUSSIAN

Intensified review and continuation of 101, 102. Prerequisite: 102 or equivalent.

301, 302 RUSSIAN CONVERSATION AND COMPOSITION

Prerequisite: 202 or equivalent.

Spanish

101, 102 ELEMENTARY SPANISH

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

460-475 SEMINAR IN SPANISH LITERATURE

All courses numbered 460 through 475 are seminars in literature, designed to offer the advanced undergraduate student the opportunity to study various aspects of literature in greater depth. The following courses represent current seminar offerings, they will be offered on a rotated basis and/or as circumstances warrant from semester to semester. All seminars carry three credits a semester. Recommended prerequisite: Spanish 401-402 or equivalent.

460 THE QUIJOTE

461 SPANISH LITERATURE SINCE THE CIVIL WAR

462 AVANT-GARDE SPANISH-AMERICAN THEATRE

463 LORCA AND THE GENERATION OF 1927

464 THE LITERATURE OF THE SIGLO DE ORO

465 MODERNISMO: SPAIN AND SPANISH AMERICA

480 DIRECTED READINGS

Readings of literary texts under close faculty supervision, for majors only and only with permission of the Department. Variable credit.

466 CONCEPTS OF "TOLERANCE" IN THE AGE OF GERMAN CLASSICISM

467 THE AGE OF GOETHE

468 GOETHE'S FAUST

469 CONCEPT OF LOVE IN THE GERMAN MEDIEVAL EPIC AND LYRIC

219 READINGS IN MODERN SPANISH AUTHORS

Selection from modern works of literature. Does not carry credit toward major or minor. Prerequisite: 202 or equivalent.

240 READINGS IN MODERN SPANISH-AMERICAN AUTHORS

Selection from modern works of literature. Does not carry credit toward major or minor. Prerequisite: 202 or equivalent.

320-345 WORKSHOP IN SPANISH LITERATURE AND CULTURE

All courses numbered 320 through 345 are workshops in literature and culture. The following courses represent current workshop offerings, they will be offered on a rotated basis and/or as circumstances warrant from semester to semester. All workshop courses carry three credits a semester. The recommended prerequisite: Spanish 302 or equivalent.

320 CHEKHOV

321 19TH CENTURY RUSSIAN SHORT STORY

322 COMMERCIAL RUSSIAN

323 RUSSIAN FOLKLORE

324 CONTEMPORARY RUSSIAN LITERATURE

325 CONTEMPORARY SPANISH NOVEL

326 CONTEMPORARY SPANISH-AMERICAN NOVEL

327 HISTORY OF SPANISH CULTURE

401 SPANISH LITERATURE FROM THE CID THROUGH THE SIGLO DE ORO

402 SPANISH LITERATURE FROM THE 18TH CENTURY TO THE PRESENT

439, 454 TRENDS IN SPANISH AMERICAN LITERATURE

453, 454 TRENDS IN LATIN AMERICAN LITERATURE

455 MODERNISMO: SPAIN AND SPANISH AMERICA

463 LORCA AND THE GENERATION OF 1927

464 THE LITERATURE OF THE SIGLO DE ORO

465 MODERNISMO: SPAIN AND SPANISH AMERICA

480 DIRECTED READINGS

Readings of literary texts under close faculty supervision, for majors only and only with permission of the Department. Variable credit.
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, made up of professors who have different philosophical interests, attempts to develop the capacity for independent thinking on all issues.

**Requirements for the Major**

The Department requires majors to take nine philosophy courses above the 100 level, of these nine courses, three must be selected from the Historical Sequence, and two from the sequence of Advanced Courses.

**Requirements for the Minor**

Five courses are required for a minor: one from the Introductory Courses (104 to 107), two from the Basic Courses (200 to 217), and two from the Historical Sequence and Advanced Courses (300 and 400 levels).

**Introductory Courses**

- **104 Introduction to Philosophy**
  
  A first-hand study of selected philosophical texts from both traditional and existential perspectives with the aim of introducing students to the nature of philosophical thinking and to the variety of philosophical issues, areas, methods, and theories.
  
  **3 cr**

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

- **106 Introductory Logic**
  
  Analysis of the requirements for valid reasoning. Logical fallacies, types of definitions, and important informal aspects of arguments in ordinary discourse will be studied in addition to the formal logic of inferences involving simple and compound statements.
  
  **3 cr**

- **107 Medical Ethics**
  
  Ethical questions that arise in medical care and research will be examined. Topics might include experimentation on animals and man, allocation of scarce medical resources, euthanasia, the privileged relationship of doctor and patient, etc.
  
  **3 cr**

**Basic Courses**

- **200 Introduction to Phenomenology**
  
  The basic approach to philosophical issues developed by Husserl, the founder of Phenomenology, will be explored. The types of signs, meaning, the possibility of philosophy as rigorous science, etc. are considered.
  
  **3 cr**

- **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.
  
  **3 cr**

- **203 Philosophy of Religion**
  
  Introduction to the nature of religious experience. Topics such as religious symbolism, belief and unbelief, the existence of evil, and free will will be considered. Assigned readings include both traditional and contemporary writers.
  
  **3 cr**

- **204 Literature and Philosophy**
  
  Explores philosophical themes as they emerge within great works of literature. Works will be selected from such authors as Sophocles, Dante, Shakespeare, Goethe, and Dostoevski.
  
  **3 cr**

- **205 Existential Phenomenology**
  
  Examination of the methods and style of thought which characterizes existential phenomenology. Lectures and discussion over texts by major thinkers, such as Being and Time by Heidegger, Phenomenology of Perception by Merleau-Ponty, and Being and Nothingness by Sartre.
  
  **3 cr**

- **206 Social Philosophy**
  
  A systematic examination concerning the critical theories of modern society. Emphasis upon seminal thinkers including Rousseau, Comte, Mill, Marx, Durkheim, Weimer, Simmel, Mannheim, Korkheim, Habermas, Levine, and Bell, etc.
  
  **3 cr**

- **210 Philosophy of Femininity**
  
  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.
  
  **3 cr**

- **211 Marxism**
  
  A study of the political philosophy of Karl Marx as one of the major directions in social thought. Emphasis upon Engels, Lenin, and contemporary Marxism.
  
  **3 cr**

- **212 Political Philosophy**
  
  Fundamental political questions will be explored. For example, Utopian state freedom, justice, the origins of political society, war and empire, and revolution may be considered. Possible authors read: Plato, Aristotle, Aquinas, Machiavelli, Hobbes, Locke, Rousseau, and Hegel.
  
  **3 cr**

- **213 Philosophy and American Political Thought**
  
  A study of the philosophy of liberal democracy, using such writings as those of the founding fathers, their predecessors, and followers: Locke, Montesquieu, Paine, Jefferson, Madison, Hamilton, Lincoln. Consideration will be given also to contemporary developments in liberal democratic thinking.
  
  **3 cr**

- **214 Philosophy of History**
  
  A philosophical examination of the possibility of meaning in history in the light of the contemporary crisis of human existence. Attention will be given to authors such as Augustine, Dante, Hegel, Marx, Nietzsche, and Heidegger.
  
  **3 cr**

- **215 Psychoanalysis and Philosophy**
  
  Psychoanalysis has had an impact upon and been affected by modern philosophy. This course will study the presuppositions and implications of Freud's thought and that of some of other thinkers such as Sartre, Marcuse, Ricoeur.
  
  **3 cr**

- **216 Communication and Philosophy**
  
  Speech is man's most important means of communication. The course will examine the structure, purpose, and function of speech in everyday usage and in the spheres of politics, science, and art.
  
  **3 cr**

- **217 Elementary Symbolic Logic**
  
  Introduction to the methods of symbolic logic as applied to the logic of arguments involving compound statements, propositional functions and quantifiers, and relations.
  
  **3 cr**

- **218 Special Topics**
  
  **1-3 cr**
Historical Sequence

300 ANCIENT PHILOSOPHY
A study of the beginning of Philosophy in Greece from the Presocratics to Plotinus with readings principally taken from Plato and Aristotle

301 MEDIEVAL PHILOSOPHY
A philosophical study of medieval texts in English translation selected as representative of the broad range of issues, approaches, and theories which characterize the major Christian, Jewish, and Islamic philosophical thinking of the period

302 EARLY MODERN PHILOSOPHY
Explores the beginning of modern thinking in the 16th century and proceeds to the time of the French Revolution. Course work consists of analysis of important texts from such philosophers as Montaigne, Descartes, Pascal, Hobbes, Spinoza, Leibniz, Locke, Hume, Kant

304 LATER MODERN PHILOSOPHY
This course examines the period of modern philosophy initiated by Kant. It deals primarily with the crucial thinkers of the 19th century including Hegel, Feuerbach, Kierkegaard, Marx, Mill, Nietzsche

305 CONTEMPORARY PHILOSOPHY
A study of contemporary philosophy from 1900 to the present, covering the methods and history of selected 20th-century movements

322 AMERICAN PHILOSOPHY
Puritanism, Enlightenment, Transcendentalism, Pragmatism with emphasis on key figures in American philosophy: Peirce, Dewey, James, Royce, Santayana, Whitehead, etc.

323 ORIENTAL PHILOSOPHY
Introduction to Oriental thought through a study of its major ideas. Such traditions as Confucianism, Taoism, Buddhism, Hinduism will be discussed

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

Advanced Courses

312 PHILOSOPHICAL ANTHROPOLOGY
The course examines several philosophical conceptions of man under the guiding question "What is man?" Man's place in the world, his relationship to society, the impact of science and the historical consciousness. The course should be of interest to social science majors in addition to philosophy majors and minors

313 PHILOSOPHY OF THE HUMAN SCIENCES
The relations of the human sciences with other sciences with philosophy and with practical life, the use of the mathematics and interpretation and other issues will be discussed in relation to past and contemporary philosophical and scientific thought

314 PHILOSOPHY OF NATURAL SCIENCES
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

401, 402 THOMISM
Courses dealing with the texts of St. Thomas Aquinas. The first semester (401) covers his metaphysics and the second semester (402) deals with his philosophy of man. Neo-scholastic interpretations of the texts of Aquinas (Maritain, Gilson, and the school of Marechal and Rahner)

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

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

415, 416, 417 ANCIENT THINKER
A course devoted to detailed study of a single ancient thinker such as Plato or Aristotle

418, 419, 420, 421, 422 MEDIEVAL THINKER
A course devoted to detailed study of a single medieval thinker such as Augustine, Avicenna, Maimonides. Bonaventure will be studied

423, 424, 425, 426, 427, 428 MODERN THINKER
A course devoted to critical study of a single contemporary philosopher e.g. Husserl, Heidegger, Sartre, Merleau-Ponty, Whitehead, Wittgenstein

435 SENIOR SEMINAR
DEPARTMENT OF PHYSICS

Chairman Walter S. Skinner, M. S.

The program in the Department of Physics aims at not only providing today's students with a fundamental background in physics and its interrelationships with other sciences and disciplines, but also providing a suitable flexibility of program which best fits the graduate for the challenge of today. While the Department is hopeful that students majoring in Physics will continue their professional growth, it is also realized that professional growth is not confined to a single path. The undergraduate program, therefore, provides the essential background for success in graduate work, and also provides students with fundamental qualifications which will equip them for available positions in a research institution, government agency, or private corporation

REQUIREMENTS FOR THE MAJOR
A minimum of 32 semester hours is required for a major. These credits must include 211, 212, 301, 329, 330, 361, 372, 402, 429, 430, 473, 474 (483, 484 or 485 may be substituted for 474 with departmental approval)

Extracurricular Requirements: Chemistry 121, 122, or Biology 111, 112, Mathematics 115, 116, 215, 216, 321, 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 modern day examples 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 sciences or other fields of endeavor. Prerequisite: Mathematics 103 or 104 or the equivalent. Students who have completed Mathematics 116 and pre-engineering students should take 211, 212. 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. The 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 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. Co-requisite for 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 of thermodynamics, ideal gases, entropy, Maxwell's equation, the kinetic theory of ideal gas, and the basic concept of statistical mechanics. Prerequisites: 211, 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**

This course 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, electronic circuits. Prerequisite: 212, or 202 and consent of instructor.

**330 ADVANCED LABORATORY II**

A continuation of Advanced Laboratory 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, general coordinates and Lagrange's Equations. Other topics which may be included by the instructor are normal modes, rigid bodies, two bodies with a central force, and waves on a string. Prerequisites: 212, Mathematics 215.

**372 ELECTROMAGNETISM**

The following topics are usually discussed: Electrostatics, electromagnetic 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: 212, Mathematics 215.

**402 OPTICS**

This course introduces the student to classical principles of geometrical and physical optics and shows how these are applied in the construction of optical instruments. Reflection, refraction, interference, diffraction, and polarization phenomena are treated as well as an introduction to quantum optics. Prerequisites: 202 or 212 or consent of instructor.

**429, 430 ADVANCED LABORATORY III, IV**

Advanced Laboratory 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 members of the Physics 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**

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 system. Prerequisites: 212, Mathematics 215.

**483, 484, 485, 486 SPECIAL TOPICS**

Designed to allow the Physics major flexibility in scheduling, this course may include the following:

**483 NUCLEAR PHYSICS**

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 fission. Prerequisite: 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: 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: 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.

**487 PROBLEMS IN PHYSICS** 1-4 cr

Special topics and problems in physics and related subjects suitable for independent work.

**Earth Science**

**101 PHYSICAL GEOLOGY** 3 cr

(Prerequisite to all Earth Science courses.)

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 those features. Geological relations 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 with the relationship to plate tectonics.

**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 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. Observation and prediction will be practiced when practical. 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, geologically as well as possible cures. 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, economics, 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, students will develop their 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 courses

**REQUIREMENTS FOR THE MINOR**

**General Minor** This minor is designed to provide the students 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, 101, the 13 credits encompass the following required courses: 208, 221, 222, 309, and 405 or 406

**Concentrated Minor** The following minors, concentrated in a particular area, are also available:

1. American Government: 221, 222, and a minimum of eight credits from among 231, 240, 241, 242, 301, 302, 403, and 407
2. Comparative Government: 208 and a minimum of nine credits from among 306, 315, 316, 318, 321, 408, 412, and 413
3. International Relations: 309 and a minimum of nine credits from among 215, 312, 320, 402, 404, and 409

**Selective Minor** The Department of Political Science will also devise a minor from
An intensive investigation of the most fundamental concepts involved in the study of political society.

**101 INTRODUCTION TO POLITICAL SCIENCE** 3 cr
(Prerequisite to all courses)
An investigation of the most fundamental concepts involved in the study of political society.

A systematic multifocal analysis of selected political systems.

**208 COMPARATIVE POLITICAL SYSTEMS** 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.

**215 NATIONAL STRATEGY** 3 cr
A study of the role of the Supreme Court in the American system of government.

**221, 222 AMERICAN FEDERAL GOVERNMENT** 2 cr each
An intensive study of the role of the Supreme Court in the American system 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 investigation of the role of the Supreme Court in the American system of government emphasizing upon the basic institutions of government.

**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.

**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 COMMUNIST POLITICAL SYSTEMS** 3 cr
An intensive investigation of the role of the Supreme Court in the American system of government emphasizing upon the basic institutions of government.

**307 INTERNATIONAL RELATIONS** 3 cr
A comparative analysis of the political systems existing in the Soviet Union, Communist China, and Yugoslavia.

**309 INTERNATIONAL RELATIONS** 3 cr
A comparative analysis of the political systems existing in the Soviet Union, Communist China, and Yugoslavia.

**310 POLITICAL DEVELOPMENT** 3 cr
A comparative analysis of the political systems existing in the Soviet Union, Communist China, and Yugoslavia.

**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.
DEPARTMENT OF PSYCHOLOGY

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

The undergraduate program of the Department of Psychology is designed 1) to introduce and familiarize students with the fundamental content, issues, and interests of various areas of psychology and critically evaluate and reformulate these in the context of psychology as a human science. 2) to foster intellectual and personal freedom and critical thinking as essential to the humanizing process. 3) to prepare the professionally oriented student for advanced study. 4) to provide a foundation for careers involving human services. To these ends, the department offers a wide variety of courses covering psychology conceived as a human science, a natural science, and within a historical perspective. Further study in graduate school prepares students for careers in mental hospitals, schools, mental health and social welfare agencies, business and industry. In our rapidly changing society, the demand for professionally trained psychologists is increasing.

While the department believes that human scientific psychology is the most viable and encompassing approach to the study of 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 103-Introduction to Psychology plus a minimum of 24 semester hours. These credits must include 220 and 223. Majors desiring to pursue graduate study in psychology are strongly advised to take six additional credits through cross-registration at other universities (Learning Theory, Experimental, Perception, Memory, etc.), and 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 count toward the 24 required credits, an additional three credits in practicum may be earned above and beyond the required minimum of 24. Information about such opportunities can be obtained from the department 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. A minimum of 15 credits in psychology must be taken at Duquesne University for the major.

REQUIREMENTS FOR THE MINOR

Requirements for a minor are 103 and 223 and any three of the following courses: 225, 226, 280, 328, 340, 352, 361, 390, plus 400 level courses with permission of the department head. A minimum of nine credits in psychology must be taken at Duquesne University for the major.

430 INTERNSHIP IN PRACTICAL POLITICS
A work and observation experience in government and political offices at the city-county-state-national levels in the Pittsburgh area. Permission of department required.

436 SENIOR HONORS COLLOQUIUM
392 THE INDIVIDUAL AND HIS WORLD
Examination of individual's relation to society from a developmental and cross-cultural perspective

393 PRINCIPLES OF PSYCHOANALYTIC THOUGHT
Examination of the times and contributions of Freud and selected other major psychoanalytic theorists. Permission of department head for non-majors

394 PSYCHOLOGY OF LANGUAGE AND EXPRESSION
Communication as a live, embodied relation of person to world and others. Emphasis is on phenomenological theorists. Permission of department head for non-majors

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

432 GESTALT PSYCHOLOGY
Contributions of Gestalt psychology (especially the works of Kofka, Kohler, and Goldstein) to traditional and human-science psychology. Permission of department head for non-majors

450 CONTEMPORARY ISSUES IN CLINICAL PSYCHOLOGY
A human-science examination of the approach methods, data, and current issues of clinical psychology. Permission of department head for non-majors

457 INDEPENDENT STUDIES
A tutorial course for an exceptionally able student who wishes to pursue a particular study with a faculty member. For majors only, usually those intending graduate study, advanced coursework completed. Permission of faculty member and department head required

490 SPECIAL TOPIC
A visiting professor presents his/her specialty, or a regular faculty member presents highly specialized studies or an experimental course. Repeatable. Prerequisite varies with the instructor. Permission of department head for non-majors

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 dealings with 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.

AREAS OF CONCENTRATION

Sociology: The orientation of sociology is independent in the sense that it is concerned with what men in groups try to achieve and how successful they are. Sociology is oriented around the problem of what men in groups actually do, how they interact to meet needs where they are.


Criminal Justice: Founded in a broad-based liberal arts curriculum, this program is designed to provide the student with the opportunity to develop his potential as a professional in many areas of the criminal justice field, including probation, parole, investigation, corrections, and research.

Recommended courses: 101, 213, 335, 345, 346, 360, 364, 365, 366, 467, 484

Gerontology: As the size and characteristics of the "elderly" segment of the population have changed, there has been increased interest in the study of the aging process, its effects on the individual and society, and its meaning for the future. The Gerontology program is designed to develop the knowledge and skills required for a student's preparation as a professional in this specialty area.

Recommended courses: 101, 317, 318, 324, 330, 331, 410, 411

Social Services/Human Services: The principle that is the basis for this program is that classroom learning provides the foundation out of which effective social/human services may be built. Preparation for professional training and skill development is the emphasis.

Recommended courses: 101, 203, 212, 314, 320, 321, 322, 450, 451

REQUIREMENTS FOR THE MAJOR

A minimum of 24 semester hours, not including 101 is required for a major in Sociology, these credits must include 201 and 304. In consultation with the undergraduate academic advisor, the major may select a concentration in General Sociology, Criminal Justice, Gerontology, or Social Services/Human Services. The suggested course numbers for these concentrated areas are listed above with the corresponding titles and descriptions in the following section.

REQUIREMENTS FOR THE MINOR

A minimum of 12 semester hours, not including 101, is required for a minor. 450, 451, 484, and 492 are reserved for majors only. Minors may select a concentration in one of four areas above in consultation with the department advisor.

Sociology 101 is a prerequisite to all courses except 102 and 203. 102 and 203 can be substituted for 101 as a prerequisite for 211 and 306. All 300 and 400 courses are for juniors and seniors only.
**208 BLACK GHETTO**
Study of the structure, problems, and changes in the American black ghetto 3 cr

**211 COMPARATIVE CULTURES**
A study of selected world cultures focusing on their structures, functions, and normative systems 3 cr

**214 SOCIOLOGY OF THE CHILD AND ADOLESCENT**
Discussion of the child and adolescent socialization process in American society 3 cr

**218 CRIMINOLOGY**
A study of sociological explanations of criminality, correlates, causation, and crimogenic conditions 3 cr

**304 METHODS IN SOCIOLOGY**
Discussion and application of techniques and research procedures used in sociological research 3 cr

**306 PERSONALITY AND CULTURE**
A cross-cultural examination of human social systems in terms of their relevance to personality development and interaction 3 cr

**308 ETHNIC GROUPS**
Comprehensive survey of roles performed and problems faced by ethnic groups 3 cr

**309 WOMEN IN SOCIETY**
The role of women in culture and the study of women's movements for liberation 3 cr

**312 SOCIOLOGY OF SPORTS**
Study of the institutions of sports and their relation to American culture and other institutions 3 cr

**313 SOCIOLOGY OF SEXUAL BEHAVIOR**
Discussion of sociological studies of sexual behavior 3 cr

**315 SOCIAL DEVELOPMENT—INFANCY TO DEATH**
Study of the socializing process from the infant state to the dying state 3 cr

**321 MEDICAL SOCIOLOGY**
Study of the impact of values and related structures on health maintenance personnel and institutions, discussion of the social system of health organizations 3 cr

**325 FAMILY SYSTEMS**
Comparative study of the family, the interaction of the family with other community institutions 3 cr

**326 URBAN SOCIETY**
Analysis of the metropolitan complex of central city suburbs and urban fringe and its impact of structures within its environs 3 cr

**329 RELIGION IN AMERICAN SOCIETY**
An analysis of American religious groups as social phenomena 3 cr

**340 AFRO-AMERICAN MINORITY**
Concentration on the structure and culture of the Afro-American group with its attendant problems 3 cr

**341 SOCIOLOGICAL MEASUREMENT**
Discussion of techniques and problems in sociological measurement 3 cr

**488 FIELD RESEARCH**
Sociological research emphasizing the survey technique 3 cr

**492 SELECTED READINGS**
For sociology majors only 1-3 cr

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**Criminal Justice**

**213 DELINQUENCY AND SOCIETY**
A study of the phenomenon, theories, and causation of juvenile delinquency 3 cr

**315 CRIMINOLOGY**
A study of sociological explanations of criminality, correlates, causation, and crimogenic conditions 3 cr

**345 PROCESSING JUVENILE OFFENDERS**
Study of the movement of juvenile offenders through the criminal justice system—police, prosecution, courts, and corrections 3 cr

**346 PROCESSING ADULT OFFENDERS**
Study of the movement of adult offenders through the criminal justice system 3 cr

**360 POLICY RESEARCH AND ANALYSIS**
Study of the public policy and practical implementation of funding trends in providing for the needs of the criminal justice system 3 cr

**364 POLICE COMMUNITY RELATIONS**
Discussion of the context of police—community relations, their interaction improvement and change strategies 3 cr

**365 CRITICAL ISSUES IN LAW ENFORCEMENT (POLICE)**
Analysis of police in a free society, ethnic tension, police discretion, civil disobedience, police conduct and integrity 3 cr

**366 CRIME PREVENTION**
Study of contemporary crime prevention programs involving criminal justice agencies, citizens, and community politics 3 cr

**467 CORRECTIONAL CASEWORK AND COUNSELING**
Study of the counseling styles and individualized models for offender classification and group and process models of counseling 3 cr

**484 EVALUATIVE RESEARCH IN CORRECTION**
Study of techniques for using research to make corrections more effective 3 cr

**Gerontology**

**317 AGED AND SOCIAL SERVICE**
Study of problems associated with the elderly and the social services developed to assist them 3 cr

**319 AGING—AN OVERVIEW**
Introduction to the sociological, social work, legal, sociopsychological public health, and psychiatric aspects of the aged person in America 3 cr

**324 SOCIAL ASPECTS OF DEATH AND DYING**
A study of American values, behavior, custom practices, and other institutional practices related to dying and death with special attention to the older Americans 3 cr

**330 COMMUNITY RESOURCES FOR THE AGED**
Review of public and private community resources, retirement communities, foster care arrangements, and other arrangements of area agencies on aging 3 cr

**331 RETIREMENT—SOCIAL AND CULTURAL ASPECTS**
Discussion of pre-retirement plans, retirement choices, and retirement problems 3 cr

**410 SOCIOLOGY OF AGING**
Discussion of the socialization role, subcultural, and problem aspects of aging 3 cr
411 AGING AND HEALTH
Discussion of medical aspects of aging, diseases of aging, and health maintenance 3 cr

Social Services/Human Services

203 SURVEY OF SOCIAL WORK
Survey of the history and areas of social work—casework, group work, and community organization, public and private welfare programs 3 cr

212 THE HELPING PROCESS
Discussion of the social process of helping others ranging from the consideration of the professional population a person serves and the dynamics of the interaction. The perspective is person-social 3 cr

314 SOCIAL WORK METHODS
Study of case study, study-diagnosis-therapy process. Interviewing—counseling and program planning. Prerequisite Sociology 203. For sociology majors and minors only 3 cr

319 SOCIAL LEGISLATION—SOCIAL SECURITY TO PRESENT DAY
Study of the provision of social legislation applicable to client needs in a social work situation 3 cr

320 COMMUNITY AGENCY RESOURCES AND REFERRAL
Study of the various agencies which have been established to provide for needs of social work clients 1 cr

321 PROCESS II INTERVENTION SKILLS
Discussion of social work skills practice in field evaluated 3 cr

322 PROCESS III GROUP WORK AND COMMUNITY ORGANIZATION
Examination of group processes and community organization strategies utilized in social work 3 cr

450 FIELD WORK I
Internship in a social work agency, criminal justice or gerontology setting 3-6 cr

451 FIELD WORK II
Internship in a social work agency, criminal justice or gerontology setting 3-6 cr

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, 304, 311, 402

Theatre/Media The Theatre/Media concentration combines Aesthetic Communication skills, theatre history and theatre performance skills with media theory and skills. This concentration prepares the student for the fields of applied communication theatre, radio, television and public relations. Along with classroom theory and practice, students will have an opportunity to obtain practical experience onstage and backstage in Red Masquers productions and by participating in on-and-off-the-air work at WDUQ (90.5). Duquesne’s twenty-five thousand watt National Public Radio affiliate

Recommended courses 140, 190, 250, 280, 370, 380, 385, 390, 391, 400, 470, 471, 490

Speech Pathology/Audiology The profession of Speech Pathology/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 pathologists and audiologists are rapidly growing fields 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. The student concentrating in Speech Pathology/Audiology may be eligible to register for Speech 322, 422 with a 3.00 QPA in his/her major, completion of all required courses and the permission of the department chairman

Required courses 120, 140, 204, 220, 320, 321, 420, 425, 426

Co-requisites Mathematics 225 and Psychology 225, 352

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, 140, 190. Speech Pathology/Audiology concentrates will be required to enroll in Speech 120, 140, 204, 220

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 four emphases that the student may follow:

1. Social Communication 101, 102, plus 12 credits in any of the following 204, 206, 304, 311, 402

2. Theatre/Media 140, 190, plus 12 credits in any of the following 250, 280, 370, 380, 385, 390, 391, 470, 471, 490

3. Speech Pathology/Audiology 120, 220, plus 12 additional credits. Courses 320, 426 are required, the remaining six credits may be taken in any of the following 321, 420, 425

4. 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, 304, 311, 402, plus six credits in any of these 140, 250, 280, 370, 380, 385, 390, 391, 470, 471, 490

Suggested activities for majors and minors in Speech Communication and Theatre include the Red Masquer Dramatic Organization, WDUQ Radio and Television, the Debate Team, the Duke (student newspaper), and United Nations Organization SUG-
gested courses for fulfilling Communication Area requirements for non-Speech majors 101, 102, 140, 190

400 INDEPENDENT STUDY (All areas of concentration) 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 Department Chairperson

Social Communication

101 PROCESS OF COMMUNICATION 3 cr
"The Process of Communication" examines how man, a being who must believe, communicates his beliefs and how he utilizes certain kinds of beliefs which have proven fundamental through the ages to assist or exploit his fellow man

102 TECHNIQUES OF ORAL COMMUNICATION 3 cr
Develops those communicative skills necessary to critically analyze verbal discourse and to perform effectively in public speaking situations which confront the educated person

204 INTERPERSONAL COMMUNICATION 3 cr
Designed to investigate the various aspects of interpersonal communication. Primary consideration will be given face-to-face human interaction in a variety of situations

206 DISCUSSION AND GROUP PROCESS 3 cr
Develops those communicative skills essential for functioning effectively in the small-group situation

304 PERSUASION 3 cr
A study and application of principles and practices that influence people's beliefs and actions. Prerequisite: Either 101 or 102 or permission of the instructor

311 RHETORICAL PERSPECTIVE 3 cr
Communication theories applied to contemporary systems of belief. Prerequisite: 101 or permission of the instructor

402 ARGUMENTATION AND DEBATE 3 cr
A course in applying the principles and methods of critical deliberation to a significant contemporary social issue. Emphasis will be on advocating, defending, and refuting a proposition of policy. Prerequisite: 102 or permission of the instructor

Speech Pathology/Audiology

120 DEVELOPMENT OF LANGUAGE 3 cr
Focus will be on the acquisition of sound, meaning and grammar systems from infancy through childhood with emphasis on the comparative analysis of theories of communication development. Physical neurological, psychological and social bases of language will be discussed. Socio-linguistic differences will be discussed with reference to Black language and regional variations

140 PHONETICS 3 cr
An approach to the English language based upon the fundamentals of vocal and articulatory speech sounds as systematized by the International Phonetic Association

204 INTERPERSONAL COMMUNICATION 3 cr
Designed to investigate the various aspects of interpersonal communication. Primary consideration will be given face-to-face human interaction in a variety of situations

220 INTRODUCTION TO PROBLEMS IN SPEECH 3 cr
A survey of various speech disorders, their causes, recognition, and possible therapy

320 CLINICAL TECHNIQUES IN SPEECH PATHOLOGY 3 cr
This course will focus upon the clinical management of speech and hearing problems. Past and current therapeutic approaches and techniques will be presented in relation to disorders of speech and hearing. Different organizational procedures and practices will also be included. Prerequisite: 203 or permission of the instructor

321 ANATOMY AND PHYSIOLOGY 3 cr
This course will study the basic neurological, skeletal, and muscular structures involved in the speech and hearing process. Prerequisite: 220 or permission of the instructor

322 SPEECH PATHOLOGY/AUDIOLOGY EXTERNSHIP 3 cr
Provides opportunities for observation of various aspects of clinical work. Directed readings and field trips are included. For Speech Pathology/Audiology concentration majors only. Written permission of department chairman required. Open to juniors and/or seniors

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, hearing disabled and cerebral palsied child. The role of other professionals in addition to that of the speech pathologist in speech remediation will be explored. Prerequisite: 220 or permission of the instructor

422 SPEECH PATHOLOGY/AUDIOLOGY CLINICAL PRACTICUM 3 cr
Provides an opportunity for active participation with professionals in their work in varied settings. For Speech Pathology/Audiology concentration majors only. Written permission of department chairman required

425 AURAL REHABILITATION 3 cr
The normal human communication system is presented including acoustic and visual components of speech. Communication problems of the hearing impaired are discussed with regards to amplification and auditory and visual perception. Programs of rehabilitation involving individuals with mild to severe auditory impairments are reviewed

426 HEARING AND AUDIOLOGY 3 cr
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: 220 or permission of the instructor

Theatre/Media

140 PHONETICS 3 cr
An approach to the English language based upon the fundamentals of vocal and articulatory speech sounds as systematized by the International Phonetic Association

190 INTRODUCTION TO THEATRE ARTS 3 cr
A survey of theatre as an art form involving the selective integration of a number of skills and disciplines to bring about the aesthetic of the theatrical moment. Beginning with lectures on the roles of the director, actor, designer, and various craftsmen, the course will work up to a sampling of the various modes and forms of drama in terms of exigencies and production

250 RADIO AND TELEVISION ANNOUNCING 3 cr
Application of the principles of proper delivery to the field of oral reporting and continuity announcing including enunciation, pacing, selective emphasis, tonal variance, the use of technical material, and an introduction to foreign language pronunciation. The facilities of WDUQ FM and WDUQ-TV will be available for laboratory experience.
280 ACTING I
A study of the basic principles, theories, and techniques of acting, including various problems, confronted by the actor in the creation and interpretation of a role

370 ORAL COMMUNICATION OF LITERATURE
An approach to literature in terms of its oral traditions with special emphasis on techniques preparatory to the act of oral presentation

380 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: 280 or permission of the instructor

385 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. Prerequisite: 190

390 DEVELOPMENT OF THE THEATRE I
A study of the origin and development of theatre and drama from pre-Grecian civilizations to the seventeenth century, investigated in light of the particular world view which it expresses

391 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

470 ADVANCED ORAL COMMUNICATION OF LITERATURE
A continuation of 370 with special emphasis on techniques for the oral presentation of specific literary genres. Prerequisite: 370

471 ORAL COMMUNICATION OF BIBLICAL LITERATURE
A course devoted to the consideration of the Bible in terms of the spoken language with its accompanying oral interpretative connotations and techniques. Prerequisite: 370 or permission of the instructor

490 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

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, 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 religious witnesses 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.

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 THE BIBLE
A presentation of tools necessary to understand the Old and New Testament as ancient literary works. An approach and in greater depth than in the 100 category.

213 INTRODUCTION TO THE OLD TESTAMENT
A presentation of the Old Testament writings in their dynamic context of culture, politics, and geography, as well as an introduction to their literary modes, theological themes, and practical approaches to interpreting key passages of the Old Testament.

214 INTRODUCTION TO THE NEW TESTAMENT
A presentation of the books of the New Testament from the point of view of their literary makeup, historical origins and testimony, and theological content, practical approaches in interpreting key passages of the New Testament.

313 ARCHAEOLOGY AND THE BIBLE
An illumination through archaeology of the historical setting, the cultural background, and the events described in the Bible, a general introduction to the techniques of archaeological investigation, and a study of the principal archaeological sites in Palestine.

321 JESUS IN THE GOSPELS
A portrait of the person of Jesus, elements of such a portrait drawn exclusively from an in-depth study of the four gospels, with ample usage of accepted scholarship on who Jesus says He is and who others say He is.

413 THEOLOGY OF THE OLD TESTAMENT
Examination of the Theology of the various books or blocks of writing in the Old Testament, an attempt to draw together and present the major themes, motifs, and concepts of the Old Testament, a study of the relationship between the Old Testament and the New Testament.

414 THEOLOGY OF THE NEW TESTAMENT
A presentation of the major theological traditions of the New Testament, emphasizing the
diversity of Christian beliefs and practices as well as the underlying unifying principles of the early Christian experience, an explanation of advanced techniques of biblical interpretation with opportunity for the student to practice such techniques

**490 FIELD EXPERIENCE IN BIBLICAL ARCHAEOLOGY** 6 cr
Six weeks of supervised participation in an archaeological excavation in the Ancient Near East, experience in stratigraphic digging, pottery identification, scientific analysis of finds and recording methods. Offered every two or three years, approval of participants by core staff required.

**Roman Catholic Theology**

**106 RATIONAL FOUNDATIONS OF THE CATHOLIC FAITH** 3 cr
An investigation of the reasonableness of the Catholic Faith, beginning with an inquiry into the existence of God and the possibility of His intervention in human affairs, study of the Gospels as reliable documents of Christ's claim to be God, His life, works, and especially His resurrection of His founding of Church and its identity today.

**201 INTRODUCTION TO THEOLOGY AND THEOLOGICAL METHOD** 3 cr
An inquiry into, and an analysis of the resources of theology, faith, revelation, inspiration and Church teaching, a presentation of the various approaches to theological study and the schools of theological thought in Christianity.

**202 CATHOLICISM** 3 cr
An explanation of the major beliefs and practices of Roman Catholicism, including the nature and work of the God-Man as well as the privileges of Mary, study of the nature of the Church and its inerrancy in teaching, consideration of the norms of morality, the Commandments, the sacraments and the spirit of Catholicism.

**220 THE MYSTERY OF CHRIST** 3 cr
A study of the person and meaning of Christ in historical and contemporary perspective, a discussion of the new bond between God and man and the new era in the spiritual destiny of mankind inaugurated by the Incarnation and the Passion-Death-Resurrection event.

**230 THE CHURCH** 3 cr
A study of the Christian community of believers in its origins, some of its major historical and dogmatic emphases, and its contemporary understanding of itself, the Church as a mystery as Mystical Body as People of God, as sacrament.

**242 CONTEMPORARY THEOLOGICAL ISSUES** 3 cr
An examination of theological developments in an era of renewal, reevaluation and cooperation, e.g., belief and unbelief, Christian and secular humanism, the future with reference to hope, heaven, hell, afterlife, reincarnation, and resurrection, in a secular age, suffering and evil, the occult, the charismatic movement within the Church.

**250 MORAL PERSPECTIVES IN HUMAN DEVELOPMENT** 3 cr
A Catholic perspective of the basic issues involved in the formulation of moral values within the developing person and of the sources upon which moral systems are based, a discussion of the absolute vs. the relative, traditional morality vs. "the new morality", an application of these principles to modern problems, e.g., homosexuality, drugs, consumerism.

**256 GOD AND HIS MEANING** 3 cr
A theological understanding of the problem of God, a consideration of the responses of various religions and philosophies to this problem, the origins and development of the theology of God in the Judaeo-Christian tradition with special focus on Catholic development.

**301 MARRIAGE** 3 cr
A personally-oriented and practical treatment of the marital union as seen in its Christian theological, psychological and sexual aspects, a discussion of Christian marriage as a bond of love as a sacrament and as a way of human fulfillment.

**331 THE CHURCH IN THE MODERN WORLD** 3 cr
An analysis of the Church's role in the development of man today and in offering solutions to present problems of humanity in light of Vatican II's "Pastoral Constitution on the Church in the Modern World" and other related documents.

**335 THEOLOGY OF THE SACRAMENTS** 3 cr
A practical treatment of the seven sacraments in relation to their significance for the Christian's daily spiritual growth and fulfillment, consideration of man's needs for ritual and symbol, discussion of recent revisions and developments in sacramental theology.

**422 THEOLOGICAL ANTHROPOLOGY** 3 cr
A study of man in his unique dignity as image of God and as responsible for the development of the universe, his experience of sin and alienation, and his liberation of divine grace given through his union with the Risen Christ.

**475 THEOLOGY AND CATECHESIS** 3 cr
An examination of the principal theological and pedagogical themes of modern religious education and of the place of catechesis in the ministry of the Church, a presentation of the historical background of the contemporary catechetical renewal.

**491 EXPERIENCE IN THE TEACHING OF RELIGION** 6 cr
One semester of supervised experience in teaching religion in a high school environment in conjunction with a cooperating high school teacher and University Department coordinator. This course is open only to majors in Theology upon approval of the Chairperson of the Department.

**498 SEMINAR IN THEOLOGY** 3 cr
A critical analysis of selected topics in theology or of selected works by outstanding theologians, open only to seniors and minors with a major or minor in theology.

**Selected Religious Studies**

**180 THE PHENOMENON OF RELIGIOUS EXPERIENCE** 3 cr
An examination of the dimensions of mankind's religious experience, e.g., mystical, ritual, mythical, ethical, and scriptural, an analysis of the likenesses and differences of how the Divine is sensed and responded to in varied geographical, cultural, and chronological contexts.

**241 STUDIES IN BLACK THEOLOGY** 3 cr
A study of the literature and development of black theology as it has evolved in the United States, the Caribbean, and on the African continent with special emphasis on the evolution in the United States, a discussion of the relationship of Christianity and other religions to the black experience.

**Christian Studies in General**

**140 CHRISTIAN UNDERSTANDING OF THE HUMAN PERSON** 3 cr
An investigation into the question of "What does it mean to be human?" according to Judaeo-Christian teaching, a discussion of the relationship of the human person to self, others, the world and the Divine as the basis for humanness, a study of the issues involved in these four relationships, e.g., freedom, grace, contemplation.

**260 ORIGINS OF PROTESTANTISM** 3 cr
An introduction to the thought of the principal reformers, Luther, Calvin, Zwingli, and Wesley, a study of speculative and practical forces operative in the fifteenth-sixteenth centuries which gave rise to the reforming movement, the formulation of Protestant Orthodoxy.
A survey of the history, beliefs, practices, and contemporary influence of the major religions of the world, including Judaism, Christianity, and Islam, a discussion of a basic methodology for understanding these religions.

Survey of the Old and New Testament views of women and a history of the status of women in the Roman Catholic and major Protestant traditions with emphasis on the contemporary role and spirituality of women in Christianity.

An analysis of the nature of sex and sexuality according to the sources and developments of Christian thought, the integration of these concepts into a contemporary moral and ethical system.

A discussion of the fundamental moral principles involved in making any of the "life decisions," the problem of the definition of life, a survey of the varied moral approaches to the issues of war and peace, capital punishment, abortion, birth control, euthanasia, genetic engineering, and the new embryology.

A study of the influence of religious convictions in confronting major social issues of today's world, e.g., population growth, famine, ecology, liberation, and revolution, truth as a social issue, wealth, taxation, and stewardship.

A study of the effect that modern secular thinkers (e.g., Marcuse, McLuhan, Hefner, Toffler, Kohlberg, Skinner) have had on the religious consciousness and behavior of the present age, a discussion of certain areas of culture most affected by this secular impact.

An exploration of the relationship between the imagination and the intellect, the artistic and the scientific, in the expression of fundamental theological concepts in 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.

Analysis of the role of religion in the discovery, colonization, constitutional development, immigration trends, and growth of the American republic, with an emphasis on some uniquely American religious phenomena, e.g., religious liberty, indigenous American religious movements, civil religion, and black religious experience.

An analysis of Islam as a religious, political, and cultural entity, Mohammed and the Arabian setting, history, beliefs, practices, and divisions within Islam, the Koran and Hadiths, the contemporary Muslim world.

An analysis of significant religious groups in India, such as Hindus, Jains, Buddhists, Parsees, Muslims, Sikhs, and Christians, a study of the origin, development, beliefs, practices, and interrelationships among the religions and interaction between religion and Indian culture.

A critical analysis by an individual student of selected topics in the areas of biblical studies, Christian studies, Roman Catholic theology or selected religious studies, or of some outstanding authors and their works under the direction of a faculty member.
School of Business and Administration

HISTORY
The School of Business and Administration was established in 1913 as the School of Accounts and Finance. The rapid growth of the School necessitated a constant broadening of the curriculum until it covered all business subjects of fundamental importance. In 1931 it was designated the School of Business Administration and, with this change, definitely became a professional school of business administration. In 1971 the name was changed to the present designation to indicate broader preparation for activity in organizations of all types.

PHILOSOPHY AND OBJECTIVES
In accord with the educational philosophy and objectives of the University, the School of Business and Administration aims to assist students in their development of the natural and supernatural virtues. The general aim is to provide through the media of instruction and related collegiate activity the facilitation of purposeful character, intellectual accomplishment, emotional and social maturity, and professional efficiency.

The School of Business and Administration has the professional responsibility of developing in students such knowledge of business principles, procedures and problems as will enable them to become self-sustaining members of the community, aware of their social and public responsibilities and dedicated to the enrichment of the resources for worthy living. It seeks to produce graduates who, upon entering their chosen careers, will be effectively prepared to discharge their obligations to God, their community, and themselves as intellectual and moral beings. The School attains this objective by guiding students through a cultural core program, a business core program, an elective area of advanced business subjects chosen on the basis of professional interests, co-curricular and extra-curricular activities, and established personnel services.

As a division of the University, the School of Business and Administration is obviously dedicated to promoting those University aims and objectives contained in the general statement.

The professional objective of the School of Business and Administration is to produce graduates who have acquired and developed:

1. An appreciation of the importance of initiative and who consequently are willing to assume responsibility, work efficiently and harmoniously with others, and adjust to changing circumstances.
2. A respect for logical thinking and who strive energetically, therefore, to develop the capacities for analytical reasoning through the vigorous and orderly application of ethical and technical principles to problem solving.
3. An understanding of the personal and professional value of effective communications and a cultivation of their capacities for speaking and writing clearly and concisely.
4. An awareness of the important role of quantitative measurements in today's business and who have become skilled in the interpretation of mathematical, accounting and statistical data.
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 five 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.

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. 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 within the Western Pennsylvania and Tri-State area. Where the objective is the development of 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.

Division of Continuing Education
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.

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.

Division of Social Sciences
The objective of the Center is to foster the development of 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.

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Division of Social Sciences
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STUDENT ORGANIZATIONS
These 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, national honorary fraternity for accredited schools of the American Assembly of Collegiate Schools of Business, is established at Duquesne University. Membership in this honorary fraternity is limited to juniors in the highest five percent of their class and to seniors in the highest ten percent of their class.

The Beta Alpha Phi 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.

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.

Students entering the School of Business and Administration are expected to inform their advisors about their career objectives and their academic areas of concentration, the latter of which can be several of the junior courses indicated in the three Divisions. Their proposed curriculum choices must, of course, include the University requirements and Business Administration Core requirements as indicated in the illustrations set forth in this catalog. Consistent with their stated career objec-
Role of advisor

The faculty advisor in the School of Business and Administration plays an extremely important role in the academic guidance of students. Because of this, students are permitted to select their own advisors based on personal knowledge and available biographical sketches.

**FOUR YEAR SAMPLE PROGRAM**

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<th>Semester</th>
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<td>109 College Algebra</td>
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<tr>
<td></td>
<td>141 Economic Geography</td>
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<td></td>
<td>221 Prin of Economics</td>
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<td></td>
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<td>371 Prin of Marketing</td>
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<td>311 Inter Accounting or</td>
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**Senior Year**

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<td><strong>Total</strong></td>
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<td>Spring Semester</td>
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<tr>
<td>Courses</td>
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<td></td>
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</table>

**Notes:**
- *Course may be taken in either semester.
- **Executive Action Simulation or Executive Policy**

**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 New Jersey and New York.

**211, 212 INTRODUCTORY ACCOUNTING**

An introduction to the language of accounting, basic accounting concepts and brief exposure to recording financial information. An extensive study is made of accounting information for management decisions. Laboratory attendance to two hours a week is required.

**311, 312 INTERMEDIATE ACCOUNTING**

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,
The course presumes a familiarity with basic computer programming as covered in the systems. The course presupposes a familiarity with basic computer programming as covered in the systems.

**FINANCE CURRICULUM**

**313 MANAGERIAL ACCOUNTING**

3 cr

A study of the technique involved in gathering, recording, and interpretation of accounting and statistical 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: 211, 212

**314 ADVANCED ACCOUNTING**

3 cr

This course applies fundamental theory to a number of important activities in businesses. Activities studied are partnerships, special sales procedures, consolidations, and fiduciaries. Prerequisites: 311, 312

**315 COST ACCOUNTING**

3 cr

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 product costing are treated in detail. Methods of judging managerial efficiency, inventory control and management control systems are also stressed. Prerequisites: 311, 312

**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: 312, 314

**412 INTRODUCTORY INCOME TAX ACCOUNTING**

3 cr

This course is a study of basic tax and procedure affecting primarily individuals and to a lesser extent partnerships and corporations. Principal topics are returns, rates, exemptions, income deductions, sales and exchange of assets and income. Emphasis is placed on procedures to demonstrate the application of the principles studied and use made of official forms for demonstration purposes. Prerequisites: 312, 313

**413 BUSINESS INFORMATION SYSTEMS**

3 cr

A course designed to introduce students to management information processing systems and the transformation of information systems to meet specific types of informational requirements. Topics include database concepts, file storage considerations, development, methodology, design, implementation, and management considerations of business data systems. The course presumes a familiarity with basic computer programming as covered in the Analytic Methods sequence.

**419 SEMINAR IN ACCOUNTING**

3 cr

This course is designed to develop a student's ability in technical expression. It deepens and expands the understanding of accounting theory and acquaints the student 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: 314

**FINANCE CURRICULUM**

Students who desire to function in finance, either in the world of private business, government bodies, or in the area of securities are encouraged to select from the several groups of courses that place emphasis on specific material leading to that end. The professional designation of Chartered Financial Analyst (CFA) is used by those in the securities industry. The designation in the life insurance area for professional personnel is (CLU) or Chartered Life Underwriter. The completion of the Real Estate course and others will satisfy the educational requirements necessary to sit for the Pennsylvania Real Estate Salesman's License.

**331 BUSINESS FINANCE**

3 cr

The aim of this course is to combine the study of internal and external sources of funds with the tools of financial management in order to maximize the wealth of the business entity. Primary attention is given to private business entities. While many of the tools and instruments used in the demonstrations are those of large business concerns, entities of all sizes are covered. Special attention is given to the decision-making process as applied to the financial function of business. Secondary emphasis is given to the securities market, financial projections, organizational form mergers and consolidation, and reorganization. Prerequisites: Accounting 211, 212 or the equivalent.

**332 MONEY AND BANKING**

3 cr

To develop knowledge about the role of financial institutions in our society as they perform their function of either the creation of the medium of exchange or of taking existing funds from sources of excess to sources of supply. Further, to develop an understanding of the construction of the portfolios of institutions in order to understand why they employ their available funds as they do, knowledge about interest rate movements and their effects on business and the development of financial instruments used within the business society. Also, through the media of a research paper, the student has the opportunity to develop a major area in detail. Emphasis is primarily on the role money and banking take in relationship to the student.

**333 FINANCIAL MANAGEMENT**

3 cr

Financial Management is a "follow-up" course to 331-Business Finance. It is designed for all business students. The course is designed to provide a theoretical or conceptual framework that a financial manager can use to reach decisions in the real world. Material is presented with the purpose of involving the student in the fundamental decisions and compromises of the financial manager as he faces choices between risk and return. Reading material, case material and a research project are tools to be used. Prerequisite: 331

**334 RISK MANAGEMENT**

3 cr

A study of the broad spectrum of risk exposures in business enterprise with special attention to the need for identifying these in terms of nature and magnitude. Emphasis is on techniques available to aid the decision-maker in making decisions under uncertainty. Methods of alleviating, avoidance and insurance are studied. Attention is given not only to the traditional forms of insurable hazards, but also to implicit risks such as those of loss in market value of assets, capital, budgeting decisions, new product financing techniques, mergers and other areas where risk is present in the decision. Prerequisite: 331

**335 BUSINESS FINANCIAL PROBLEMS**

3 cr

The aim of this course is to provide a vehicle which the student can take material from previous courses both of a financial nature and that from other disciplines and through its utilization solve problems primarily of a financial nature. It also provides the student with an opportunity to learn to write and deliver professional opinions on how to solve business problems. While the course is primarily taught through the case technique, other methods are also used. The student is expected to be able to identify problems reached conclusions, recommend solutions, and identify techniques on how they might be implemented. Prerequisite: 331

**336 SECURITY ANALYSIS**

3 cr

An intensive study of the analytic techniques applicable to the selection of the various techniques securities of private as well as public entities. Consideration is given to the markets in...
which these securities are traded and the types of information that are useful and necessary to
the decision-making process of the investor as the attempt is made to measure the value of a
particular security. Several models are examined in seeking their appropriateness in
establishing the relative worth of a security. The merits of both the fundamental and technical
approach to security analysis are considered for their contribution to the analysis of a security.
Prerequisites 331

337 INVESTMENT ANALYSIS 3 cr
It is the aim of this course to present material that will be useful to the student in developing an
understanding of the various types of investments which may be available for a portfolio invest-
ment. Discussion of the various risks that a portfolio may be subject to and further the impor-
tance of these risks to the various types of portfolio holders is undertaken. The basic elements
of portfolio theory as it has been developed by Markowitz and others is presented. Various quan-
titative and descriptive approaches that are used in portfolio development are investigated. Techniques for measuring the effectiveness of the portfolio are illustrated. Prerequisites 331 336 or special permission of the instructor without 336

431 FINANCIAL COMMERCIAL TRANSACTIONS 3 cr
The aims of the course are two-fold: 1) to make the student aware of the various types of trans-
actions which are used in business and the basic elements of the transactions, 2) to look at the
problem of working capital management from the point of view of the models available as they
relate to the management of cash accounts receivable, marketable securities, and various
inventories. Consideration is given to the decision-making process for these assets under cases
of both certainty and uncertainty. Examining the models there uses and limitations. Prereq-
usites 331

432 CREDIT MANAGEMENT 3 cr
This course will be taught in such a manner as to give to the student a thorough understand-
ing of the function of credit management. In order that the student be afforded a maximum
opportunity to grasp such information as presented in the literature and in the classroom, cases
problems, and field experience may be assigned. Through these vehicles the student will have
the opportunity to integrate the knowledge gained from text material and other financial
sources with that of other disciplines to arrive at a logical, sound credit decision. Prereq-
usites 331

433 FINANCIAL MARKETS 3 cr
An extensive and intensive study of the markets in which the financing of needs takes place
Study is made of the markets for borrowing and lending of capital, both short-term and long-
term. Financial institutional structures are given emphasis as they act and interact when serving
as sources or intermediaries and users of funds. Research by the student is required to afford the
student the opportunity to concentrate on an intensive effort upon an individual topic. Prereq-
usites 331

434 LIFE INSURANCE 3 cr
A study is made of the risks of death and longevity as they occur in personal and business situa-
tions. Analyses are made of various forms of life-insurance and annuity contracts and their uses
with emphasis upon their functions as instruments of estate creation and administration. Uses
of insurance in connection with partners and key men and in connection with bank loans are
explored. Attention also is given to accident and health coverages, group plans, pensions and
regulation of the industry

435 PROPERTY AND LIABILITY INSURANCE 3 cr
A study of business and personal applications of casualty fire and liability coverages in the
form of both insurance and bonding, including the fields of workers' compensation, landlords
and tenants liabilities, burglary, robbery and theft, automobile, credit and title insurance, fire and related lines, fidelity and surety bonding and relevant aspects of inland and

ocean marine

436 ADVANCED CASE PROBLEMS IN FINANCE 3 cr
The aim of this course is to provide a vehicle through which the student can take material from
previous courses and employ it in solving the more complex situations arising from comprehensive
problem-solving situations. Emphasis is given to the decision-making process in such areas as
asset management, budgeting, financial structure, organizational format and advanced
theoretical material being employed in the business world. The vehicle used may be case
material, actual field experience, comprehensive literature assignments or any combination
Prerequisites 331 335 or special permission of the instructor

437 FUNDAMENTALS OF REAL ESTATE 3 cr
A study of the problems involved in financing residential, commercial, and industrial real estate
from the points of view of both owner and lender. Methods of financing covered include use of
individual and business equity, loans secured by mortgages, land contracts, sale and lease-back
arrangements and cooperatives, and real-estate trusts. Attention is given to procedures for or-
ginating, servicing, and foreclosing loans and mortgage arrangements by principal agents and
mortgage bankers. Case problems either in class or of the field type are used to illustrate the
techniques employed in determining the feasibility of a location. Special attention is given to the
in-depth study of the markets in which the financing of needs takes place. Research by the
student is required to afford the student the opportunity to concentrate on an intensive effort upon
an individual topic. Prerequisites 331

439 SEMINAR IN FINANCE 3 cr
The topics will vary depending upon current developments and the needs and interests of
the students. As a part of the course requirement the student will be expected to develop a research
paper upon some significant aspect of finance. The course should be taken by students who have
completed most of the courses required in the concentration area

QUANTITATIVE METHODS CURRICULUM
Students in the undergraduate School of Business and Administration complete a
basic sequence in Quantitative Methods. This sequence is concerned with the use of
mathematics, statistics, and electronic data processing to the analysis
of business and economic problems. The objective of the program is to increase the
student's knowledge and understanding of the uses of mathematics, statistics, and
computers as aids in decision-making. The basic sequence is comprised of these
courses 181, 281, 282, and 381. Prior to entry into the sequence, Mathematics 109
or/and 111 in the College may be required of those students failing to satisfy entry
requirements with respect to competence in basic algebra and calculus.
In addition to the basic sequence, a number of electives are offered for students
wishing to include quantitative management science techniques in their areas of
concentration

181 INTRODUCTION TO COMPUTERS 3 cr
An introduction to the basic concepts of computer programming in algebraic and representa-
tional languages. This course introduces the algorithmic approach to problem-solving and con-
tinues through the development of flowcharts and programs using the Fortran language. Brief
introduction to computer programming is also given to other business related languages. Prerequisite Mathematics 109 in the
College or equivalent

281, 282 PROBABILITY AND STATISTICS 3 cr each
This sequence includes the basic ideas of descriptive statistics, inductive statistics, and
probability. Among the topics covered are frequency distributions, measures of central tendency,
measures of dispersion, sets and set operations, elementary probability theory, probability
distributions, sampling distributions, statistical estimation, testing of hypotheses, time series
analysis, simple linear regression and correlation. Prerequisite 181 and Mathematics 111 in the College or equivalent.

381 INTRODUCTION TO DECISION SCIENCES 3 cr
The application of the scientific method of problem solving to business problems. The course includes various models and the methods of applying them to business situations. The models covered include linear programming, simulation, queuing, and inventory optimization. The use of library computer programs will be emphasized. Prerequisites 281 282.

DIVISION OF BEHAVIORAL SCIENCE

Chairman  Serge Grosset, Ph.D.

PROGRAM GUIDE
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 (24 credits) with a judicious choice of electives from the College (27 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 and Traffic
- International Business
- Marketing Management
- Public Administration
- Environment and 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.

INTERNATIONAL BUSINESS CURRICULUM

141 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.

142 ECONOMIC DEVELOPMENT OF EUROPE AND AMERICA 3 cr
A survey of the evolution of Western economic institutions and business practices. The origin of capitalism, the Commercial and Industrial Revolutions, the rise of the bourgeoisie, and the spread of capitalism are examined. A study is also made of the institutional development and productive growth of the United States economy. Emphasis is placed on analyzing economic issues, particularly the evolution of business institutions, within a historical context.

441 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 371 Econ 221 222.

442 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 neoclassical 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: 221 222 or 121 122 123.

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:

- 451 Administration of Legal Systems
- 462 Public Administration, and either
- 362 Behavioral Science
- 465 Administrative Organization, or
- 364 Personnel Management
- 413 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
- 213 Delinquency and Society
- 302 Drug Abuse
- 335 Criminology
- 328 Psychology of Personality
- 336 Social Control
- 352 Abnormal Psychology

Other coursework may be appropriate to fit a student's career objectives. Counselors and school officials should be consulted.

PRE-LEGAL CURRICULUM

The curriculum of the School of Business and Administration meets the requirements for registration for general purposes 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 3 cr
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 control, products liability, anti-trust concerns such as pricing and mergers.

353 CONTRACTS 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.
This course is an introduction to the scientific study of behavior. It incorporates concepts from 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.

### MANAGEMENT CURRICULUM

In accord with the objectives of the University and of the School, the Management Curriculum aims are:

1. To acquaint students with managerial concepts and practices in both profit and non-profit organizations.
2. To offer an opportunity for some degree of specialization to those students who are interested in a study program in management.

#### 361 PRINCIPLES OF MANAGEMENT

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, actuating, 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.

#### 362 BEHAVIORAL SCIENCE

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. The interdisciplinary approach to behavior provides an integrative framework for transfer to any organizational setting. Prerequisite 251.

#### 363 PRODUCTION MANAGEMENT

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, costing, etc., are covered. An intermediate course to be used as a basis for further specialized treatment of management areas in the advanced courses. Prerequisites 361 and 281, 282—Probability and Statistics. Other related organizational problems are considered.

#### 364 PERSONNEL MANAGEMENT

A course presenting techniques of manpower management. It involves study of recruiting, testing, 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 361.

#### 365 INDUSTRIAL RELATIONS

A course developed to present to the student historical knowledge of the labor movement, current status and importance in industry and the legal status of labor governing the actions of management in a myriad of ways. Presents the role of labor-management and government in collective bargaining and current industrial relations policies and practices. Prerequisite 361.

#### 366 HUMAN RELATIONS IN ADMINISTRATION

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 the arts public and private management and links management theory and practice. Lecture, discussions, and participative methods are employed. Prerequisite 361.

#### 462 PUBLIC ADMINISTRATION

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, arbitration, collective bargaining and public policy. Prerequisite 361.

#### 463 COLLECTIVE BARGAINING

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 361.

#### 465 DEFENSE MANAGEMENT

A three-hour study of management practices in one of the largest, most complex organizations in the world, The U.S. Military. Course highlights the interaction of planning, programming, budgeting, coordinating decision making and procurement within DOD. Discusses DOD's application of accepted management of business concepts. The importance of effective management at all levels will be emphasized in view of the impact of all defense operations.

#### 491 EXECUTIVE ACTION SIMULATION

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 being assigned and several teams compete against each other in an attempt to operate the firm on the optimum profitable basis. Prerequisites 361.

#### 492 EXECUTIVE POLICY

Integrates concepts and skills from all functional areas of business and administration in decision making under conditions of uncertainty. Makes use of case histories and other information to allow students analysis and problem solving with the organization as a whole. Prerequisites. Senior standing and 361.

#### 493 INDEPENDENT SCHOLARLY STUDY

Student must initiate an original research project in a field of business of his choice. The project is then scrutinized by a Committee of three faculty members. If the project is approved, the Dean will choose a faculty member as director of the project. The project must be completed within an academic semester. Prerequisite: Student must qualify as a University Scholar.

### MARKETING CURRICULUM

In accord with the objectives of the University and of the School, the Marketing...
Curriculum aims are
1. To develop an understanding and appreciation of distribution in our economy.
2. To explore the many basic activities involved in the marketing concept and in matching products to markets.
3. To provide an area of specialized study for those students who wish to pursue the marketing phase of business.

371 PRINCIPLES OF MARKETING
The emphasis throughout this course is on problem solving and decision-making in marketing. The basis for the course is a systematic analysis of customer 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.

372 MARKETING PROBLEMS
This course employs the case method illustrating 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 functionaries. 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: 371.

373 SALES ADMINISTRATION
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 selling, training, equipping, compensating, supervising, and controlling salesmen. Prerequisite: 371.

471 MARKETING RESEARCH
This course examines the means and methods of business management that utilize the necessary information for decision making involving what to produce and 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— are studied in some detail. Prerequisite: 371.

472 TRANSPORTATION
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: Mktg 371, Econ 221, 222.

473 TRAFFIC MANAGEMENT
This course deals with the organization and functioning of traffic departments of industrial concerns. Topics treated are organization of shipping departments, car records for the control of private car lines, claims, routing, service and rating departments, regulations governing packing, shipping, and sales, shippers' relations with carriers, freight rates, express tariffs, delays in transit receipt and delivery of property. Intensive work in the rate structures of the United States will be an important item. Prerequisites: Econ 221, 222.

DIVISION OF ECONOMIC SCIENCE
Chairman: Som Prakash, Ph.D.

ECONOMIC SCIENCE CURRICULUM

121 ELEMENTS OF ECONOMICS
Economics 121 is an introductory course in economics intended to afford an understanding of how our economic system works, 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.

122 INTRODUCTION TO MACRO ECONOMICS
The emphasis is on the application of macroeconomics principles. A series of basic economic problems and issues will be examined in terms of an understanding of the basic problems of how society can achieve and maintain a full employment economy with reasonable economic stability.

123 INTRODUCTION TO MICRO ECONOMICS
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.

The above set of courses has been designed for non-business students. However, taking one course does not obligate the student to take any additional courses in the sequence.

124 ECONOMICS OF DISCRIMINATION
The main interest of this course is the diagnosis of the nature and causes of the problem of social, economic, and educational underutilization and underdevelopment of Black America, the course aims at the historic delineation of the factors responsible for this situation and programs current and possible that may be utilized to improve the situation.

221 PRINCIPLES OF ECONOMICS I
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.

222 PRINCIPLES OF ECONOMICS II
This course is primarily concerned with aggregative economic relationships. The theory of the determination of national income is developed and attention is given to the construction of national income accounts. Attention is given to monetary and fiscal policy and their implications. Prerequisite: 221.

321 NATIONAL INCOME ANALYSIS
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: 221, 222 or 121, 122, 123.

322 PRICE AND PRODUCTION ECONOMICS
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 221 222 or 121 122 123

323 PUBLIC FINANCE 3 cr
A study of the organization and management of government revenues and expenditures with emphasis on American practices and policies at the various levels of government. Benefit-cost and cost-effectiveness analysis with their implications for program and capital budgeting receive heavy consideration. The economic consequences of various tax structures and alternative social choice mechanisms are studied. Prerequisite 321 or 322

324 COMPARATIVE ECONOMIC SYSTEMS 3 cr
A comparative study of capitalism, socialism, communism, and other economic systems with emphasis on analysis rather than mere description of the economics of various countries. Prerequisites 221 222 or 121 122 123

325 URBAN ECONOMICS 3 cr
Urban economics is intended to afford an understanding of how the urban economy works. 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 policies in the urban economy, income inequality, man power, 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 221 222 or 121 122 123

420 LABOR ECONOMICS 3 cr
Analysis of the principles for wage and employment determination in contemporary American economy under non-union conditions as well as under collective bargaining. The institutional development underlying labor supply and demand is studied with direct emphasis on its impact on employment and unionization on the general wage-level and on wage differentials, on the distribution of national income and on social welfare. The course also includes a comparative study of problems in labor economics in American and other democratic countries. Prerequisites 221, 222 or 121 122 123

421 HISTORY OF ECONOMIC THOUGHT 3 cr
Shows the development of economic thought from the Age of Mercantilism to 1890. Major emphasis is placed upon the writings of Mun, Petty, Quesnay, Smith, Ricardo, Malthus, Man, Leis, and the Austrian School. It offers a study of the fundamental concepts of the writer and the intellectual climate in which they function. Prerequisites 321 or 322

422 MODERN ECONOMIC THEORY 3 cr
A brief review of classical tradition emphasizing Smith, Ricard, 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 321 322

423 BUSINESS CYCLES AND FORECASTING 3 cr
This course is designed to study the process of economic change. Analyses of seasonal cyclical and secular movements will be undertaken. Theoretical and empirical aspects will be covered. Forecasting techniques will also be studied. Prerequisite 321

424 BUSINESS AND PUBLIC POLICY 3 cr
A study of the regulatory techniques used by government to influence and modify business behavior. This course also includes an analysis of market structure, conduct, and performance considerations pertaining to the firm and the industry. Emphasis is given to the anti-trust laws and special regulatory problems. Prerequisites 221 222 or 121 122 123

425 CURRENT ECONOMIC ISSUES 3 cr
A seminar-like discussion of the state of the nation's economy and its current problems on the basis of critical examination of professional journal articles and economic reports by officials 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 that he has acquired during his undergraduate study of economics and related fields of social science and business administration. Prerequisites 221 222 or 121 122 123

426 MONETARY THEORY AND POLICY 3 cr
The course presents the chief theoretical contributions on money. Policy implications of these theories past and present will be emphasized. Concentration will center on monetary policy proposals and controversy in the monetary field since World War II. The theories and contributions of Wickell, Fisher, J. M. Clark, Keynes, Robertson, 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 221 222 or 121 122 123

427 THEORY OF ECONOMIC DEVELOPMENT 3 cr
This course is designed to acquaint students with the area of economic development. The subject matter of this course conveniently divides itself into five major categories: the nature of development and problems of measurement; theories of development; factors and forces affecting economic growth, different approaches to a higher standard of living, and problems of domestic and international stability. Approach to this course comprises detailed study as well as a strong emphasis on theoretical and critical analysis. Prerequisite 321

428 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 social-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 427

429 SEMINAR IN ECONOMICS 3 cr
The purpose of the seminar is to provide a vehicle for the advanced student to investigate separate subject areas in the field of economic theory. The intention is to provide a broad background for further study at the graduate level. Seminar procedure will stress written and oral reports. Prerequisites 321 322 and 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 in 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 and basic professional 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 indications 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 in 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 (mentally and/or physically handicapped), 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 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 Delta Epsilon, national education sorority.

HONOR AWARDS
These awards, presented at the annual Honors Day Convocation, are open to undergraduates in the School of Education:
Faculty Award for General Excellence in Secondary Education.
Faculty Award for General Excellence in Elementary Education.
Faculty Award for General Excellence in Special Education.
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.
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 Pennsylvania 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
The School of Education offers programs leading to the Bachelor of Science in Education degree. All programs are approved by the Pennsylvania Department of Education for the Instructional I (Provisional) Certificate.

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 must be earned at Duquesne University. The minimum number of credits for graduation is 120.

As this program has been cooperatively developed by Duquesne University and Carlow College for Pennsylvania Department of Education approval, some of the professional courses in Early Childhood Education are offered on the Carlow campus.
This program cannot be completed on a part-time basis. The last 30 credits must be earned at Duquesne University. The minimum number of credits for graduation is 120.

**General Education**
Courses Credits

<table>
<thead>
<tr>
<th>Course Area</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</td>
<td></td>
</tr>
<tr>
<td>(Speech Journalism English)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and/or Science</td>
<td>12</td>
</tr>
<tr>
<td>(Anthropology Economics Geography History Political Science Sociology)</td>
<td></td>
</tr>
<tr>
<td>Philosophy and/or Theology</td>
<td>9</td>
</tr>
<tr>
<td>Psychology</td>
<td>6</td>
</tr>
<tr>
<td>(Introduction to Psychology is a prerequisite to all others)</td>
<td></td>
</tr>
</tbody>
</table>

**Professional Education**
All courses, for a total of 34 credits are required.

<table>
<thead>
<tr>
<th>Course Area</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>4</td>
</tr>
<tr>
<td>Child Development II</td>
<td>2</td>
</tr>
<tr>
<td>Early Childhood Education I</td>
<td>4</td>
</tr>
<tr>
<td>Early Childhood Education II</td>
<td>4</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>Teaching Elementary Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Education Electives**
Courses Credits
Nine credits from among the following courses are required.

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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 Arts and Reading</td>
<td>1</td>
</tr>
<tr>
<td>Teaching Elementary</td>
<td></td>
</tr>
<tr>
<td>Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary 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>Teaching Reading in Primary School</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Reading in Intermediate and Middle Schools</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>24</td>
</tr>
<tr>
<td>Independent Study</td>
<td>12</td>
</tr>
</tbody>
</table>

**Professional Semester**
Both courses for a total of 12 credits are required.

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Teaching in Early Childhood</td>
<td>10</td>
</tr>
<tr>
<td>Planning Programs for Young Children</td>
<td>2</td>
</tr>
</tbody>
</table>

**Other Electives**
Courses Credits

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting Electives</td>
<td></td>
</tr>
<tr>
<td>Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>History Elective</td>
<td>6</td>
</tr>
<tr>
<td>Survey of American Federal Government</td>
<td>4</td>
</tr>
<tr>
<td>Sociology Elective</td>
<td>3-6</td>
</tr>
<tr>
<td>Psychology Elective</td>
<td>3-6</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Music</td>
<td>3</td>
</tr>
<tr>
<td>English Elective</td>
<td>6</td>
</tr>
<tr>
<td>Modern Language</td>
<td>18</td>
</tr>
<tr>
<td>Mathematics</td>
<td>12</td>
</tr>
<tr>
<td>Science</td>
<td>6-8</td>
</tr>
<tr>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**Education Electives**
Nine credits from among the following courses are required.

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Development</td>
<td>3</td>
</tr>
<tr>
<td>Children's Literature</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>Problems in Teaching Reading</td>
<td>3</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 without permission.

**MUSIC EDUCATION**
General and professional course work and professional education courses required for this program are outlined in the School of Music section, page 110.
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, communications (with emphasis in English, journalism, or speech and theatre), English, general science, Latin, mathematics, modern languages (French, German, Spanish), physics, social studies (economics, history, political science, psychology, sociology).

2. Admission to graduate programs in education.

This program cannot be completed on a part-time basis. The last 30 credits must be earned at Duquesne University. The minimum number of credits for graduation is 120.

General Education

Courses | Credits | Courses | Credits |
---------|---------|---------|---------|
English Area | 15 | All courses in this area are required |
English Composition | 6 | Foundations of Education | 3 |
English Elective | 3 | Educational Psychology, Child Development or Adolescent Development | 3 |
Communications Area | 6 | Methods Seminar in Secondary Teaching and Techniques Laboratory | 3 |
( Speech, Journalism, English) | | | |
Mathematics and/or Science | 12 | Reading in Secondary Schools | 3 |
Social Science | 12 | Professional Semester | 3 |
(Anthropology, Economics, Geography, History, Political Science, Sociology) | | Secondary Student Teaching | 12 |
Philosophy and/or Theology | 9 | School Law and Pupil or Youth and Drug Abuse | 2 |
( Includes 3 credits in Theology required for Catholics) | | |
Psychology | 6 | *For Communication certification 18 credits in the English area are required six in English, six in journalism and six in speech and theatre, for a total of 57 credits in the General Education area |

Professional Education

Courses | Credits |
---------|---------|
Foundations of Education | 3 |
Educational Psychology, Child Development or Adolescent Development | 3 |
Methods Seminar in Secondary Teaching and Techniques Laboratory | 3 |
Reading in Secondary Schools | 3 |
Professional Semester | 3 |
Secondary Student Teaching | 12 |
School Law and Pupil or Youth and Drug Abuse | 2 |

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.

Major | Major Field Requirements | Supporting Courses |
---------|-------------------------|------------------|
Biology | Consult with Biology Department | Mathematics, chemistry and physics |
Chemistry | Consult with Chemistry Department | Mathematics and physics |

SPECIAL EDUCATION (MENTALLY AND/OR 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 must be earned at Duquesne University. The minimum number of credits for graduation is 120.

In addition to the General Education requirements (see page 94), a student must earn the following credits:

<table>
<thead>
<tr>
<th>Communicate Emphasis</th>
<th>Consult with English Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journalism Emphasis</td>
<td>Consult with Journalism Department</td>
</tr>
<tr>
<td>Speech Emphasis</td>
<td>Consult with Speech Department</td>
</tr>
<tr>
<td>General Science</td>
<td>Minimum of eight credits in biology, chemistry, and physics and additional courses to total a minimum of 18 semester hours in one field of science</td>
</tr>
<tr>
<td>Latin</td>
<td>Consult with Classics Department</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Calculus I, II, III</td>
</tr>
<tr>
<td>Modern Languages</td>
<td>Consult with Modern Languages Department</td>
</tr>
<tr>
<td>Physics</td>
<td>Consult with Physics Department</td>
</tr>
<tr>
<td>Social Studies</td>
<td>Economics, history, political science, sociology, psychology</td>
</tr>
</tbody>
</table>

*For Communication certification 18 credits in the English area are required six in English, six in journalism and six in speech and theatre, for a total of 57 credits in the General Education area.
### Areas and Courses Credits

#### Professional Education
In addition to 54 credits in general education, a minimum of 63 credits is required in professional education.

<table>
<thead>
<tr>
<th>Foundations of Education</th>
<th>12</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</td>
<td>3</td>
</tr>
<tr>
<td>Adolescent Development</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Special Education

<table>
<thead>
<tr>
<th>Field Experiences</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately and Severely Handicapped</td>
<td>2</td>
</tr>
<tr>
<td>Vocational Education and either</td>
<td>2</td>
</tr>
<tr>
<td>Mildly Handicapped - Elementary</td>
<td>2</td>
</tr>
<tr>
<td>or Mildly Handicapped - Secondary</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foundations of Special Education</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Reading in the Primary School</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Methods in Special Education I</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Methods in Special Education II</td>
<td>3</td>
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</table>

### Teaching the Mildly Handicapped

| Vocational Education for the Handicapped | 3  |

### Education Electives

<table>
<thead>
<tr>
<th>Problems in Speech</th>
<th>3</th>
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<tbody>
<tr>
<td>Interpersonal Classroom Management Teaching</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Art</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Elementary Social Studies</td>
<td>3</td>
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<tr>
<td>Mainstream Seminar</td>
<td>3</td>
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<tr>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Music for the Exceptional Child</td>
<td>3</td>
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<tr>
<td>Hearing and Audiology</td>
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<td>Speech Problems of the Exceptional Child</td>
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<tr>
<td>Independent Study</td>
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<td>Children's Literature</td>
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<tr>
<td>Problems in Teaching Reading</td>
<td>3</td>
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</tbody>
</table>

### Professional Semester

| Student Teaching Special Education | 12 |

### Professional Semester Credits

| Student Teaching Special Education | 12 |

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#### Prerequisites
- Teaching Reading in the Primary School
- Teaching Elementary Mathematics

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### COURSE DESCRIPTIONS

#### EDUCATIONAL FOUNDATIONS AND PSYCHOLOGY

<table>
<thead>
<tr>
<th>101 INTRODUCTION TO EDUCATION</th>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>An overview of professional education programs and careers, introduces students to the competency-based format of undergraduate curriculums and gives them opportunities to meet faculty and staff in informal information-giving and counseling relationships</td>
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<table>
<thead>
<tr>
<th>201 CHILD DEVELOPMENT</th>
<th>3 cr</th>
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</thead>
<tbody>
<tr>
<td>Behavior and personality characteristics of children from birth to adolescence as they relate to school and home situations</td>
<td></td>
</tr>
</tbody>
</table>

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#### 202 EDUCATIONAL PSYCHOLOGY

| 3 cr |
| Examines affective and cognitive development planning and teaching techniques, measurement and evaluation, and related theories in an experiential learning environment |

#### 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 advisor, one credit each semester for a maximum of five semesters |

#### 227 HUMAN DEVELOPMENT

| 3 cr |
| Growth and development of the child, with an emphasis on understanding personality development and problems of growing up |

#### 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 |

#### 302 THE DYNAMICS OF GROUP PRESENTATIONS

| 3 cr |
| An interdisciplinary approach to the study of organizational leadership designed to acquaint the student with the dynamics of the leadership process. The two principal objectives are developing student proficiency in the art of effective oral communication through practical exercises and formal instruction and providing the student with an understanding of the concepts of leadership theory and group processes as these relate to managerial functions |

#### 335 MAINSTREAM SEMINAR

| 3 cr |
| This seminar is designed to acquaint the regular teacher with the nature of the exceptionalities which are characteristic of the handicapped child who may be mainstreamed into the regular classroom. Emphasis will be on teaching strategies in developing instructional programs for the mainstreamed handicapped child |

#### 351 ADOLESCENT DEVELOPMENT

| 3 cr |
| Examines the developmental processes psychological, physical, and social, which affect student and student-teacher behavior and relationships in the classroom |

#### 361 PSYCHOLOGY OF IDENTITY AND FULFILLMENT

| 3 cr |
| Implications of the psychology of personality for the wholesome development of personality and for the prevention of lasting personality disturbances |

#### 410 INTERPERSONAL CLASSROOM MANAGEMENT FOR TEACHERS

| 3 cr |
| Focuses on four major concerns for maximizing learning and minimizing conflict, the four areas are the teacher's personal awareness of feelings and emotions, interpersonal, societal, and educational values, understanding of group dynamics, and knowledge of managing classroom situations |

#### 478 YOUTH AND DRUG ABUSE

| 2 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 |

#### 480 INDEPENDENT STUDY

| 1-2 cr |
| With permission of an instructor and approval of the Dean. Seniors may pursue in-depth study of a subject area or engage in individual projects related to their professional goals |

#### 481 LEARNING RESOURCES

| 3 cr |
| Identification, location, utilization, and creation of learning materials, adaptation of print and non-print materials to meet curricular needs, developing materials for individualized classroom instruction |
485 PROBLEMS IN TEACHING READING 3 cr
Reading difficulties on elementary and secondary school levels. Discussion of classroom and clinical procedures in solving reading problems, diagnostic and corrective techniques, and materials for the classroom teacher. Reading improvement programs, special unit on reading problems or the mentally retarded.

496 EVALUATION OF LEARNING 2 cr
Principles of test construction, examination analysis, and interpretation of other media for appraisal of pupil growth and achievement.

498 DEVELOPMENTAL READING 2 cr
A survey course in the teaching of reading appropriate for both elementary and secondary education majors. Major emphasis is on methods of teaching reading, the materials for evaluating pupil growth in reading and reading in the content subjects.

499 SCHOOL LAW AND THE PUPIL 2 cr
School law as it affects the child—census admission practices, vaccination compulsion, attendance, the neglected dependent and delinquent child, work periods, graduation requirements, special school services, and other regulations pertaining to the health and welfare of the child.

EARLY CHILDHOOD EDUCATION

301 CHILD DEVELOPMENT I 4 cr
Focuses upon the substantive developmental growth in the child from conception through the fourth year of life. Specific emphasis is given to normative physical, intellectual, social, and emotional faculties developing during infancy (ages 0 through 2 years) and during the preschool years (ages 3 and 4). The role of the family as a primary socializing agent is stressed.

302 CHILD DEVELOPMENT II 2 cr
Emphasizes normative physical, intellectual, social, and emotional growth and development in the child through the pre-primary and primary school years (ages 5 through 8). Attention is given to the role of the school as a socializing agent during these years.

304 EARLY CHILDHOOD EDUCATION I 4 cr
The first half of the course encompasses the complete history of child development and early childhood education beginning with the contributions of early educators Pestalozzi, Froebel, etc., and continuing through the eighteenth, nineteenth, and twentieth centuries. The second half of the course examines recent trends such as Day-Care Centers, Head Start, Project Follow Through, etc., with participation in child-care programs required.

305 EARLY CHILDHOOD EDUCATION II 4 cr
Students will examine the humanistic behavioristic cognitive-developmental and psychodynamic theories of child development. In-depth study of early childhood education models—Montessori, Bank Street, etc.—and a survey of early childhood education programs. Students will be familiarized with the Readiness Programs, the Child Development Center, and the Early Education Program. A special emphasis will be placed on the role of the family as a primary socializing agent and the role of the school as a socializing agent during these years.

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 are 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.
332 TEACHING ELEMENTARY MATHEMATICS 3 cr
Theories, techniques, practices, and content pertaining to mathematics are presented. Emphasis is on exploratory and systematic instructional styles, games as an instructional strategy.

333 TEACHING ELEMENTARY SCIENCE 3 cr
Study of theories, techniques, practices, and content of the science area. Accent is on discovery and inquiry instructional styles, organizing for learning.

484 CHILDREN'S LITERATURE 3 cr
A general survey of books and other printed materials for children, criteria for the evaluation and analysis of children's books, types of books available, considered in terms of interest, needs, and abilities of children.

490 ELEMENTARY STUDENT TEACHING 9 cr
Student teaching in an approved public elementary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, and completion of required professional courses.

SECONDARY EDUCATION

215 TEACHING SECONDARY GRAMMAR AND COMPOSITION 3 cr
Deals with various approaches to teaching grammar, language, and composition, also provides opportunities for students to develop and use the different techniques in mini-teaching situations.

316 TEACHING SECONDARY MATHEMATICS AND SCIENCE 2 cr
Designed to acquaint the student with methods and materials for teaching specific models, research, and field-based activities are expected.

317 INNOVATIVE PRACTICES AND SKILLS IN SECONDARY TEACHING 3 cr
Provides experiences in process education, inquiry teaching, curriculum development, testing, measurement, group processes, reading problems, use of varied materials, and new teaching methods.

318 TEACHING SECONDARY FOREIGN LANGUAGES 2 cr
Explores a variety of approaches for teaching foreign languages, grammar, structure, verbal exercises, and literature germane to the specific language to be taught will be discussed.

319 TEACHING SECONDARY SOCIAL STUDIES 3 cr
This is a competency-based experience for social studies/history majors that develops evaluation skills, knowledge of curricular media and technological experiences, and methods expands planning and questioning skills.

364 METHODS SEMINAR IN SECONDARY TEACHING AND TECHNIQUES LABORATORY 3 cr
This is a learning experience that uses videotape technology to aid students toward mastery of five teaching competencies: planning, questioning, using varied materials and techniques, working with small groups, and evaluation. Evaluation is done via self-analysis, peer evaluation, and instructors' feedback.

490 SECONDARY STUDENT TEACHING 9 cr
Student teaching in an approved public secondary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, and completion of required professional courses.

497 READING IN SECONDARY SCHOOLS 3 cr
A survey course in the teaching of reading, appropriate for secondary education majors. Major emphasis is on methods of teaching reading, the materials for evaluating pupil growth in reading, and reading in the content subjects.

SPECIAL EDUCATION

211, 212, 213, 214 FIELD EXPERIENCE 2 cr each
Classroom and other experiences in educational, social welfare, and vocational settings as an observer and participant. Enrollment with consent of Director of Student Teaching and School of Education faculty advisor. 211 and 212 are required experiences and the student may choose between 213 and 214 to complete the six credits of special education field experiences that are required.

309 FOUNDATIONS OF SPECIAL EDUCATION 3 cr
Survey of the social, psychological, and physical characteristics of the various types of exceptional children, and methods for meeting their educational needs, includes field trips to schools and classes which specialize in the education of the typical child. Prerequisites: 201, 302.

374 MUSIC FOR THE EXCEPTIONAL CHILD 3 cr
Singing and rhythmic movement activities are basic to this course. It also includes folk dance, listening, and instrumental (percussion instruments) experiences.

376 METHODS IN SPECIAL EDUCATION I 4 cr
An introduction to the educational management techniques utilized in programs for exceptional persons. Information covering assessment procedures, general classroom management, designing individual educational programs, and prescriptive teaching will be included. Prerequisites: 209, 305, 302.

377 METHODS IN SPECIAL EDUCATION II 4 cr
A sequel to 376-Methods in Special Education I in which skills in consulting with parents, specific classroom management procedures, and individual tutoring skills are introduced. Participants will be required to tutor a student at a selected site one full morning a week. Prerequisite: 376.

485 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.

487 TEACHING THE SEVERELY AND PROFOUNDLY HANDICAPPED 3 cr
Evaluation and integration of the various theories, methodologies, curriculum content, instructional techniques, and evaluation procedures for the severely and profoundly handicapped.

488 VOCATIONAL EDUCATION FOR THE HANDICAPPED 3 cr
An overview of the pre-vocational, vocational, career, and occupational education programs designed to be used for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites: 485, 487.

490 STUDENT TEACHING—SPECIAL EDUCATION 12 cr
A full semester of supervised classroom experience at a carefully-selected school for mentally and/or physically handicapped pupils. Prerequisites: Senior status, good academic standing, and completion of required professional courses.
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 is in a situation where they have an opportunity to share their academic courses in classes with students from other schools of the University, and 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 students.

The faculty of musical scholars and artists with whom Duquesne students work believes that fine talents are best encouraged and developed in an environment 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 Wind Ensemble, in their many performances on and off campus, present a wide variety of standard and contemporary repertoire.

The Symphony Orchestra offers fine opportunities for students interested in orchestral literature. Association 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
Taking Fewer Than 12 Credits

Without credit

Special Students—Private Instruction

These fees are charged to non-degree students and others taking the instruction without credit.

Fees which may be applicable when student is taking fewer than 12 credits

Instruction in voice or instrument as a major, each semester

Instrumental rental for use in major study

Harp, String Bass, Oboe, Bassoon, Tuba and Percussion

All other instruments

Instructional rental for use in minor study

Harp, String Bass, Oboe, Bassoon, Tuba and Percussion

All other instruments

Instruction for class use

Organ practice (major or minor) each semester

Summer Session

Private Instruction Fees

Two hours a week (major)

One hour a week (major)

One hour a week (minor)

Instrumental Rental

Instrument for class use

Instrument for summer months

Instrument for use in six-week Summer Session

Organ practice for use in six-week Summer Session

Sponsorship of 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 is given to an outstanding junior studying a woodwind instrument.

Ezio Pinella 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 1 (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 recitals and concerts sponsored by the School of Music. While attendance at all events is encouraged, the number required 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 seven different programs: four in applied music, two in music education, and one in sacred music.

**MAJOR IN PIANO**

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>1' Mus 103,104 Applied Music (Piano)</td>
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<tr>
<td>Mus 111,112 Applied Music Minor</td>
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<tr>
<td>Mus 131,132 Theory</td>
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<td>2</td>
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<tr>
<td>Mus 133,134 Solfeggio</td>
<td>2</td>
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<tr>
<td>Mus 143,144 Ensemble Chorus</td>
<td>1</td>
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</tr>
<tr>
<td>Mus 121,122 Eurhythmics</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Eng 101,102 English Composition</td>
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<td>Mus 231,232 Theory</td>
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<td>Mus 233,234 Solfeggio</td>
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<td>Mus 243,244 Ensemble Chorus</td>
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<tr>
<td>Mus 251,252 Music and Western Civilization</td>
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<tr>
<td>Mus 241,242 Chamber Music</td>
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<td><strong>Junior Year</strong></td>
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<td>Mus 343,344 Ensemble Chorus or Small Ensemble</td>
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<tr>
<td>Mus 347,348 Small Ensemble</td>
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<tr>
<td>Mus 335,336 Counterpoint</td>
<td>2</td>
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<tr>
<td>Mus 341,342 Chamber Music</td>
<td>2</td>
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<tr>
<td>Mus 191 Human Physiology or</td>
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<td>(3)</td>
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<td>Mus 253 Visual Arts</td>
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<td>Mus 441,442 Chamber Music</td>
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<td>Mus 443,444 Ensemble Chorus or</td>
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<tr>
<td>Mus 447,448 Small Ensemble</td>
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<tr>
<td>Mus 340</td>
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<tr>
<td>Mus 379 Conducting</td>
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**MAJOR IN ORGAN**

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<tr>
<td>Mus 131,132 Theory</td>
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<td>Mus 133,134 Solfeggio</td>
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<tr>
<td>1' Mus 203,204 Applied Music (Organ)</td>
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<td>Mus 211,212 Applied Music Minor (Piano)</td>
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<td>Mus 231,232 Theory</td>
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<td>Mus 343,344 Ensemble Chorus or Small Ensemble</td>
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<tr>
<td>Mus 335,336 Counterpoint</td>
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### Senior Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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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

### Major in Voice

#### Freshman Year

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### Major in Orchestral Instrument

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1. Includes performance classes required by the voice department
Mus 191 Human Physiology or
Mus 253 Visual Arts or
Mus 491 Physical Science (Acoustics)
Mus 379 Conducting
Mus 340 Orchestration
Mus 441,442 Chamber Music

1Includes performance classes required by individual departments

**MUSIC EDUCATION**

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**Junior Year**

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See footnotes following Music Therapy Curriculum

**MUSIC EDUCATION – MAJOR IN MUSIC THERAPY**

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**Junior Year**

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<td>Mus 211,212</td>
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</tbody>
</table>

1 Includes performance classes required by individual departments.

2 Piano 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).

3 Electives in psychology, sociology, and special education will be selected following consultation with advisor.

4 In accordance with recommendations made by the School's faculty, the National Association for Music Therapy, and the American Association for Music Therapy, and taking into consideration performance needs of music therapists, the applied music requirements for therapy majors are altered in this manner. Upon satisfactory completion of the first two years as an applied major on the instrument of the individual's choice, determined by audition and jury with the appropriate faculty, the student may study one or several instruments for the remaining two years. This will enable the student to develop a degree of versatility which can be of considerable use in the practice of music therapy.
COURSE DESCRIPTIONS

APPLIED MUSIC

101, 102, 201, 202, 301, 302, 401, 402 APPLIED MUSIC MAJOR FOR THE BACHELOR

OF SCIENCE IN MUSIC EDUCATION

The study of voice, piano, organ, string, wind, or percussion instruments throughout all
semesters

2 cr each

103, 104, 109, 110, 203, 204, 303, 304, 403, 404 APPLIED MUSIC MAJOR FOR THE

BACHELOR OF MUSIC

Private study of voice, piano, organ, string, wind, or percussion instruments throughout all
semesters. Credits are distributed according to departmental curricula

Var cr each

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 gradu-
ation: (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 Sonatina 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

Bassoon

103, 104

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 Mouquet

3 cr each

203, 204

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

4 cr each

303, 304

Oubradous Scales and Daily Drills. Milde Concert Studies, Orefici Bravura Studies, selected
passages from the Bach Cantatas, Mozart Concerto in B flat, Haydn and Mozart sonatas

4 cr each

403, 404

Gambaro Etudes for Bassoon, Bozza, Fifteen Daily Studies, Sonatas by Hindemith and San
t

5 cr each

Saens, orchestral and chamber music studies, Bozza, Concertino, the contra bassoon

Clarinet

103, 104

Scales and arpeggios in various articulations, Langenus Scale Studies, Rose, Forty Studies,
Cavallini Thirty Caprices, Weber, Fantasy, Le Fevre, Fantasie Caprice

3 cr each

203, 204

Scales and arpeggios continued. Rose, Twenty Studies after Rode, Jeanjean, Twenty five Etudes,
Weber Concertos, Mozart, Quintet for Clarinet and Strings, representative contemporary solos
orchestral studies

4 cr each

303, 304

Oubradous Scales and Daily Drills, Milde, Concert Studies, Orefici, Bravura Studies, selected
passages from the Bach Cantatas, Mozart, Concerto in B flat, Beethoven Quintet, representative
contemporary solos, orchestra studies

4 cr each

403, 404

Jeanjean, Sixteen Modern Studies, Perrier, Vingt-deux Etudes Modernes, Spohr Concerto,
Cassilly, Premier Rhapsodie, representative contemporary solos and sonatas

5 cr each

Double Bass

103, 104

Scales and intervals in all keys, Simandl Thirty Etudes, Selected pieces, Orchestral studies

3 cr each

203, 204

Hrabe, Eighty-six Etudes, Short pieces by Koussevitsky and Bottesini, Orchestral studies

4 cr each

303, 304

Nanny, Etudes de Kreutzer et de Fiorillo, concertos by Koussevitsky, Dittersdorf and Bottesini,
Orchestral studies

4 cr each

403, 404

Nanny, Dix Etudes Caprices, Storch, Twenty Concert Etudes, concertos by Koussevitsky and
Dragonetti, Orchestral studies

5 cr each

Flute

103, 104

Analysis of student’s playing and basic corrections if necessary; Taffanel-Gaubert scales, scales
in thirds, trills, Selected studies by Berbiguier, Anderson, Etudes Op 33 and 37, Boehm-
Wummer Caprices Op 26, Kuhlau Duets Op 10, Sonatas of the Baroque Period Solos by
Doppler, Chaminade, Mozart, Moyse, Three Grand Solos Op 57 by Kuhlau

3 cr each

203, 204

Taffanel-Gaubert Scales, scales in thirds and sixths, chromatic scales, arpeggios and trills; Anderson, Etudes Op 21, Hughes, Forty New Studies, Moyse, De la Sonorite, The Modern Gradus
and Parnassum, Selected duets by Kuhlau, Koechlin and Rivier, concertos by Haydn and
Mozart, sonatas by LeClair, Bach and W F Bach, solos by Faure, Debussy and Gaubert

4 cr each

303, 304

Continue scale study, Taffanel-Gaubert Progressive Studies, Barrere, The Flutists, Formule
Anderson, Etudes Op 30, Altes-Barrere, 26 Selected Studies, Moyse, Etudes et Exercises, Tech-
niques, Torchio-Wummer, Orchestral Studies, Bach, b minor Suite, Sonatas, and Arias from
the religious works, Anrieu, Sonatine, Gaubert, Sonata No 2, Telemann Suite, in a minor, Solos
by Hue, Enesco, Griffes, Gaubert and Varese

4 cr each
103, 104 3 cr each
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, Renneke, Concerto by Ibert, works by representative contemporary composers

Guitar
Information available from Admissions Office or the School of Music

Harp
103, 104 3 cr each
Lavariere Exercises and technical studies Standard orchestra parts Bochsa Etudes Opus 318 Book II Pieces grade of difficulty of Grandjany Arias in Classic Style, Tourner Images Suitre II, Saint-Saens Fantasie

203, 204 4 cr each
Technical studies Bochsa Etudes Opus 62 Standard orchestra cadenzas Pieces of grade difficulty of Tourner Feerie, Rousseau Variations Pastorales, Grandjany Fantasie on a Theme of Haydn

303, 304 4 cr each
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 5 cr each
Technical studies Pieces grade of difficulty of Faure Impromptu, C P E Bach Sonata Salzedo Scintillation, Debussy Danses Sacre et Profane

Horn
103, 104 3 cr each
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 technic, Dubois Cavatine, Franz Strauss Concerto

203, 204 4 cr each
Alphonse, Deux Cents Etudes Nouvelles, Kopprasch Studies, Strauss, Seventeen Concert Studies, Chabrier Larghetto, Mozart, concertos, orchestral studies

303, 304 4 cr each
Alphonse, Deux Cents Etudes Nouvelles, Kopprasch Studies, Gallay Twelve Caprices, Beethoven Sonata, Mozart, Concert Rondo, orchestral studies

403, 404 5 cr each
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 3 cr each
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 4 cr each
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 4 cr each
Continue scales and arpeggios, Bleuzet, selected studies for range and endurance, orchestral studies, Cimarosa Concerto Paris Conservatory solos, representative contemporary compositions

403, 404 5 cr each
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 JS Bach, sonatas by Telemann and Hindemith solos by Busser, Jolivet, Rivier, Mozart Concerto Symphonie Concertante and Quartet, Concerto by Coosens contemporary solos

Organ
103, 104 4 cr each
Gleason Method of Organ Playing, Stanley Voluntaries, Franck, L'Organiste, Vierne 24 Pieces, Dupre Chorale Preludes, Pachabel Fugues on the Magnificat Selected compositions by Gabrieli, Frescobaldi, Buxtehude, Bruhns, Bohm and Couperin, Bach Organbuchlein 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 4 cr each
Brahms Chorale Preludes, Mendelssohn Schumann Hindemith Sonatas, Jenkins, Six Pieces, Dupre Antiphons, Messiaen La Banquet Celeste or Ascension Suite movements 1 or 4, Langlais, Franck Cantabile or Prelude, Fugue and Variation, Schroeder or Pepping Vierne, Pieces de Fantaisie, Bach, Organbuchlein, Trio Sonata, Concerto 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 4 cr each
D'Aquin Clerambault de Grigny Handel Concerti Franck Fantaisies, Piee Henoche Sowerby and contemporary American selections, Mozart, Seelick, Bach, 18 Great Chorales Toccata Adagio and Fugue, Prelude and Fugue in A minor D major Organbuchlein, Hymn playing free harmonizations, keyboard harmony and counterpoint anthem accompaniment

403, 404 6 cr each
Franck Chorales Messiaen Nativite Liszt, 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, Clavinburg Part III Conducting from the console accompaniment of larger choral works improvisation

Percussion
103, 104 3 cr each
Fundamental snare drum technique and its application to musical notation, exercises in rhythm phrasing, control Elements of timpani technique their application to classical literature tuning Rudimentary xylophone technique scales arpeggios forms

203, 204 4 cr each
Advanced snare drum studies repertoire Three and four timpani exercises orchestral literature intermediate xylophone studies transcriptions for solo

303, 304 4 cr each
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 5 cr each
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 mazurkas, 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
Scarlatti, 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 Fantasiestucke, 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 Toccatas 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. Continue scales and arpeggios

 Saxophone

103, 104 3 cr each
Mule: Scales and Arpeggios, Small 27 Melodious and Rhythmic Exercises, Labarchi-lasili, 33 Concert Etudes, Vol 1, Concertino by Muliaud

203, 204 4 cr each
Mule: Scales and Arpeggios Vol II Lamoscie 18 Studies for Saxophone, Salvianisaliisi Exercises in all the Practical Keys, Guillon Fontaine, 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, Loyon Thirty two Studies, Montz Concerto, Contemporary solos orchestra studies

 Trombone and Baritone Horn

103, 104 3 cr each
Scales and arpeggios in all keys, Studies by Cimera, Stacey. Lip Studies Arban Complete Method for Trombone. Blume Studies Vol 1, Rochut Melodious Studies Vol 1. La Fosse Sight Reading Studies

203, 204 4 cr each

303, 304 4 cr each

403, 404 5 cr each
Gaetke Lip Flexibility, La Fosse Complete Method for Trombone, Blazhevich 26 Sequences in Bass Tenor and Alto Clefs, Rimsky-Korsakov, Concert, Hindemith Sonata Grondahl Concerto, Blazhevich Concerto No 2, orchestral studies, study of bass trombone

 Trumpet

103, 104 3 cr each
Schlossberg, Daily Drills, Arban Complete Method for Trumpet Sachse One Hundred Etudes, Brandt, Orchestral Studies, D'Ollone, Solo de Trompette, Videl Concertino

203, 204 4 cr each
Schlossberg, Daily Drills Sachse One Hundred Etudes, Brandt, Orchestral Studies, Bousquet Studies, Enesco Concerto, Sowerby Sonata

303, 304 4 cr each
Pietzsch Studies, Bousquet Studies Brandt, Orchestral Studies, Hindemith Sonata for Trumpet, Perschetti The Hollow Men, Intrada by Honegger

403, 404 5 cr each
Sauvuer Techniques, Paudert Sixty two Exercises, Advanced Studies by Clarke, Liersering and others. Concertos by Haydn Giannini Bohmestadt Peeters Sonata, Orchestral Studies

 Tuba

103, 104 3 cr each
Scales and arpeggios in all keys, review of tone production, Rochut Melodious Studies Vol I, Blume Studies Vol I, selected solos

203, 204 4 cr each
Scales and arpeggios in all keys with various articulations, Rochut, Melodious Studies Vol II, Blume Studies Vol II, selected solos, orchestral and band studies

303, 304 4 cr each
Rochut Melodious Studies Vol III, Blume Studies Vol III, Blazhevich Seventy Etudes, Eby Bass Studies, selected solos orchestral studies

403, 404 5 cr each
Gregorev Tuba Studies Bernard Etudes and Exercises for Tuba, transcriptions of horn and violoncello literature, solos by Cimera Barat Schroen, orchestral literature
### Violin

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<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Scales and arpeggios in three octaves, two octaves scales in thirds, sixths, octaves and tenths, Rode Caprices, Wieniawski Caprices, Mozart Concerto No 4, Vieux-temps Fantasia Appassionato.</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Scales and arpeggios continued, Drott Twenty-four Etudes, Mozart Concerto No 5, Wieniawski Concerto No 2, Bach Sonatas for violin and clavier.</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Continue scales and arpeggios, add all possible four octave scales, Gavannes Twenty-four Matinees, Bruch Concerto in D minor No 2, Lalo, Symphonic Espagnole, sonatas by Beethoven and Brahms.</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Wieniawski Ecole Moderne, Paganini Caprices, Bach solo sonatas and partitas, concertos by Beethoven, Brahms, Ernst, Elgar, and Prokofiev.</td>
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### Viola

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<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>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.</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>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 CPE Bach and Hoffmeister, Vaughan-Williams, Suite, Sonata by Milhaud, parts from orchestral and chamber music literature.</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Continue scales and arpeggios, Selections from Rode Caprices and Gavannes, Twenty-four Matinees, Sonatas by Brahms and Creston, Viola parts from orchestral and chamber music literature.</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>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.</td>
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### Violoncello

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>103, 104</td>
<td>3 cr each</td>
<td>Scales and arpeggios in three octaves with varied bowings, Duport Studies, Franchomme Twelve Caprices, Sonatas of Veracini, Locatelli, and Boccherini.</td>
</tr>
<tr>
<td>203, 204</td>
<td>4 cr each</td>
<td>Scales and arpeggios in four octaves with varied bowings, scales in thirds, sixths and octaves, chromatic scales and seventh chords, Franchomme Twelve Caprices, Duport, Etudes, Concertos by Romberg, Popper, and Saint-Saëns, sonatas by Boccherini and Haydn, Orchestral studies, Contemporary works.</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Continue scales, Etudes by Servais and Piatti, Concertos by Davidoff, Dohnanyi, Lalo, Boellmann, Symphonic Variations, six solo sonatas of Bach, Orchestral Studies, Contemporary works.</td>
</tr>
<tr>
<td>403, 404</td>
<td>5 cr each</td>
<td>Etudes by Servais, Piatti and Popper, Concertos by Haydn, Boccherini, Elgar, Barber, Schubert, Arpeggiene Sonate, Contemporary solos and sonatas, Orchestral studies, and chamber music literature.</td>
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### Voice

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>109, 110</td>
<td>3 cr each</td>
<td>Fundamentals of tone production and technical exercises to fit the needs of the student. Early Italian art songs and songs in English chosen for the purity and simplicity of their line. Sight singing.</td>
</tr>
<tr>
<td>193, 194</td>
<td>1 cr each</td>
<td>Italian Diction. Spoken and sung pronunciation of Italian for singers with minimal emphasis on grammar.</td>
</tr>
<tr>
<td>203, 204</td>
<td>3 cr each</td>
<td>Exercises to develop flexibility, range, and power. Early Italian art songs including more florid examples than used in the first year. Early Italian arias by Handel and Monteverdi, Oratorio arias by Bach, Handel, Haydn, German lieder of Schubert and Schumann, French art songs of Faure and Duparc.</td>
</tr>
<tr>
<td>303, 304</td>
<td>4 cr each</td>
<td>Operatic and oratorio materials chosen from the standard repertoire in French, German, and English, German lieder of Brahms, Wolf and Strauss, French art songs of Chausson, Debussy, Faure, Hahn and Ravel.</td>
</tr>
<tr>
<td>403, 404</td>
<td>6 cr each</td>
<td>Continued study of vocal literature chosen with special consideration for individual needs. All students must have at least one complete oratorio and one complete operatic role ready for performance before graduation. The student's repertoire should contain representative songs in Italian, French, German, and English, including significant examples of contemporary vocal literature.</td>
</tr>
<tr>
<td>116, 117, 216, 217, 316, 317, 416, 417</td>
<td>1 cr each</td>
<td>OPERA WORKSHOP. 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.</td>
</tr>
<tr>
<td>349, 350, 449, 450</td>
<td>1 cr each</td>
<td>Vocal Repertoire. 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.</td>
</tr>
<tr>
<td>364</td>
<td>3 cr each</td>
<td>METHODS SEMINAR IN SECONDARY TEACHING AND TECHNIQUES LABORATORY. This is a learning experience that uses videotape technology to aid students toward mastery of five teaching competencies: planning, questioning, using varied materials and techniques working with small groups, and evaluation. Evaluation is done via self-analysis, peer evaluation and instructors' feedback.</td>
</tr>
<tr>
<td>490</td>
<td>9 cr</td>
<td>SECONDARY STUDENT TEACHING. A cooperative teacher. Prerequisites: Senior status, good academic standing, and completion of five teaching competencies. Students work in an approved public secondary school under the direct supervision of a cooperating teacher. Prerequisites: Senior status, good academic standing, and completion of required professional courses.</td>
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</table>
| 497 | 3 cr | READING IN SECONDARY SCHOOLS. A survey course in the teaching of reading, appropriate for secondary education majors. Major emphasis is on methods of teaching reading, the materials for evaluating pupil growth in.
reading and reading in the content subjects

SPECIAL EDUCATION

211 212 213 214 FIELD EXPERIENCE 2 cr each
Classroom and other experiences in educational social welfare and vocational settings as an observer and participant. Enrollment with consent of Director of Student Teaching and School of Education faculty advisor. 211 and 212 are required experiences and the student may choose between 213 and 214 to complete the six credits of special education field experiences that are required.

309 FOUNDATIONS OF EXCEPTIONAL CHILDREN 3 cr
Survey of the social, psychological, and physical characteristics of the various types of exceptional children and methods for meeting their educational needs, includes field trips to schools and classes which specialize in the education of the typical child. Prerequisites: 201 202.

374 MUSIC FOR THE EXCEPTIONAL CHILD 3 cr
Singing and rhythmic movement activities are basic to this course. It also includes folk dance, listening and instrumental (percussion instruments) experiences.

376 METHODS IN SPECIAL EDUCATION I 4 cr
An introduction to the educational management techniques utilized in programs for exceptional persons. Information covering assessment procedures, general classroom management, designing individual educational programs, and prescriptive teaching will be included. Prerequisites: 309 325 332.

377 METHODS IN SPECIAL EDUCATION II 4 cr
A sequel to 376-Methods in Special Education I in which skills in consulting with parents specific classroom management procedures, and individual tutoring skills are introduced. Participants will be required to tutor a student at a selected site one full morning a week. Prerequisite: 376.

485 TEACHING THE MODERATELY AND SEVERELY HANDICAPPED 3 cr
Evaluation and integration of the various theories, methodologies, curriculum content, instructional techniques, and evaluation procedures for the Modestely and Severely Handicapped. Prerequisite: 376.

487 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.

488 VOCATIONAL EDUCATION FOR THE HANDICAPPED 3 cr
An overview of the pre-vocational, vocational, career, and occupational education programs designed to be used for exceptional persons. Students will be given information and experiences enabling them to design and implement instructional programs appropriate to the vocational needs of mentally and physically handicapped persons. Prerequisites: 485 487.

490 STUDENT TEACHING—SPECIAL EDUCATION 12 cr
A full semester of supervised classroom experience at a carefully-selected school for mentally and/or physically handicapped pupils. Prerequisites: Senior status, good academic standing, and completion of required professional courses.

MUSIC EDUCATION

Bassoon

101 102 2 cr each
All scales and arpeggios, Weisenborn Op 8 Vol 1, Milde Studies, Galliard 6 Sonatas for Bassoon.

201 202 2 cr each
Continue scales and arpeggios with various articulations, Weisenborn Op 8 Vol 11, continue Milde Studies, Kovar Studies, Weinberger Sonata.

301 302 2 cr each

401 402 2 cr each
Selected studies from Milde Concert Studies Vol 1, 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, Voxman 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, Sonatas by Marcello, Handel, and Blavet.

201 202 2 cr each

301 302 2 cr each
401, 402
Anderson Etudes Op. 30, Berggimeier 18 Studies Taffanel-Gaubert Scales scales in thirds and in
sixths chromatic scales arpeggios and trills, pieces by Quantz Donjon Thomasi Hert, sonatas,
by Handel Telemann and Blavet, representative contemporary pieces

Guitar
Information and course content in preparation

Harp
101, 102
Lamphier Exercises and technical studies Standard orchestra parts Bochsa Etudes opus 318
Book II Pieces grade of difficulty of Grandjany Area in Classic style, Tourner Images (Suite I)
Saint-Saens Fantasie
201, 202
Technical studies Bochsa Etudes, opus 62 Standard orchestra cadenzas Pieces grade of
difficulty of Tourner Feerie Rousseau Variations Pastorales, Grandjany Fantasie on a Theme of
Haydn
301, 302
Technical studies Orchestra parts Bochsa Etudes Opus 34 Pieces grade of difficulty of
Hindemith Sonata, Handel Concerto in Bb major, Ravel Introduction and Allegro
401, 402
Technical studies Pieces grade of difficulty of Faure Impromptu, C.P.E. Bach Sonata
Salzedo Scintillation Debussy, Danses Sacre et Profane

Horn
101, 102
Fundamentals of tone productions 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
Extend range of all scales and arpeggios, diminished seventh chords, muted and preparatory
trill studies, ability to read in three or four clefs, Alphonse Deus Cents Etudes Novelles Book II
selected solos orchestral studies
301, 302
Continue scales arpeggios and other drills Alphonse Deus Cents Etudes Novelles Book III
selected studies from Kopprasch 60 Studies Book I, R. Strauss Concerto, orchestral studies
401, 402
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
201, 202
Scales and arpeggios in all keys, continue Barret selected studies from Bleuzet Technique of
the Oboe Vol 1, solos by Handel and Schumann

Organ
101, 102
Gleason Method of Organ Playing. Stanley Voluntaries, Franck, L’Organiste, Vienne 24 Pieces,
Dupre Chorale Preludes, Pachelbel Fugues on the Magnificat Selected compositions by
Gabriel Frescobaldis Buxtehude Bruhns, Bohm 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
201, 202
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 Vienne
Pieces de Fantaisie, Bach Orgellbuchlein, Trio Sonata Concerti Prelude and Fugue in G Major,
D minor, C minor E minor Schubler Chorales Hymn playing keyboard harmony, modulations
to all keys counterpoint
301, 302
Du Aquin Clerambault deGringy Handel Concerti Franck Fantasies, Pece Henrique
Sowerby and contemporary American selections, Mozart, Sweelinck, Bach 18 Great Chorales
Toccata Adagio and Fugue, Prelude and Fugue in A minor D major, Orgelbuchlein Hymn play-
ing free harmonizations keyboard harmony and counternote anthem accompaniment
401, 402
Franck Chorales Messiaen Nativite Liszt Dupre Preludes and Fugues Durufle Langlais
Vienne and Widor Symphonies Alain Tournemire selected works by contemporary composers
Bach Passacaglia and Fugue Prelude and Fugue in B minor E minor, C minor Clavierubung
Part III Conducting from the console, accompaniment of larger choral works improvisation

Percussion
101, 102
Intermediate snare drum studies elementary xylophone technique Intermediate tympani
studies orchestral literature Beethoven to Wagner Performance techniques of most commonly
used equipment
201, 202
Intermediate snare drum studies elementary xylophone technique Intermediate tympani
studies orchestral literature Beethoven to Wagner Performance techniques of most commonly
used equipment
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
<table>
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<tr>
<th>Instrument</th>
<th>Assignments</th>
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| **Piano**  | 101, 102: 2 cr each | 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 performances.  
**Saxophone** | 101, 102: 2 cr each | All major and minor scales and arpeggios. Universal Method for Saxophone or equivalent material. Bassi-lasilli: Concert Etudes selected solos.  
201, 202: 2 cr each | Continue scales and arpeggios with various articulations. Bassi-lasilli: Concert Etudes selected solos.  
**Tuba** | 101, 102: 2 cr each | All scales and arpeggios. Arban: Method for Trombone and Baritone. Selected solo material.  
201, 202: 2 cr each | All scales and arpeggios with various articulations. Continue Arban, Bell: Foundations of Tuba and Sousaphone Playing. Selected solos.  
Caccini, contemporary songs in English

More advanced technical study Italian art songs of Scarlatti and Calcanera, representative

2 cr each

201, 202

Voice

Exercises to develop

Songs will be chosen from the repertory of easier materials in English and Italian

Fundamentals of tone production, vocalization and songs to suit the needs of the student

Sammartini, orchestral Studies

Scales and arpeggios as before but including thirds sixths and octaves Duport Studies, selected studies from 36 Etudes, Bach three viola de gamba sonatas adapted for viola

2 cr each

201, 202

Scales and arpeggios continued Rode 24 Caprices, Fiorillo 36 Etudes, Gregor Sonata in f

Mozart Concerto in D, Bruch Concerto in G minor, selected movements of standard concertos

2 cr each

401, 402

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 Kreutzer, representative contemporary solos, selected movements of standard concertos

2 cr each

401, 402

Viola

Scales and arpeggios in three octaves, Sevcik Studies (Lifschey), Hermann Technical Studies

Telemann Concerto in G, Klenkel Album of Classical Pieces

2 cr each

201, 202

Continue scales and Sevcik Studies, selected studies from Kreutzer 42 Etudes, Stamitz Concerto in D, Bruch Romance

301, 302

Continue scales and arpeggios, scales in thirds, sixths and octaves, Palachko 20 Etudes, Fiorillo selected studies from 36 Etudes, Bach three viola de gamba sonatas adapted for viola

2 cr each

401, 402

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

2 cr each

Violoncello

101, 102

Scales and arpeggios in three octaves, Franchomme 12 Studies sonatas by Handel Corelli, Concertos by Coltermann and Romberg

2 cr each

201, 202

Scales and arpeggios continued Duport Etudes, Galeotti Sonata No. 2, Marais Suite, Romberg Concerto in D minor

301, 302

Scales and arpeggios continued Duport Etudes, Grutzmacher Etudes, Sonatas by Grazzioli

Sammartini, Coltermann Concerto No. 1

401, 402

Scales and arpeggios as before but including thirds, sixths and octaves Duport Studies, selected studies from Franchomme 12 Caprices, Concerto No. 2 Romberg Sonatas by Nardini and Sammartini, orchestral studies

2 cr each

Voice

101, 102

Fundamentals of tone production, vocalization and songs to suit the needs of the student

Songs will be chosen from the repertory of easier materials in English and Italian

2 cr each

201, 202

Exercises to develop flexibility, range and power early Italian art songs by Bononcini Pergolesi Caccini, contemporary songs in English

2 cr each

301, 302

More advanced technical study Italian art songs of Scarlatti and Caldara, representative examples of easier German lieder and moderately difficult contemporary song literature

2 cr each

401, 402

Advanced technical exercises to fit the student's need. Less difficult arias chosen from the standard operatic and oratorio literature, representative songs in German French and English with emphasis on contemporary materials in English

CONDUCTING

379 Conducting

The 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.

141, 142, 241, 242, 341, 342, 441, 442 CHAMBER MUSIC

1-2 cr each

Examples of easier German lieder and moderately difficult contemporary song literature

2 cr each

401, 402

Study and performance of all types of chamber music for the various instrumental combinations.
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 organ majors in the music education program. Offered in the fall semester. Two hours a week.

182 WOODWIND CLASS METHODS II 2 cr
Performance technique on clarinet continued. Teaching technique of oboe, bassoon, and saxophone covered. For voice, piano, and organ majors in the music education program. Prerequisites: Music 181. Offered in spring semester. Two hours a week.

183 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 woodwind, brass, string, and percussion majors in the music education program. Offered in the fall and spring semesters. Two hours a week.

184 WOODWIND CLASS METHODS II 2 cr
Fundamental principles and techniques of playing and teaching the saxophone, oboe, flute, and bassoon. Study of mechanism and evaluation of class methods and materials. Students are expected to develop a reasonable performing skill on each instrument. For woodwind, brass, string, and percussion majors in the music education program. Offered in the fall and spring semesters. Two hours a week.

185, 186 VOICE CLASS 2 cr each
Fundamentals of voice production including placement, breathing, breath control, study of vowels and consonants, posture, elementary song materials, interval and scale drill, sight singing.

213, 214 PIANO CLASS 1 cr each
The development of functional keyboard skills in sight reading, transposition, harmonization of melodies, improvisation of accompaniments. Required of all Music Education students with the exception of piano majors. Two hours a week. Prerequisites: Piano 111, 112 or Advanced Standing Examination.

215 PIANO CLASS FOR PIANO MAJORS IN MUSIC EDUCATION 1 cr each
Piano majors in Music Education study the development of functional keyboard skills in sight reading, transportation, accompaniments. Required of all Piano Majors. Two hours a week. Prerequisites: Piano 111, 112 or Advanced Standing Examination.

281 BRASS CLASS METHODS I 2 cr
Fundamental principles and techniques of playing and teaching the trumpet. Study of literature which is appropriate for beginning class instruction. For voice, piano, and organ majors in the music education program. Offered in the fall semester. Two hours a week.

282 BRASS CLASS METHODS II 2 cr
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. Prerequisites: Music 281. Offered in the spring semester. Two hours a week.

283 BRASS CLASS METHODS I 2 cr
Fundamental principles and techniques of playing and teaching the trumpet. Study of literature.
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.

451, 452 ORGAN LITERATURE 2 cr each
A survey of organ literature and organ building. Outside listening and readings will be required.

349, 350, 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, rhythm, 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 in a systematically graded direction. The course uses the moveable Do system based on the Kodaly methods. Two hours a week.

231, 212 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.

336 COUNTERPOINT 2 cr
A course study concerned with the harmonic contrapuntal technique of the period of J. S. Bach.

340 ORCHESTRATION 2 cr
A study of the basic problems of scoring for individual instruments, particularly orchestral chairs, the entire orchestra, and unique instrumental combinations. Analysis of the techniques of orchestration of selected composers of the 18th, 19th, and 20th centuries.

440 JAZZ ARRANGING 2 cr
A study of the basic techniques of scoring for individual instruments and jazz ensembles of various sizes from small groups to studio orchestra. Special emphasis will be placed on harmonies, voicings, instrumentation and articulations which are characteristic of this kind of music. May be taken in place of Orchestration 340. Offered in the Spring Semester only.

426 JAZZ IMPROVISATION I 2 cr
Melodic and harmonic creation of the basis of idiomatic jazz rhythms and articulations employing elementary and advanced forms, chord structures, and chromatic alterations. Permission of instructor required.

427 JAZZ IMPROVISATION II 2 cr
Continuation of 426.

138, 139 COMPOSITION 2 cr each
The study of writing of musical composition in the smaller forms.

238, 239 COMPOSITION 2 cr each
These courses are offered in order to provide gifted young composers an opportunity to receive guidance in the development of advanced compositional techniques. Permission of the chair of the Theory Department is required.

MUSIC THERAPY

107 MUSIC THERAPY ORIENTATION 2 cr
An introduction to Music Therapy as practiced in a variety of rehabilitation settings. Observations followed by informal group discussions. Basic theory about the validity of music as therapy, the relationship of theory to practice. Intensive class participation will be required to prove qualification for further in-depth study of the profession.

108 MUSIC IN THERAPY 2 cr
A course designed to increase the student's self-identification as a music therapist by weekly assignments to rehabilitation settings. Understanding goals and relationships of treatment or education, learning to make systematic observations through written progress reports, and discussions about specific writings related to personal experiences are included in the course work. Prerequisite: Music Therapy 107.

307 PSYCHOLOGY OF MUSIC 2 cr
An exploration of musical behaviors and to a lesser degree all other art behaviors of a variety of cultures and sub-cultures, 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. Prerequisites: General Psychology or equivalent and Junior standing.

309 DIRECTED STUDY IN MUSICAL THERAPY 2 cr
Supervised field work in an approved agency.

SACRED MUSIC

509 CHILDREN'S CHOIRS 1 cr
Materials and techniques used in dealing with children's choirs.

511 CHORAL CONDUCTING AND METHODS 2 cr
Development of conducting technique. The study of rehearsal and class performance of choral music.
works in various styles

664 CHURCH MUSIC ADMINISTRATION 2 cr
Seminar in practical aspects of church music, establishing the music program in a church, graded choir systems, children's choirs, instruments in worship, contracts, cantor systems, worship commissions, etc.

621 GREGORIAN CHANT 2 cr
The history, notation and modal system of Gregorian chant. Class participation in the singing of chant. Chant as prayer and current liturgical application.

620 HYMNODY 2 cr
A study of the church's heritage of song, the psalms, the great hymns of the Medieval Church, the heritage of Luther, Calvin and their followers, English hymnody, American contributions, twentieth-century hymnody with special emphasis on the theological framework for each major development in the history of hymns.

576 ORGAN DESIGN AND MAINTENANCE 2 cr
A study of the basic concepts of organ construction with emphasis on the historical development of the organ and the mechanical operation of the pipes and console. Tuning, voicing, and esthetics of organ design will be discussed.

515 SACRED CHORAL LITERATURE 2 cr
A survey of choral literature for the church with emphasis on practical materials for church choirs and congregations.

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 from indigenous characteristics, differences and similarities from one ethnographic region to another.

447, 448, 347, 348, 247, 248, 147, 148, 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 and 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 will 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 instruction 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 the 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.

492 DEVELOPMENT OF THE CREATIVE PERSONALITY 3 cr
This course encourages personal and social creative growth through discussion and participation in individual and group problem-solving projects. Situations are structured, based on the philosophical and psychological dynamics of the creative person. Limited enrollment. Prerequisites: Introduction to Psychology, Educational Psychology, and consent of the instructor.

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 the 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; however, since 1964, both generic nursing students and registered nurse students enroll in the same program. In the fall of 1975, a graduate program in Family Health Nursing was initiated.

PHILOSOPHY
The School of Nursing's philosophy and goals evolve from those of the University. As such, they guide the development of a personal philosophy of life based on a Christian frame of reference, and support a commitment to the values which give meaning to life.

The faculty of the School of Nursing believes that Nursing is a human science profession primarily concerned with the health care of man as he evolves from conception through death. Nursing focuses on helping individuals and families to promote health and enhance the quality of living. The nurse interrelates with families to help them describe their health status, evaluate alternatives, and mobilize their resources for change. Central to professional nursing practice is the nursing process, which is a deliberate systematic series of actions designed to affect nursing care. The nurse bases her practice on theories and concepts that are multidisciplinary in nature. The main concepts of man and health are approached through a synthesis of general systems theory and existential phenomenology.

Man is a living unity, a creative act of God, whose existence in the world is through his body. The existence is co-constituted, that is, man's relationship with his environment is participative. Man chooses his way of being with the world, and in that choosing he gives meaning to the situation. His freedom is limited within his situation. Man's existence has the potential to become more meaningful through Christ-participation in humanity.

Health is a process of being, experienced by man. It is a relative condition that affords an individual the potential for productive and meaningful life. While health is a fundamental right, every person has the freedom to pursue his desired level of health. Society's health-nursing needs are assessed by both the consumer and the promoters of health care through a participative process which involves planning and decision-making.

Education occurs in a co-constituted teaching-learning environment. The teacher and the student work together in planning experiences and sharing knowledge. The teacher provides leadership in the selection and organization of learning experiences in a variety of health settings. The need for new knowledge and the revision of present knowledge is identified in the ongoing interrogation of new experiences.

The professional nurse is educated in an institution of higher learning in a program which grants a baccalaureate degree in nursing. The nurse is a creative innovator.
who finds satisfaction in giving service to others, regularly evaluates self, plans for continual growth, and promotes the evolution of nursing toward independence.

The Duquesne University School of Nursing baccalaureate program graduates a generalist who possesses the flexibility to enter the practice of nursing in a variety of settings. The graduate program builds upon the baccalaureate program and prepares the graduate for the leadership roles of family health nurse, teacher of family health nursing or administrator of family health services.

**PROGRAM GOAL AND INDICATORS**

The program goal is to prepare the student to practice nursing as a human science in a variety of settings so that the graduate:

1. Respects the rights and dignity of man
2. Initiates health care from the perspective of clients and families
3. Engages clients and families in health care decision-making relative to the man-environment interrelationship
4. Implements nursing as a human science with clients and families
5. Demonstrates accountability for actions
6. Uses current research findings in providing health care
7. Uses current research findings to advance nursing
8. Identifies the difference between the natural science approach and the human science approach as research methodologies for nursing
9. Plans for continued self-growth
10. Enhances own effectiveness in nursing
11. Collaborates with others for health promotion

**DEGREE**

The School of Nursing program leads to the degree of Bachelor of Science in 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 Admission 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 school 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. They should also arrange for a personal interview with the Academic Advisor in the School of Nursing.

**CLINICAL EXPERIENCE**

Students are individually responsible for arranging transportation to and from assigned agencies for clinical practice. It is recommended that they have a car for community health experience. Students are requested to have tape recorders.

**ADDITIONAL EXPENSES**

Physical examinations, diagnostic procedures, and immunizations: $45.00

Student Liability Insurance (Professional) for three years: $50.00

Uniforms and nurse's cap: $50.00

Transportation to and from clinical agencies (weekly): $15.00

School of Nursing pin: $50.00

**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.

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. The Mary W.
Tobin Medal is sponsored by Theta Chapter of Alpha Tau Delta National Professional Fraternity for persons in nursing.

**GRADUATION REQUIREMENTS**

General University requirements for graduation are in the Academic Policies section of this catalog. In addition, specific School of Nursing requirements are:

1. Successful completion of all clinical practicums
2. Three credits in theology for Catholic students
3. Completion of the required curriculum plan

Degree requirements must be completed within 10 years after initial enrollment. At the end of the 10-year period, the student's record is re-evaluated in terms of the current curriculum in effect at that time, and the student is advised of any additional requirements for graduation. The responsibility for fulfilling degree requirements rests with the student.

**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.

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 conducts all professional nursing courses and also guides and directs 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.

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.

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**RECOMMENDED COURSE SEQUENCE**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Natural Science</td>
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<td>Natural Science</td>
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</tr>
<tr>
<td>English Composition I</td>
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<td>English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Psychology</td>
<td>3</td>
<td>Survey of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Speech</td>
<td>3</td>
<td>Nursing I</td>
<td>3</td>
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<td></td>
<td></td>
<td>General Elective</td>
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<tr>
<td>Anatomy and Physiology</td>
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<td>Pathology</td>
<td>4</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>3</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition</td>
<td>3</td>
<td>Fund of Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy (Human Exist)</td>
<td>3</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>Nursing II</td>
<td>3</td>
<td>Health Promotion</td>
<td>3</td>
</tr>
<tr>
<td></td>
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<td>Nursing III</td>
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<td>Nursing IV</td>
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<td>Family Systems</td>
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<td>Prin of Management</td>
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<td>General Elective</td>
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<tr>
<td>Systematic Inquiry</td>
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<td>Philosophy</td>
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</table>

**Curriculum Standards**

To progress to the clinical nursing courses, a minimum cumulative QPA of 2.5 is required with a minimum of a C grade in Anatomy and Physiology, Nutrition, and Pathology. Students must maintain a minimum QPA of 2.5 to remain eligible for enrollment in clinical nursing courses and must also attain a minimum of a C grade in each clinical nursing course.

A Pass/Fail grade is given in clinical practices. 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.

**School Nurse Certification**

Students who wish to qualify for School Nurse Certification upon graduation can usually complete the required courses within the four-year curriculum if they utilize elective credits and enroll for the required courses. The required courses are:

- Psych 227 Human Development
- Soc 325 Family Systems
- Ed 202 Educational Psychology
- Ed 301 Foundations of Education
Students who have been graduated from any National League for Nursing accredited baccalaureate program may apply for admission to the School Nurse Certification Program as post-baccalaureate students.

COURSE DESCRIPTIONS

Descriptions of courses in liberal arts and sciences may be found in the College of Liberal Arts and Sciences section, pages 11 to 69.

212 PATHOLOGY  
Introduction to the basic scientific concepts of the disease process. Lecture three hours. Prerequisite: Anatomy and Physiology.

255 NUTRITION  
Nutrition principles and their importance to all ages, factors influencing food habits, exploration of ways in which nurses may help families and individuals apply nutrition facts for increased health and well-being, recent research in relation to such national problems as heart disease, obesity, and increased life span. Lecture three hours.

199, 200 NURSING I and NURSING II  
Introduces students to nursing as a human science. Students investigate man, health environment, and the meaning of being a professional. Open to non-majors.

220 HEALTH PROMOTION  
Focuses on methodologies for assessing and promoting health. Students gain ability in the basic approaches for promoting their own health and the health of others. Open to non-majors.

340, 341 NURSING III and NURSING IV  
Provides students with the opportunity to apply the theory of nursing as a human science in a variety of clinical settings. They examine ways in which nursing as a human science can be implemented with clients and families. Lecture and Laboratory. Prerequisites: Natural Sciences Behavioral Sciences, Nutrition, Pharmacology, Nursing I, Nursing II, and Health Promotion.

460, 461 NURSING V and NURSING VI  
Builds on the content in Nursing III and IV. Students gain competence in the practice of nursing as a human science. Lecture and Laboratory. Prerequisites: Nursing III and IV.

401 SYSTEMATIC INQUIRY  
An introduction to research in nursing. It considers the research process, the use of scientific criteria in evaluating current nursing research, and application of various methodologies and techniques. Prerequisite: Fundamentals of Statistics.

NURSING ELECTIVES

405 CONTEMPORARY ISSUES  
This course focuses on fundamental issues in the field of health care services. Opportunity is provided to study and discuss the various issues as they relate to nursing with special emphasis on their implications for nursing education and practice. Lecture three hours.

421 HEALTH CARE IN THE SCHOOL SETTING  
This course is concerned with the traditional and expanded roles, functions, and responsibilities of the school nurse in providing health services and health education for school populations in a variety of settings. Major emphasis is on theories of cognitive and psychosocial development.
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 tabletting 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, a graduate 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.

Medical technologists work under the direction of a pathologist or clinical scientist. In the field of Medical Technology positions are available in hospital and...
Courses are to be completed in the designated sequence
Minimum credits for B S in Pharmacy Degree—160, sufficient elective courses must be taken to satisfy the minimum credit requirements

**This year is organized on a special calendar that does not coincide with other units of the University. No students may enter the year with any prior course deficiencies. Students may not ordinarily enroll for non-professional courses during this year.**

Curriculum Majors
During the fourth year (earlier if possible) each pharmacy student is urged to select a curriculum major from one of the following major areas: Community Practice, Institutional Practice, Industrial Practice, Radiopharmacy, or Pre-Graduate Study.

The course clusters represent depth in a professional area of choice. Students may make their own selection of courses in consultation with their advisors.

The following courses are approved for the respective major areas:

1. **Community Practice**
   - 29—Emergency Treatment
   - 58—Community Practice I
   - 59—Community Practice II
   - 111—Psychology
   - 121—Sociology
   - 201—Clinical Pharmacy
   - 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 Chemistry
   - 565—Pathology
   - 201—Principles of Management
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radio-Pharmaceuticals
   - 541, 542—Radiological Health
   - 431—Introduction to Biostatistics

3. **Industrial Practice**
   - 501—Manufacturing Pharmacy
   - 505—Methods of Pharmaceutical Control
   - 562—Analytic Methods (Statistics and Computer Technology)
   - 502—Pharmaceutical Formulation and Development
   - 539—Bionucleonics
   - 306—Applied Electronics Laboratory
   - 36, 41—Practical Pharmacy I, II

4. **Radiopharmacy**
   - 19—Electronics for Health Sciences
   - 539—Bionucleonics
   - 540—Advanced Bionucleonics and Radio-Pharmaceuticals
   - 541—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.

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 124 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 Examination conducted by the Board of Registry of Medical Technologists.

The School of Medical Technology at Mercy Hospital is approved by the National Accrediting Agency for Clinical Laboratory Sciences which acts as adviser 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 3.0 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.

**CURRICULUM**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>D</th>
<th>L</th>
<th>C*</th>
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</thead>
<tbody>
<tr>
<td>101 English Composition</td>
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</tr>
<tr>
<td>105 College Algebra and Trigonometry</td>
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<tr>
<td>111 General Biology</td>
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<tr>
<td>121 General Chemistry</td>
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<tbody>
<tr>
<td>102 English Composition</td>
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</tr>
<tr>
<td>115 Calculus I</td>
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<tr>
<td>122 General Chemistry</td>
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| First Year | |
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| C | 13 | 8 | 15 |
| L | 13 | 12 | 16 |
Curriculum

Second Year

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<th>C*</th>
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<th>D</th>
<th>L</th>
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<td>Fall Semester</td>
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<td>Spring Semester</td>
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<td>35 Medical Microbiology</td>
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<td>Third Year</td>
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<tr>
<td>Fall Semester</td>
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<tr>
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<td>16 Biochemistry</td>
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<tr>
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<td>19 Electronics for Health</td>
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</tbody>
</table>
| 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 course.

Courses | Credits | Courses | Credits |
<table>
<thead>
<tr>
<th></th>
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<tr>
<td>61 Clinical Chemistry</td>
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<td>66 Parasitology</td>
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<td>62 Urology</td>
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<td>67 Immunology</td>
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<td>63 Hematology</td>
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<td>69 Mycology</td>
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<td>64 Blood Banking</td>
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<td>70 Virology</td>
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<td>65 Bacteriology</td>
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<td>71 Nuclear Pathology</td>
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<td></td>
<td>Total 30</td>
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</tbody>
</table>

*D - Didactic hours  L - Laboratory hours  C - Credit hours

All of the required course work, laboratories, supplies, facilities and faculty for the fourth year of the program will be provided by Mercy School of Medical Technology. The faculty of the School of Medical Technology is recognized as faculty at Duquesne University.

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.

<table>
<thead>
<tr>
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<tr>
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<td>111 General Biology</td>
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Three credits in theology are required for all students.

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<td>Fall Semester</td>
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<td>Spring Semester</td>
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<tr>
<td>211 General Analytical Physics</td>
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<td>212 General Analytical Physics</td>
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<tr>
<td>205 Organic Chemistry</td>
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<td>206 Organic Chemistry</td>
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<tr>
<td>116 Calculus II Theology or Elective</td>
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*D - Didactic hours  L - Laboratory hours  C - Credit hours

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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 Admission Policies in the General Information section of this catalog. Applicants should be submitted as early in the year 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.

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 complete a minimum of three academic years of residence in the School of Pharmacy. In extenuating circumstances and with the permission of the School of Pharmacy Student Standing Committee, a waiver of 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 for courses completed at other institutions 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. Once enrolled at Duquesne, students may not pursue courses at other institutions for transfer credit without specific permission from the office of the Dean.

Advanced standing is conditional until the student completes a minimum of one semester's work (16 semester hours). If 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 (see Admission section of this catalog). Partial credit for some courses may be awarded for these examinations. Students are advised to investigate carefully the credit equivalency.

SCHOLARS PROGRAM

Any student designated as an Admissions Scholar upon entrance to the University and to the School of Pharmacy or who has obtained a cumulative average of 3.50 is named to the School of Pharmacy Scholars Program. Students enrolled in any major offered by the School are eligible. Selection is made annually on the basis of academic standing. No application is required. Scholars are recognized annually at the fall social gathering and encouraged to investigate Advanced Placement and Challenge Examinations opportunities, faculty research projects in which they may participate, and independent study courses.

SPECIAL FEES

Laboratory

Required laboratory courses scheduled by all schools of the University are subject to fees as published. Pharmacy laboratories require a fee of $40 each a semester. This is a prorated charge derived from the total costs of all laboratory operations throughout the professional years. 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.

Activities

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 fees, class dues and support of the pharmacy student newsletter, Phorum, and partial 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 to 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 a 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 the 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 the profession, 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 study 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.

The Beta Gamma Chapter of Phi Delta Chi, an international professional 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 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.

The Gamma Theta 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 study 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.

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

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. Annually an award of $25 is presented 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 of 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 GPA of 3.5.

Maurice H. Finkelpearl Award. An award of $50 is presented annually to a student who intends to practice Community Pharmacy.

Galen Society Award. The Galen Society of Pittsburgh annually offers two $25 awards to the two members of the graduating class who have achieved the highest standing in the departments of pharmacology and pharmaceutical chemistry.

Samuel W. Curtis Award. Annually an award of $25 is presented to the graduate who has shown outstanding ability and interest in the field of pharmaceutics.

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 a member of the graduating class who has demonstrated superior scholastic and professional achievement as well as qualities of leadership.

Merck Sharp and Dohme Award. Each year Merck and Company, Rahway, New Jersey, offers a set of valuable reference books to 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 morter 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. It is presented at a meeting of the Student Chapter of the American Pharmaceutical Association.

Smith Kline & French Laboratories Award. A personalized plaque is presented annually by the Smith Kline & French Laboratories, Philadelphia, Pennsylvania, for superior achievement in Clinical Pharmacy.

James L. Strader Memorial Award. Each year Mrs. Joan V. Ansberry and Marshall Goldstein, proprietors of the James L. Strader Pharmacy, Pittsburgh, present a stainless steel replica of the awardee’s diploma to the graduating student who has demonstrated outstanding general intelligence and maturity in the opinion of the graduating class.
Student American Pharmaceutical Association Award

An award is presented to the graduating student who has demonstrated through service, reporting, and activity, an avid interest in organization work.

Syntex Preceptor of the Year Award

An appropriately designed plaque is awarded annually by the Syntex Laboratories, Inc., of Palo Alto, California to the preceptor who, in the opinion of the Pharmacy Interns, best exemplifies professionalism, ethics, and clinical practice.

Upjohn Award

A suitably inscribed plaque is awarded annually by the Upjohn Company, Kalamazoo, Michigan, for outstanding public service.

Western Pennsylvania Society of Hospital Pharmacists Award

An award of $25 is presented to the graduating senior who demonstrates outstanding ability and interest in the area of Hospital Pharmacy.

GRADUATION REQUIREMENTS

A committee of the faculty will review the record of each candidate for graduation to ascertain full compliance with specific School of Pharmacy curriculum requirements and the general University Graduation Requirements, as stated in Academic Policies section of this catalog. This committee will then recommend candidates for faculty certification for graduation or for remedial work to be fulfilled during the last semester of residence. Communications pertaining to this certification may be entered in the Office of the Dean.

STATE LICENSING

PENNSYLVANIA

A candidate for licensure as a Registered Pharmacist in the Commonwealth of Pennsylvania must meet the following requirements before he may be admitted to the licensing examinations which are conducted by the Pennsylvania State Board of Pharmacy:

1. Character—be of good moral character
2. Professional Training—have a degree in Pharmacy granted by a School of College of Pharmacy, which is accredited by the American Council on Pharmaceutical Education
3. Practical Experience and Internship—an individual enrolled as a student of pharmacy in an accredited college may at the end of the second year of College file with the State Board of Pharmacy an application for registration as a pharmacy intern.

To ensure proficiency in the practical aspects of pharmacy, the State Board shall by regulation prescribe internship requirements which must be satisfactorily completed prior to issuance of a Pharmacist's License. The Board shall specify the period of time of not less than six months nor more than one year and when and in what manner the internship shall be served.

Specific information concerning practical experience requirements as well as all other requirements concerning licensure may be obtained from the State Board of Pharmacy, Department of State, Box 2649, 279 Boas Street, Harrisburg, Pennsylvania 17120.

STATES OTHER THAN PENNSYLVANIA

According to law, the licensing of an applicant seeking to become registered as a pharmacist is under the sole jurisdiction of the state in which he seeks to practice. Although the requirements for licensure in the Commonwealth of Pennsylvania are similar to those of other states, differences may exist. Space limitations preclude a complete listing of the requirements of other states and the District of Columbia here. The candidate for licensure in another state is advised to consult the Board of Pharmacy in that particular state for complete information.

CAREER GUIDANCE CENTER

A Guidance Center has been established within the School of Pharmacy to keep students informed about the latest career opportunities available to those possessing a pharmacy education and to attract high school and junior college students to the profession.

The Center consists of faculty members, School of Pharmacy alumni, and pharmacy practitioners. It provides upon request speakers for career day programs and information to high school counselors on all matters relating to a pharmacy education and career.

Pamphlets containing career information on pharmacy are also available through the Guidance Center. Inquiries should be directed to the Pharmacy Career Guidance Center, School of Pharmacy, Duquesne University, Pittsburgh, Pennsylvania 15219.

RESEARCH FOUNDATION

The Hugh C. Muldoon and Pharmacy Alumni Foundation of Duquesne University was established in 1950 to celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy. It is an increasingly valuable aid in helping to achieve the aims of the University and of the School of Pharmacy. The foundation provides funds for research and scholarship. It assists in improving the instructional and research facilities of the School. It helps extend the knowledge from research being conducted under the auspices of the School. Contributions are solicited from graduates and others interested in the work of the Foundation. They may be addressed in care of the School of Pharmacy.

COURSE DESCRIPTIONS

The courses of instruction are numbered in accordance with a plan uniform throughout the University.

Courses numbered 100 are Freshman courses, 200 Sophomore, 300 junior, 400 senior. Courses numbered 1 through 9 are open to non-majors and are offered by the faculty as a University service. Courses numbered 10 through 71 reflect required courses in the professional curriculum. Courses numbered 500 are graduate level courses in which qualified undergraduate students may be enrolled with the permission of the Dean of the Graduate School. Credit for these courses cannot be used to satisfy requirements for a second degree. Courses in the 800 series are restricted to Doctor of Pharmacy candidates.

Course descriptions for the liberal arts and science courses may be found in the section of this catalog under the heading College of Liberal Arts and Sciences. Courses in the professional curriculum may be obtained from the State Board of Pharmacy, Department of State, Box 2649, 279 Boas Street, Harrisburg, Pennsylvania 17120.
DEPARTMENT OF PHARMACEUTICAL CHEMISTRY
AND PHARMACEUTICS

Chairman  Mitchell L. Borke, Ph D
Association Chairman  Alvin M. Galinsky, Ph D

1 PHARMACEUTICAL ORIENTATION
Introduction to pharmacy. Discussion of various phases of pharmacy and their relationship to the profession as a whole. Pharmaceutical organizations are discussed and evaluated. The pharmaceutical literature is discussed and a brief history of pharmacy is presented. Lecture: one hour

11 PHYSICAL PHARMACY
A course designed to acquaint the student with the theory upon which the principles and processes of pharmacy are based. The theories of emulsification, drug extraction, isotonicity, hydrogen ion concentration, rheology, micromeritics, etc., are discussed and the instruments which are used in their measurement are described and utilized in the laboratory. Prerequisites: Mathematics 115, general physics, organic chemistry (concurrent registration in organic chemistry may be accepted). Lecture: three hours, Laboratory: four hours

12 PHYSICAL PHARMACY
A continuation of Physical Pharmacy 11. Prerequisite: Physical Pharmacy 11. Lecture: three hours, Laboratory: four hours

14 PHARMACEUTICAL MATHEMATICS
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
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
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, and digital control problems are covered. Prerequisites: Calculus I, general physics. Class: three hours, Laboratory: two hours

21 BIOPHARMACEUTICS AND DOSAGE FORMS
A study of the physico-chemical, biological and pharmaceutical factors which affect absorption, distribution, metabolism and excretion of drugs in man. Emphasis is placed on the utilization of biopharmaceutical and pharmacokinetic knowledge in problems of bioavailability and bioequivalence of drug products and in the determination of appropriate drug dosage regimens. Prerequisite: Physical Pharmacy 12. Lecture: four hours

22 BIOPHARMACEUTICS AND DOSAGE FORMS
A continuation of Biopharmaceutics and Dosage Forms 21 with emphasis on drug delivery systems. Prerequisite: Biopharmaceutics and Dosage Forms 21. Lecture: four hours, Laboratory: seven hours, Recitation: one hour

23 MEDICINAL CHEMISTRY
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, distribution and metabolism considered for each class. Lecture: three hours. Prerequisite: Physical Pharmacy 11 or its equivalent

24 MEDICINAL CHEMISTRY
A continuation of Medicinal Chemistry 23. Prerequisite: Medicinal Chemistry 23. Lecture: three hours

17 ANALYTICAL CHEMISTRY
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 or Physical Chemistry. Lecture: three hours, Laboratory: seven hours

28 ORGANIC PHARMACEUTICAL ANALYSIS
A course devoted to the identification and determination of the relative amounts of active constituents in pharmaceutical and medicinal substances. Prerequisite: Analytical Chemistry. Lecture: three hours

499 INDEPENDENT STUDY AND RESEARCH
To stimulate interest in furthering a student's education, the School of Pharmacy uses this course as a vehicle to provide the means whereby those who wish to be involved in a programmed self-study educational experience may do so. To accomplish this aim the student in cooperation with a specific instructor chosen by the student will develop a course of study that will realistically be able to fulfill the learning objectives stated by the student. The student and instructor will meet at stipulated regular time intervals for guidance and evaluation of progress being made by the student. Maximum of four credits. Registration by permission of instructor

DEPARTMENT OF PHARMACOGNOSY

Chairman  Norbert A. Pilewski, Ph D

26 PHARMACOGNOSY
Deals with the important medicinal agents which are derived from natural sources. Emphasis is placed on the medically important antibiotics, alkaloids, glycosides, volatile oils, fixed oils, vitamins, carbohydrates, and enzymes. Includes a description of the natural source of the drug, its precise chemical nature, its pharmacological effect on the body, and its importance in medicine today. Prerequisite: Organic Chemistry. Lecture: three hours, Laboratory: three hours

35 MEDICAL MICROBIOLOGY
Covers the general characteristics and morphology of bacteria, the important staining methods of growing bacteria on artificial media, and the effects of chemotherapeutic agents on pathogenic bacteria. It includes discussions of the important bacterial rickettsial, viral, and protozoal diseases along with worm infestations. Their causes, symptoms, and treatments. Lecture: three hours. Laboratory: three hours

36 PUBLIC HEALTH
A discussion of Public Health measures such as immunization, water purification, sewage disposal, treatment of contaminated individuals, and control of rodents and insects and the relationship of these to the spread of disease. Health statistics, disaster preparedness and environmental pollution are also discussed. Lecture: three hours

130 HISTORY OF PHARMACY
A survey of the origins of science, medicine, and pharmacy from the earliest recorded events to the present with emphasis on nineteenth and twentieth century pharmacy in the United States. Lecture: two hours
DEPARTMENT OF PHARMACOLOGY-TOXICOLOGY

Chairman Gene A. Riley, Ph.D

2 DRUG ABUSE
1 cr
A course designed to present the pharmacological and toxicological properties of substances of abuse. The major classes of drugs are described with direct reference to toxic and adverse effects. The myths and misconceptions common 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.

3 BASIC PHARMACOLOGY
3 cr
A course dealing with the major classes of therapeutic agents designed for students with a limited background in biological sciences. Drugs are considered from a "disease state" point of view and include basic mechanisms of action. Important drug interactions as they relate to patient care are included. Not open to Pharmacy Students. Prerequisites: Six credits of biological science including physiology. One lecture three hours.

4 SOCIAL DISEASES
1 cr
Causes, course of diseases, prevention, treatment, and social effects of venereal diseases. Awareness and common sense should be awakened in students by the course. Lecture one hour a week. Open to students who have not completed Pharmacology 33.

7 CHEMICAL TESTING FOR INTOXICATION
3 cr
Deals with the pharmacological toxicology and biochemistry of ethanol and the physical and technical aspects of breath analyses. Various instruments will be discussed and the Breathalyzer will be used specifically. This course is approved by the State of Pennsylvania Department of Transportation and is offered only to individuals associated with law enforcement agencies. One week workshop course.

17 ANATOMY AND PHYSIOLOGY
3 cr
An integrated course of the structure and function of tissue and organs. The various organ systems of vertebrate species are discussed as integrated functional units. Prerequisite: General Biology 112. Lecture three hours.

18 ANATOMY AND PHYSIOLOGY
4 cr
A continuation of Anatomy and Physiology 17. Prerequisite: Anatomy and Physiology 17 and 20. Lecture four hours.

20 ANATOMY AND PHYSIOLOGY LABORATORY
1 cr
Lecture presentations of gross anatomy and laboratory procedures including the microscopic examinations of tissues, hematology and the clinical appraisal of physiological functions. Laboratory-lecture three hours.

33 PHARMACOLOGY
3 cr
A basic course in pharmacodynamics and pharmacotherapeutics. Special emphasis is placed on its sites and mechanisms of action of therapeutic agents. Prerequisites: Anatomy and Physiology 17. 18. Lecture three hours.

34 PHARMACOLOGY
4 cr
A continuation of Pharmacology 33. Prerequisite: Pharmacology 33. Lecture four hours.

40 PHARMACOLOGY
3 cr
A continuation of Pharmacology 34. Lecture three hours.

DEPARTMENT OF PHARMACEUTICAL ADMINISTRATION

Chairman Anthony J. Amadio, M.B.A.

12 PHARMACEUTICAL LAW
3 cr
A course designed to acquaint the student with the philosophy of law and its relationship to pharmacy. Federal, state and local laws and regulations pertinent to the handling and sale of drugs, cosmetics, narcotics, poisons and alcohol are discussed. A review of antitrust laws, fair-trade regulations, and other court decisions of importance to the pharmacist is included. Elements of business law and civil responsibilities of the pharmacist are also discussed. 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.

41 PRACTICAL PHARMACY II
3 cr
An extension of Practical Pharmacy 39 required for all final year students.

DEPARTMENT OF CLINICAL PHARMACY

Chairman Thomas Mattei, Pharm.D.

31 PROFESSIONAL AND CLINICAL PRACTICE
4 cr
A course designed to prepare the student for professional pharmacy practice. Didactic, laboratory and clinical experiences are integrated to develop the student's ability in providing pharmaceutical services to patients and to other members of the health team. Emphasis is placed on the use of modern medications in a variety of patient sociological and disease situations. Advanced teaching techniques utilizing case discussions, computer and clinical interactions with patients requires the student to pool his background of social, physical and biological sciences in dealing with complications of modern drug therapy. Prerequisite: Biopharmaceutics and Dosage Forms 22. Lecture three hours. Laboratory six hours.

32 PROFESSIONAL AND CLINICAL PRACTICE
4 cr
A continuation of Professional and Clinical Practice 31. Prerequisite: Professional and Clinical Practice 31. Lecture three hours. Laboratory six hours.

DEPARTMENT OF MEDICAL TECHNOLOGY

Director Jeanne A. Cooper, M.D.
Education Coordinator Eileen Steele, M.T. (ASCP)

61 CLINICAL CHEMISTRY
7 cr
A comprehensive study of the chemistry and metabolism of proteins, carbohydrates, lipids, and electrolyte enzymes and hormone systems as revealed by the various examinations performed on blood and other body fluids.
62 URINALYSIS
The study of renal function and its abnormalities as portrayed by alterations in the composition of the urine

63 HEMATOLOGY
Detailed study of the anatomy and physiology of the blood and various laboratory methods used to establish inherited or acquired abnormalities of blood and blood forming organs

64 BLOOD BANKING
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
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
Methods of identification of the various parasites infesting man with detailed study of their morphology and habitat

67 IMMUNOLOGY
Study of the procedures used in analysis of immune mechanisms of the body and their application in disease processes

69 MYCOLOGY
The study of the pathogenic fungi, the diseases they cause, and the technical methods of identification

70 VIROLOGY
The study of the viruses causing disease and the technical methods of identification

71 NUCLEAR PATHOLOGY
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, including hospital reactor and university. This experience will be acquired through observation and participation in daily practical problems of radiation protection within local organizations. The student will be placed on personnel monitoring, dosimetry, radiochemical assay 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. Prerequisite: Biophysics, corequisite: Radiological Health 541. Co-requisite: Laboratory 542. Laboratory 16 hours

306 APPLIED ELECTRONICS LABORATORY
2 cr
This course seeks to combine a treatment of the principles of modern electronic instrumentation with practical laboratory experience. Topics which will be included are passive and active electronic components, electronic measuring instruments, power supplies, amplification feedback and control, 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

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 medicine, chemistry, biology, etc. Prerequisites: Chemistry 121, 122, Physics 211, 212

540 ADVANCED BIONUCLEONICS AND RADIO-PHARMACEUTICALS
3 cr
A course devoted to the practical applications of radioactive isotopes in medicine, biology, pharmacy and medicine. The scope of the course includes neutron activation analysis, gamma spectrometry, tracer methods and radio pharmaceuticals. Prerequisite: Biophysics 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 and radiation hazard evaluation. Radiation, protection, surveillance, and administration. Scientific principles are applied to solving the problems of protecting humans from unacceptable levels of radiation exposure both in occupational and public environments 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 cases of emergency while awaiting the arrival of a physician. Special emphasis is placed on emergencies which the pharmacist is most likely to be confronted with, e.g., epistaxis, 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. Responsibilities of the pharmacy service in the modern hospital are discussed. Field trips to area hospitals complement the lecture materials. 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. Prerequisites: 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 hours, 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 16. 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 BIONUCLEONICS
- 540 ADVANCED BIONUCLEONICS 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 of Liberal Arts and Sciences Catalog.

RECOMMENDED ELECTIVES FOR RADIOLOGICAL HEALTH

- 106 LOGIC
- 104 INTRODUCTION TO PHILOSOPHY
- 105 ETHICS
- 101 INTRODUCTION TO POLITICAL SCIENCE
- 312 INTERNATIONAL LAW AND ORGANIZATION
- 103 INTRODUCTION TO PSYCHOLOGY
- 101 SURVEY OF SOCIOLOGY
- 201, 202 ENGLISH LITERATURE
- 231, 232 DEVELOPMENT OF THE UNITED STATES
- 307, 308 HISTORY OF SCIENCE
- 204 INTERPERSONAL COMMUNICATIONS
- 121 ELEMENTS OF ECONOMICS
- 203 GENETICS

ELECTIVES — COURSE CLUSTERS

The following courses in liberal arts and sciences were especially selected by the several departments to support and complement pharmacy programs. Students are encouraged to view these electives with the aim of providing an appropriate depth of knowledge in the areas, the faculty of the School of Pharmacy highly recommend sequences in literature and history. Each cluster is intended to offer an interesting sequence of electives that will count toward minimum elective requirements of all programs in the School.

Department of English —

1) 201 202 English Literature Survey
2) 205 206 American Literature Survey
3) 210 211 World Literature Survey
4) 207 plus courses in Film as Literature, Science Fiction, Literature of Crime and Detection Popular Culture Series
5) 207, 208, 209 Study of Literary Form
6) English Honors Program 12 credits
7) All 12 credits minors listed by the Department in the current catalog

Department of History —

1) 307, 308 History of Science
2) 231, 232 Development of the U.S., 222 Industrialism
3) Man in History, World History, Western Civilization
4) Non-American History Sequence

Department of Classics —

1) 123, 323, 325, 326, 340 Greek Civilization
2) 123, 324, 326, 337, 341 Roman Civilization
3) 325, 326, 337, 323 Ancient History
4) 123 323 324, 301, 302 Classical Literature and Art
5) 103, 104, 203, 204, 303, 304 Greek Language and Literature
6) 101, 102, 201, 202, 301, 303 Latin Language and Literature
7) 101, 102, 202, 203, 302 Understanding Art

Institute of African Affairs —

1) 201, 202, 301, 203, 205, 206 (Language Cluster) Language
2) 207, 208, 309, 310, 311, 312, 313, 314 (History & Politics Cluster) African Area Studies
3) 315, 316, 317, 318 (Anthropology Cluster) African Area Studies

Department of Military Science —

1) Modern Military History, National Strategy, Dynamics of Group Presentation, Political Science-ROTC mini-course
Reserve Officer Training Corps

DEPARTMENT OF MILITARY SCIENCE
Department Head Colonel James R Bambery, M A

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.

After successful completion of the four-year or two-year program, a student will be commissioned a second lieutenant in the United States Army with a service commitment to one of three components: the Active Army as a full-time officer for a minimum of three years, the Army Reserve or the Army National Guard as a part-time officer for a minimum of six years. Students who request an Active Army commitment are selected on a competitive basis. Those who choose the Army Reserve commitment will be guaranteed service with that component, and students who select the Army National Guard may be eligible for commissioning prior to graduation. The Professor of Military Science invites letters or telephone calls of inquiry. Questions will be answered promptly.

FOUR YEAR
Basic Course freshman and sophomore students are encouraged to take at least one of the following academic courses each year under the free elective option of their degree program.

- HIS 349 MILITARY HISTORY OF THE AMERICAN REVOLUTION 3 cr
- HIS 348 MODERN AMERICAN MILITARY HISTORY 3 cr
- POL SCI 215 NATIONAL STRATEGY 3 cr

Basic Course students are required to take

Freshman
- MS 101, 102 MILITARY SCIENCE—LEADERSHIP 0 cr
- MS 100 CADET CORPS LAB 0 cr

Sophomores
- MS 201, 202 FUNDAMENTALS—BASIC MILITARY SKILLS 0 cr
- MS 100 CADET CORPS LAB 0 cr

Advanced Course students are required to take

Juniors
- ED 302 THE DYNAMICS OF GROUP PRESENTATIONS 3 cr
- MS 301, 302 MILITARY SKILLS DEVELOPMENT 0 cr
### SAMPLE PROGRAM

#### Freshman Year

<table>
<thead>
<tr>
<th>Courses</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Academic Major</td>
<td>12</td>
<td>15</td>
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<tr>
<td>Military Subject or approved elective</td>
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<td>0</td>
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<tr>
<td>101 Leadership — MS I</td>
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<td>0</td>
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<tr>
<td>100 Cadet Corps Lab</td>
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#### Sophomore Year

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<td>Academic Major</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>201 Leadership — MS II</td>
<td>0</td>
<td>0</td>
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<tr>
<td>100 Cadet Corps Lab</td>
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#### Junior Year

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<thead>
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<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>Academic Major</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>302 ED The Dynamics of Group Presentations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301 Military Skills Development — MS III</td>
<td>3</td>
<td>0</td>
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<tr>
<td>100 Cadet Corps Lab</td>
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<td></td>
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</tbody>
</table>

#### Summer

| Attendance at six-week ROTC Advanced Camp    |  |
| Optional ROTC Ranger Camp for qualified cadets |  |
|                                              |  |

#### Senior Year

<table>
<thead>
<tr>
<th>Courses</th>
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<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>Academic Major</td>
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<td>12</td>
</tr>
<tr>
<td>401 Professional Seminar — MS IV</td>
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<tr>
<td>100 Cadet Corps Lab</td>
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<tr>
<td></td>
<td>12</td>
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### 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 political Science 215-National Strategy, Business 465-Defense Management, and education 302-The Dynamics of Group Presentations. 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 THE EMERGING NATIONS

### Psychology

- 226 DEVELOPMENTAL PSYCHOLOGY II—ADOLESCENCE AND MATURITY
- 340 SOCIAL PSYCHOLOGY

### Speech

- 300 ARGUMENTATION AND DEBATE
- 304 PERSUASION

### AEROSPACE STUDIES (AIR FORCE ROTC)

The Air Force ROTC Program, through a cross-enrollment agreement with the University of Pittsburgh, is open to all Duquesne students. They may take the courses for information or to obtain a commission in the United States Air Force. These programs are offered:

#### Four-Year Program

This consists of two phases, each covering four terms (semester system). The General Military Course (GMC) and the Professional Officers Course (POC). The General Military Course is usually taken in the student’s freshman and sophomore year. Also, the GMC student incurs no obligation unless on scholarship. The GMC courses allow the student to learn about the development and structure of the Air Force. The POC is designed to impart the skills and knowledge required of a second lieutenant in the United States Air Force. During the two years of POC, the student is under contract and receives a $100 a month tax-free stipend.

#### Two-Year Program

This requires the student to have two academic years remaining, either of undergraduate or graduate work or combination of the two. Entry into the POC is on a competitive basis.

For details about the two programs, as well as information on courses, scholarships, flying lessons, and base visits, interested students are encouraged to contact the Air Force ROTC detachment at the University of Pittsburgh, telephone 624-6397, or write to the Professor of Aerospace Studies, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.
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, page 195.

COURSE DESCRIPTIONS

BASIC COURSE

HIS 348 MODERN AMERICAN MILITARY HISTORY 3 cr
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.

HIS 349 MILITARY HISTORY OF THE AMERICAN REVOLUTION 3 cr
A study of the military aspects of the American Revolution from 1763 through the inauguration of 1800. Emphasis is on the military campaigns of the Revolution and the importance of these events in the formulation of national security policies and the military establishment of the new nation. The two principal objectives are: Analysis of the conduct of military operations during the Revolution to assess the impact of these campaigns on post-Revolution military forces and policies and identification of the attendant problems inherent in the military policies and structure as they existed at the beginning of the 19th century.

POL SCI 215 NATIONAL STRATEGY 3 cr
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

ED 303 THE DYNAMICS OF GROUP PRESENTATIONS 3 cr
An interdisciplinary approach to the study of organizational leadership designed to acquaint the student with the dynamics of the leadership process. The two principal objectives are developing student proficiency in the art of effective oral communication through practical exercises and formal instruction and providing the student with an understanding of the concepts of leadership theory and group processes as they relate to managerial functions.

BUS 465 DEFENSE MANAGEMENT 3 cr
This course will examine the defense structure as a hybrid organization responsible to and dependent upon two opposing segments of American society: 1) Elected and appointed officials 2) Representatives from private enterprise. This unique interaction provides added dimension to organizational theory, motivation, communication, and management practices.

MS 401 PROFESSIONAL SEMINAR 3 cr
Designed to give the student facts about career development, the finer points of military organization, operations, tradition, and financial planning for himself/herself and a family. In addition, the student will have opportunity to broaden his/her experience in Command and Staff procedures.
Part III: Student Services, Programs and Organizations
DEVELOPMENTAL SERVICES

CAMPUS MINISTRY
The Campus Ministry is deeply concerned with the religious life and growth of Duquesne students and all campus residents. Its policies and programs are oriented to furthering that growth at the personal as well as the community level. For Catholic students, Eucharistic Liturgies are celebrated daily, and at all times of the day there is easy access to the Sacrament of Reconciliation. For all students, whatever their faith, the Chaplains are available for help with spiritual direction, counseling, advice, or sympathetic listening. The University Chapel is open each day for private prayer and quiet meditation. It is available, too, to groups for specific services of a religious nature.

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

The Ministry’s activities are announced by posters in Residence Halls and the Union. Its Office is in Room 102 on the first floor of the Administration Building.

CENTER FOR ACADEMIC AND CAREER DEVELOPMENT (CACD)

The Center for Academic and Career Development (CACD) is a coordinated guidance, counseling, referral, and consultative program within Duquesne University, comprised of three services: Career Planning and Placement, Learning Skills Program, and Testing Bureau. The Center provides for both direct counseling and guidance service to students, assisting them through the educational process and the career development process. Through the Center a student can seek any or all of the following services: academic planning, tutoring, academic skill development, vocational guidance, career planning, career information, job placement assistance, academic skill assessment, career assessment, and personality assessment. Also, students can receive indirect assistance through referral to appropriate University and community programs. The center can further assist all University departments and divisions as a source for their student referrals also as a consultative service for occupational, community, and University surveys of academic and career needs.

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

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

Any student group or academic department may contact Career Planning and Placement for aid in developing a career program and/or in securing a career speaker.

The part-time and summer employment program is important to students in financ-
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 about this insurance plan may be obtained from the University Insurance Officer, Second Floor of the Administration Building. Note: The University is not responsible for medical expenses resulting from participation in intramural sports.

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 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.

In the belief 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 the 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 freshman and sophomore students.

The parking situation is critical, largely because of the University's urban setting. Residence Hall Registered nurses are on duty on a regular schedule throughout the year. Primary health care is provided for resident students as part of their room and board contract. Commuter students may receive the same service by payment of a nominal fee each semester. Further information may be obtained at the Health Services Office. Additional treatment by non-University physicians, clinics, or hospitals must be paid for by the student. Emergency service is available to all 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 is closed, the Department of Public Safety should be contacted immediately.

HEALTH SERVICES

The Health Services Office is located on the Second Floor of the Duquesne Towers Residence Hall. Registered nurses are on duty on a regular schedule throughout the year. Clinic hours are conducted during the academic year at specific hours, Monday through Friday, by the University physician, no appointment is necessary.

Primary health care is provided for resident students as part of their room and board contracts. Commuter students may receive the same service by payment of a nominal fee each semester. Further information may be obtained at the Health Services Office. Additional treatment by non-University physicians, clinics, or hospitals must be paid for by the student.

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TAMBURITZANS
The Duquesne University Tamburitzans were founded in 1937 at the University and were the first university-based performing folk ensemble in the United States. The group takes its name from the Tamburitza family of stringed instruments, indigenous to the folk cultures of Southeastern Europe. The group 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 extracurricular 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.

WDUQ RADIO AND TELEVISION
The University's radio station (WDUQ — 90 S F M ) 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.

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.

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).

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

RESIDENCE COUNCIL
The Residence Council coordinates residence hall activities and is involved with the Office of Residence Life in developing and implementing residence hall policies and procedures.

INTER-FRATERNITY COUNCIL
The Inter-Fraternity Council serves as a clearing house for general fraternity social information and as a forum for airing constructive proposals for the improvement of the fraternity system. Membership in the Council is composed of three elected or appointed representatives from each of the nine 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 the groups 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 80 active student organizations at Duquesne. Some serve the needs of specific interest groups as well as those of 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.

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’Esprit 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.

*Perspective,* a bi-weekly independent news and features magazine, deals primarily with governmental and administrative issues and affairs at the University.

*A Student Handbook,* published annually, contains information about University policies, practices, and procedures which concern students. Copies are available at the Information Center, Third Floor, Duquesne Union.

**Part IV: Admission, Tuition and Fees, Financial Aid**
Admission

OFFICE OF ADMISSIONS

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 AM to 4:30 PM and on Saturday from 9:00 AM 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.

ADMISSION 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 candidates’ 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.

**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. Two separate interviews are required. Further details may be obtained by telephoning or writing to the Admissions Office.

**APPLICATION—OTHER CATEGORIES**

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

**INTERNATIONAL STUDENTS**

International 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 must receive complete and official 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 photostatic copies, 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.

*For information about testing in any country, the Educational Testing Service, Princeton, New Jersey 08540, should be contacted.

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.

1. **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.
2. **Letters of Reference:** A minimum of three (3) academic references letters from major professors and academic advisors which include the following: the applicants rank in class, comparison with classmates, and the length of time the writer has known the student.

Upon completion of all academic and non-academic requirements, the International Student Advisor will issue the necessary documents for obtaining a student visa to the United States. To complete on-campus registration, international 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 readmission 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 or 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 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.

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 applica-
tion and an official transcript.

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.

**SUMMER SESSION**

**DUQUESNE STUDENTS**

Any Duquesne University undergraduate student who was granted continuance at the close of the preceding Spring Semester is authorized to register 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 readmittance before they may register for summer classes.

**STUDENTS FROM OTHER INSTITUTIONS**

A student of another college or university who wishes to enroll for the summer session, and who intends thereafter to return to the original institution and is eligible to continue there may be admitted to the Summer Session. A tear-out admissions application and registration form for the summer study is provided in the announcement of summer offerings, which may be obtained from the Office of Admissions at the beginning of 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, modern foreign languages (French, German, Spanish), Latin, mathematics AB, mathematics BC, physics B and C, 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 Bureau 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. Information about equivalent University courses for which qualifying students may receive credit may be obtained from the University’s Director of Testing Bureau or the Assistant Dean for Administration, College of Liberal Arts and Sciences.

**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, college composition, general chemistry, general psychology, introductory calculus, introductory sociology, microbiology, macro-economics, micro-economics, statistics, western civilization.
Financial Aid

Duquesne University subscribes to the philosophy that “no student should be denied the education of his/her choice for lack of sufficient financial resources.” The Office of Student Financial Aid has been established to help students locate the financial support they require. Students and parents should not be overwhelmed by the variety and apparent complexities of modern student financial aid. Rather, a patient 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 assumes the family’s ability to contribute to these costs will approximate that of families of similar size and financial strength, with consideration given for individual circumstances. It is extremely important that all financial information reported by the family be complete, accurate, and 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/herself by accepting future repayment responsibility. Student employment programs provide the opportunity to help earn a portion of the educational costs.

GIFT ASSISTANCE

Non-repayable scholarships or grants are available in accordance with one or a combination of the following criteria: 1) Financial Need, 2) Superior Academic Potential or Achievement, 3) Economic Opportunity, which aims to provide economic parity for the student with very limited family resources, and whose need is therefore exceptional, and 4) Special Ability, which reflects proficiency in a specialized field or activity, such as music, debate, athletics, etc. It should be noted that many sources of gift aid expect the student to accept some form of self-help assistance.

MEETING STUDENT NEED

The Financial Aid Office attempts to provide aid equal to need for all student applicants. 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.

UNIVERSITY AID

APPLICATION PROCEDURE

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

2. Obtain the formal application for financial assistance. Freshmen and transfer students may obtain the form through Admissions Office publications or through the Financial Aid Office. Currently enrolled students may obtain the form only through the Financial Aid Office. Complete this application and 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 applicants will be considered on the basis of available funds.

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

4. A reply to this application, if filed by deadline dates, should be anticipated as follows: Freshmen and new transfers 60 days after CSS 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 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 10-year period at an interest rate of three percent a year.

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

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, and is scheduled over a 10-year period at an interest rate of seven percent a year.

Supplemental Educational Opportunity Grants. Federal grant assistance is available to full or half-time undergraduate students with exceptional financial need. It should be noted that due to limited funding, these grants are normally awarded only to full-time students. 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. It should be noted that due to limited funding, these scholarships are normally awarded only to full-time students. Awards are further limited to students previously receiving this scholarship. 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. Awards are limited to students previously receiving this scholarship. Recipients are selected in accordance with guidelines published by the Federal government.

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 need, 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.

OTHER SOURCES OF AID

LAW ENFORCEMENT ASSISTANCE PROGRAMS (LEAP)

Programs of grants and loans for students of criminal justice are administered by the Law Enforcement Administration. Currently, LEAP funds are limited to students who are full-time employees in the law enforcement field. Contact the Financial Aid Office for additional information.

BASIC EDUCATIONAL OPPORTUNITY GRANTS

General. Direct grant assistance through the Federal government is available to undergraduates based on an eligibility determination reviewed and adjusted each year by Congress. Grants may range from approximately $200 to a maximum of $1800 to students determined to be eligible. All undergraduates are advised to apply for this form of aid. Students receiving aid through the University are required to apply for a Basic Grant. Necessary forms may be obtained through the Financial Aid Office.

Non-Pennsylvania residents may apply by completing the Financial Aid Form (FAF) and submitting it to the College Scholarship Service.

Pennsylvania residents may apply by completing the Pennsylvania Higher Education Assistance Agency’s Composite State/Basic Grants Application.

STATE GRANT ASSISTANCE

General. Depending upon the student’s legal state of residence, direct grant assistance from the state may be available for study at Duquesne University.

Non-Pennsylvania residents should contact their high school guidance counselor or state department of education to determine if grants are available, and to determine application procedures.

Pennsylvania residents should obtain the Composite State/Basic Grants Application from high school guidance offices, the University Financial Aid Office, or the Pennsylvania Higher Education Assistance Agency (PHEAA). At current levels, grants ranging from $100 to $1500 a year are available to full-time undergraduate students, based on considerations of financial need. Filing deadline is normally May 1.
GUARANTEED STUDENT LOANS
This program provides long-term, low interest student loans available through the cooperative efforts of federal and state governments and participating private lending institutions. These loans are available to any student who is enrolled in an institution of higher learning on at least a half-time basis. They are provided by commercial lending institutions in every state. To apply, the student should inquire at a local lending institution where the student or parents have an account. The maximum the student may borrow in any academic year is $2,500. The interest rate of seven percent a year will be automatically subsidized if the family’s adjusted income is less than $25,000. Additional information about subsidy may be obtained from the lender. Repayment of these loans begins nine months after graduation or withdrawal from school. A 90-day processing period should be anticipated. Guaranteed Loans are generally considered an alternative 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 Guaranteed Loan only after consulting with an Aid Officer.

OTHER POSSIBILITIES
In addition to mass programs of aid previously described, financial assistance may be obtained from a wide variety of sources. Since application procedures and requirements differ greatly, it is not possible to provide specific information. In general, the student seeking potential sources of aid may inquire 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).

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 demonstrated a talent in writing, with sufficient financial aid (the exact sum to be determined by the committee) so that 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.

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 the interest rate of 7 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 Polis 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

SCHOOL OF BUSINESS AND ADMINISTRATION

Gulf Oil Corporation Honors Scholarships. This program provides grants of up to $3000 to outstanding undergraduate students in the field of marketing. Applications must be submitted to the Dean’s office by March 1.

SCHOOL OF EDUCATION

Lawrence Roche Memorial Scholarship. The award is made annually by the School of Education, in memory of the Rev. Joseph A. Lauritis, C.S.Sp., founder of the Department of Journalism and the University’s radio station, WDUQ-FM. The award is administered by the Lauritis Scholarship Committee of the Journalism faculty, alumni, and friends.

SCHOOL OF MUSIC

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 demonstrated those qualities of scholarship, character, and professionalism which 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.
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.

SCHOOL OF NURSING

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.

Other Programs Two additional programs, Nurses Training Act Loans and Nursing Scholarships, are described under University Aid, page 190.

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, are selected from the American Foundation for Pharmaceutical Education, are accepted 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 year 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 function of the Fraternity.

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

Mary McPartland Beck Scholarship Award Scholarship funds are available from earnings on a fund started 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 five semesters for payment of tuition, fees, and books.

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

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

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

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

Other Programs Two additional programs, Health Professional Loans and Health Professions Scholarships, are described under Sources of Aid—Financial Aid Office, page 190 and 191.

GENERAL

McCloskey Memorial Fund awards scholarships to students who have demonstrated scholastic ability, good character, and volunteer service to the community. Applications are to be made directly to the Office of the Dean of Students.

Nicolaus Copernicus Fund offers awards to first year undergraduate students of Polish ancestry who have proven scholastic ability and demonstrated need. Applications are to be made directly to the Office of Financial Aid.

RESERVE OFFICER TRAINING CORPS (ROTC) SCHOLARSHIPS

Army ROTC and Air Force offer 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 a $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, Pennsylvania 15219 or Air Force (ROTC), University of Pittsburgh, Pittsburgh, Penn-
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 15 of their senior year.

Tuition and Fees

The University reserves the right to change tuition and fee charges if exigencies require such action.

TUITION

- Undergraduate Tuition: for each semester hour credit $102
- Graduate Tuition: for each semester hour credit $107
- Auditors pay the same as students taking courses for credits

FEES

- Application (non-refundable): $20
- Matriculation Deposit (non-refundable): $100
- Residence Hall Pre-Payment (non-refundable): $100
- Residence Hall Damage Deposit: $50
- Change of Schedule: for processing each form $5
- Credit by Examination: for each semester hour for recognition of proficiency of course credit (See policy in Section V, page 208) $10
- Late Registration: $10
- Removal of I Grade: $5
- Undergraduate Business and Administration Student when carrying 12 or more credits: $5
- Undergraduate Business and Administration Student when carrying less than 12 credits: $3
- Undergraduate Music Student when carrying 12 or more credits: $25
- Undergraduate Pharmacy Student Activities (for Third, Fourth, and Fifth Year Students): $25
- University Fee: 12 or more credits $150
- 9 to 11 credits $106
- 5 to 8 credits $75
- 1 to 4 credits $40

*Charged on each semester registration

LABORATORY FEES

All amounts are for one semester, where applicable, the yearly charge is double. In addition to the laboratory fee, there is a breakage charge of $5.00 a semester, this is proportionately refundable, depending upon the losses incurred.

- Biology (each laboratory): $25
- Biology (each laboratory): $30
- Business 491: $5
- Chemistry (each laboratory): $30
- Earth Science 103, 104: $15
- Education 490, 491 (Student Teaching): $25
- English 381, 383: $5
- Journalism 267, 268, 367, 369, 405, 409: $10
- Journalism 378, 413: $15
- Music-Applied Music 101, 102, 103, 104, 109, 110, 201, 203, 204, 301, 302, 303, 304, 401, 402, 403, 404: $100
**SUMMER AND SPECIAL SESSION TUITION AND FEE CHARGES**

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<th>Undergraduate Tuition</th>
<th>Graduate Tuition</th>
<th>University Fee</th>
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<tbody>
<tr>
<td>for each semester hour credit</td>
<td>$93</td>
<td>$98</td>
<td>$40</td>
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<tr>
<td></td>
<td>1 to 4 credits</td>
<td>5 to 8 credits</td>
<td>9 to 11 credits</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>106</td>
<td>12 or more credits</td>
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<tr>
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**GRADUATION FEES**

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<th>Degree</th>
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<tbody>
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</tr>
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<td>Juris Doctor Degree</td>
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<td>Doctor of Philosophy Degree</td>
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<tr>
<td>Thesis Binding Fee—Doctoral Dissertation</td>
<td>40</td>
</tr>
<tr>
<td>Thesis Binding Fee—Master Thesis</td>
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</tbody>
</table>

**WITHDRAWAL AND TERMINATION OF ATTENDANCE**

Upon officially withdrawing from the University, a student receives remission of part of the tuition charged for the semester or session in accordance with the Tuition Remission Schedule. The amount of the remission is 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 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 disability 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.

<table>
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<tr>
<th>Period</th>
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<th>Within the Summer Session</th>
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<tbody>
<tr>
<td>First Week</td>
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<tr>
<td>Second Week</td>
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<tr>
<td>Third Week</td>
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<tr>
<td>Fourth Week</td>
<td>20%</td>
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</tr>
<tr>
<td>After Fourth Week</td>
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</table>

**ROOM AND BOARD**

The request for on-campus residence is made on the same form used for application for admission to the University. After the student has completed the admission procedure and has paid the matriculation deposit, the residency request is referred automatically to the 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 students occupying rooms in the University residence halls are required to take their meals at the Resident Dining Hall. Charges are for 20 meals a week, with meals served commencing with the evening meal of the day before the first day of classes.

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**: $957.50
- **Double for each semester**: $802.50

### Summer Sessions—Room and Board*

**Eight Weeks**
- **Single**: $510.00
- **Double**: $402.00

**Six Weeks**
- **Single**: $383.00
- **Double**: $301.00

### Workshops (a week)

- **Single**: $64.00
- **Double**: $50.00

### ROOM AND BOARD—WITHDRAWAL AND REFUND

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 per cent of the balance remaining on the student's meal plan, up until mid-semester. After the mid-semester point, no refund will be made. No reduction of charges nor refund of payments to which a student may have been otherwise entitled will be made if withdrawal is not in accordance with the official withdrawal procedure.

No student is permitted to remain in the residence halls after academic withdrawal from the University has been completed.

### 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.

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*Those desiring residency for the Summer Session should make reservations with the Assistant Dean of Students and 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.
Part V: Registration, Scholastic Policies
Registration

REGISTRATION

Students who attend the Fall Semester, which begins in late August, receive academic advisement and register for classes during the preceding months of April, May, June, and July. Spring Semester students register in the Fall Semester during November and early December.

Orientation programs for new students are conducted by the schools in late spring and summer in conjunction with academic advisement and registration.

A comprehensive invoice that confirms the class schedule of courses for which the student is registered and lists fees, tuition, dormitory charge, deposits, financial aid awards, and balance due is mailed to the student at his or her permanent address a month before classes begin, thus enabling the student or parent to make payment by mail.

A three-day final registration for students who have neither obtained registration for classes nor concluded financial arrangements is held just before the opening of classes.

The financial obligation for class places reserved by a registered student who does not subsequently attend cannot be canceled unless written notification of the decision not to attend is given to the dean of the student’s school before the first class day. Notification received on or after the opening day of classes is subject to the official withdrawal policy.

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.

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

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

CHANGE OF SCHEDULE

Students 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.

CROSS-REGISTRATION

Cross-college and -university registration provides opportunities for enriched educational programs, approved by a student’s advisor or dean, at any of the following institutions:

- Carlow College
- Carnegie-Mellon University
- Chatham College
- Community College of 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 degree. Full credit and grade will be transferred.

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

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

LATE REGISTRATION

With approval of the appropriate dean and upon payment of the penalty fee, late registration may be permitted for a serious reason, however, no student may be registered and begin attending classes later than the Latest Date for Registration and Change of Schedule as announced in the Academic Calendar.

RECORDS AND REPORTS

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 the other institutions and agencies. All official transcripts issued by the Office of the Registrar bear the signature of the Registrar and the embossed seal of the Office of the Registrar. Whenever an official
Academic Policies

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

Final examinations are given at the end of each semester and summer session according to the registrar within 72 hours after the final examination. No student is excused from taking the final examination.

CREDIT BY EXAMINATION

Examinations for recognition of proficiency in a subject, or for course credit, as authorized by the College or a particular School of the University, are available to currently enrolled students who by previous experience or exposure have acquired mastery of the knowledge in certain courses. An application fee of $10 is charged for each course credit. Application forms may be obtained from the Office of the Registrar.

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

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, course must be repeated for credit)
- I — Incomplete (A temporary grade automatically given by an instructor when neither a passing nor failing grade can be determined because of incomplete course work or non-attendance of a student in a class. Unless a cogent explanation of extenuating circumstances, acceptable to the instructor, is presented and the missed examination or required assignment is made up by the date specified in the Academic Calendar, the I becomes a permanent F grade)
- X — Absent from Final Examination. This grade was superseded in September, 1974 for undergraduate course evaluation by the I grade
- W — Official Withdrawal (Used on a student's permanent record to indicate termination of attendance in courses under conditions of official withdrawal. See pages 211 and 212, Withdrawal from a Course and Withdrawal from the University)

QUALITY POINT SYSTEM

The student's overall academic quality point 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
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<td>P</td>
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<tr>
<td>I</td>
<td>0</td>
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<tr>
<td>W</td>
<td>0</td>
</tr>
</tbody>
</table>

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 RETROGRADATION

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.

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

PASS/Fail ELECTIVES

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

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

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

Progress towards a degree is measured by the cumulative quality point average. The scholastic records of students who fail to meet the minimum requirements as established by the faculty of each college or school will be submitted to the College or School Committee on Student Standing for review and appropriate action. Normally, academic records will be reviewed annually at the conclusion of each academic year, however students who in a Fall Semester fail to meet the minimum standards may continue into the next Spring Semester only with permission of the Committee on Student Standing of their school.

Students who are eligible to re-enroll on a full-time basis shall be considered eligible to participate fully in all University-sponsored or controlled extra-curricular activities, including intercollegiate athletics. Students subject to the jurisdiction of the appropriate Committee on Student Standing in accordance with the established guidelines who are permitted to re-enroll on a full-time basis but continue participation in non-curricular and extra-curricular activities shall be without appeal if they are subsequently dismissed from the University for poor scholarship.

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

- Academic Warning: 1.75 to 1.99 QPA (Letter of warning may be sent by appropriate Dean)
- Probation: 1.50 to 1.74 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)
Dismissal  
Less than 1.50 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

For the students who have attempted 31-60 credits or who have attempted up to 61 credits within four semesters, these guidelines prevail

Academic Warning  
1.85 to 1.99 QPA (Letter of warning may be sent by appropriate Dean)

Probation  
1.75 to 1.84 QPA (Subject to the jurisdiction of the appropriate Committee on Student Standing and may be required to modify or restrict academic program)

Dismissal  
Less than 1.75 QPA (Readmission may be permitted on recommendation of the appropriate Committee on Student Standing)

Students who have attempted 61 or more credits and who have a QPA of between 1.85 and 1.99 may continue on probation for one semester. However, students who have earned more than 90 credits are subject to dismissal unless they have a QPA of 2.0 or better. Students who accumulate three F grades in one semester are subject to dismissal. Appeals of academic dismissal must be directed to the appropriate College or School Committee on Student Standing.

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

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

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

It is the student's responsibility to determine that 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 Radiological Health, Medical Technology, and Pharmacy which require, respectively, 123, 125, 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 alternate or 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 timewise 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 QPA, the Magna Cum Laude citation may be raised to Summa Cum Laude

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

TRANSFER WITHIN THE UNIVERSITY
It would be 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.

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

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

A student who is not granted approval of the request and withdraws from the course unofficially will receive an F grade 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.
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Associate Professor of Psychology  
B A University of Oklahoma  
M A Ph D University of Kentucky

**William Frank Fischer**  
Professor of Psychology  
B A University of Michigan  
M A Ph D University of Connecticut

**Lee Frank**  
Lecturer in Sociology  
B A M Ed Indiana University of Pennsylvania  
M A Duquesne University

**Lo Shu Fu**  
Associate Professor of History  
B A National Southwest Associate University  
M A National Peking University  
Ph D University of Chicago

**Lawrence L Ganch**  
Associate Professor of Classics and Department Chairman  
B A Xavier University  
M A Ph D Ohio State University

**Oscar Gawron**  
Distinguished Service Professor of Chemistry  
B S Brooklyn College  
M A Columbia University  
Ph D Polytechnic Institute of Brooklyn

**Edward L Gelblum**  
Assistant Professor of Philosophy  
B A St John's College  
M A University of Chicago

**Amedeo P Giorgi**  
Professor of Psychology  
A B St Joseph's College  
M A Ph D Fordham University

**Andrew J Glad III**  
Professor of Chemistry and Department Chairman  
B S M S Duquesne University  
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B S M S Ph D Carnegie-Mellon University

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B A Pennslyvania State University  
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Lecturer in Art Division Department of Classics  
B S Skidmore College  
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M.A., University of Pittsburgh

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Professor of History
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Instructor in Psychology
B.S., M.Ed., University of Pittsburgh
M.A., Duquesne University

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Professor of Classics and Dean of the College of Liberal Arts and Sciences
B.A., Duquesne University
M.A., Ph.D., University of Pittsburgh

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B.S., Ph.D., University of Pittsburgh

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Associate Professor of Journalism
B.A., Hamline University
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Marilyn Schaub  
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  B A , Duquesne University  
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Eugenia M Skwarecki  
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John W Smeltz  
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M M, Duquesne University

Robert Clarke  
Teacher of Guitar  
B F A, Carnegie-Mellon University

Joan Condre  
Teacher of Piano  
B M, Baldwin-Wallace Conservatory  
M A, Duquesne University

Jacqueline S. Jablonski  
B S, Seton Hill College  
M A, Duquesne University

Joseph A. Mascetta  
B S, University of Pittsburgh  
M S in Ed., University of Pennsylvania  
Certificate of Advanced Study in Education, Harvard University

Charles L. Winek  
B S (Pharmacy), M S, Duquesne University  
Ph D, Ohio State University

B S Ed, Indiana University of Pennsylvania

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Professor of Music History and Literature, Chairman, Department of Music History and Literature, and Director of Graduate Studies

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M A, Duquesne University  
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Ecole Normale, Paris  
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B S, M M, Duquesne University  
Diploma, Kodaly Music Training Institute  
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Last Academy of Music, Budapest, Hungary

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Assistant to the Director for Performing Ensembles, Tamburitza Institute of Folk Arts and Associate Professor  
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Diploma Liszt Academy of Music Budapest Hungary

Doctor of Laws and Political Science

Eotvos University Budapest, Hungary

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Duquesne University

Ph.D. University of Pittsburgh

Joseph H. Negri
Teacher of Guitar
Carnegie-Mellon University

Chairman, Wind and Percussion Department, and Professor of Music Education

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M.M. Duquesne University

Ph.D. University of Pittsburgh

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Lead Soprano at Milan, Italy
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Assistant Professor of Theory and Organ

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Teacher of Viola
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Post-graduate study, Peabody Conservatory and University of Pittsburgh

Doctoral studies, Carnegie-Mellon University

Donald E. McCathren
Professor of Music Education, Chairman Wind and Percussion Department, and Chairman Duquesne University School of Music Mid-East Instrumental Music Conference

B.S. M.M. Indiana University of Pennsylvania

Navy School of Music

M.M. Chicago Musical College

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Teacher of Voice
B.A. Carnegie-Mellon University

M.M. Duquesne University

Josephine McGrail
Teacher of Voice
B.A. Carnegie-Mellon University

Michael Maglio
Associate Professor of Music Education
B.S.E. Lowell State College

M.A. Teachers College, Columbia University

Study at Ecole Normale de Musique Paris

John G. Malone
Teacher of Guitar
University of Pittsburgh

David Mains
Teacher of French Horn
B.M. M.M. University of Michigan

Associate First French Horn
Pittsburgh Symphony

Elizabeth P. Mairs
Teacher of French Horn
B.M. West Virginia University

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

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B.M. Westminster Choir College

Vincent Monteleone
Teacher of Trumpet
B.S. M.M. Duquesne University

Louis Munkachy
Associate Professor of Music Theory

Diploma Liszt Academy of Music Budapest Hungary

Doctor of Laws and Political Science

Eotvos University Budapest, Hungary

B.S. M.M. School of Music
Duquesne University

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Joseph H. Negri
Teacher of Guitar
Carnegie-Mellon University

Affiliated with WTAE

Beverly Nero
Teacher of Piano
B.S. M.M. Duquesne University

Pupil of Artur Balsam

Mia Novich
Teacher of Voice
B.M.E. Northwestern University

M.M. Duquesne University

Patsy Oliver
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North Catholic High School

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New England Conservatory

Berkshire Music Festival
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Pittsburgh Opera

Civic Light Opera

Claudia Pinza
Teacher of Voice
Maturita Degree Conservatorio De Liceo Classico Bologna

Conservatory of Music and Voice Bologna

Lead Soprano at Milan, Italy
La Scala Metropolitan Opera, Comunale Bologna

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Royal Conservatory Ghent, Belgium — First Prize in Organ

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B.S. M.M. Duquesne University

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Assistant Professor of Piano
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Teacher of Percussion

Diploma in Percussion, Juilliard School of Music

Ballet Russe, Ballet Theatre of Pittsburgh

New Opera Co

Chautauqua Symphony and Opera

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Robert L. Shankovich
Associate Professor of Music Theory and Assistant Dean
B.S. M.M. Duquesne University

Post-graduate study, Peabody Conservatory and University of Pittsburgh

Doctoral studies, Carnegie-Mellon University
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Teacher of Violoncello and Chamber Music
B.A. Brooklyn College
M.A., Columbia University
Manhattan School of Music
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Edwin Shiner
Associate Professor of Trumpet
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Salvatore Silipigni
Teacher of Violoncello and Chamber Music
B.M., Eastman School of Music
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Certificate, St. Cecilia Academy, Rome Italy
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Teacher of Clarinet
B.S.M.T., Duquesne University

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B.M., Eastman School of Music
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Associate Professor of Nursing
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and Coordinator of Student Teachers
B.S. in M.Ed., Indiana University of Pennsylvania
M.Ed., University of Pittsburgh
Doctoral Study University of Pittsburgh

David Wilson
Assistant Professor of Music Education and Director, Bands
B.S., M.A., Ed.D., New York University

Gladys Stein
Assistant Professor of Piano
Diploma, B.S.M.T., Juilliard School of Music
Special Artist Degree, Vienna State Academy
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Institute of Haifa, Israel
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Enrico Forcavo
Assistant Professor of Music Theory
B.S., M.M., Duquesne University
Doctoral Study University of Pittsburgh

Kathleen Vogt
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Assistant Executive Director
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Stephen C. Morrison, M.A.

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B.S., M.Litt. University of Pittsburgh
B.S. (Pharmacy), M.B.A. Duquesne University

Lawrence H. Block
Professor of Pharmaceutical Chemistry and Pharmacognosy
B.S. (Pharmacy), M.S., Ph.D., University of Illinois

Mitchell L. Borke
Professor of Pharmaceutical Chemistry
B.S. (Pharmacy), M.S., Ph.D., University of Pittsburgh

Lawrence J. Cohen
Instructor in Community Pharmacy
B.Ed. University of Toledo
B.S. (Pharmacy) University of Pittsburgh

Wellion D. Collom
Lecturer in Toxicology
B.S. University of California
M.S., Duquesne University
Ph.D. University of Pittsburgh

L.J. Compare
Associate Professor of Medical Technology (Nuclear Medicine)
M.D. Padua, Italy

Jeanne A. Cooper
Professor of Medical Technology and Director
Mercy School of Medical Technology (Parasitology)
B.S. Waynesburg College
M.D. Hahnemann Medical College

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Instructor in Medical Technology (Immunology)

Dorylee R. Dominguez
Instructor in Medical Technology (Blood Banking)
B.A. Carlow College
M.T. (ASCP), SBB

Barbara C. Fasska
Health Physicist
B.S., M.S. University of Pittsburgh

Sister M. Gonzales Duffy, R.S.M.
Lecturer in Hospital Pharmacy and Director of Pharmacy Central Service, Mercy Hospital
B.A., Carlow College
B.S. (Pharmacy), Duquesne University
M.S., Villanova University
D.Sc. (Hon.) Duquesne University

Raymond C. Eder
Clinical Instructor
B.S. (Pharmacy), Duquesne University

Joseph A. Feldman
Professor of Pharmaceutical Chemistry
B.S. (Pharmacy), University of Rhode Island
M.S. Ph.D. University of Wisconsin

Frederick W. Fochtman
Instructor in Pharmacology
B.S. (Pharmacy), M.S., Ph.D., Duquesne University

Henry R. Freedy
Assistant Professor of Clinical Pharmacy
B.S. (Pharmacy), Pharm.D., Duquesne University

Alvin M. Galinsky
Professor of Pharmaceutical Chemistry and Pharmacognosy
B.S. (Pharmacy), M.S., Ph.D., University of Illinois

John Georgescu
Instructor in Medical Technology (Virology)
M.S. Duquesne University

Raymond A. Guidici
Instructor in Clinical Pharmacy
B.S. (Pharmacy), Pharm.D. Duquesne University

Marilyn F. Harris
Associate Professor of Pharmacognosy
B.S., M.S. University of Saskatchewan
M.S. Duquesne University
Ph.D. University of Pittsburgh

Benjamin Hodes
Associate Professor of Pharmacognosy
B.S. (Pharmacy), University of Michigan

Philip W. Keys
Clinical Instructor in Pharmacy
B.S. (Pharmacy), West Virginia University

Veronica Kinn
Instructor in Medical Technology (Hematology)
B.A. Carlow College
M.T. (ASCP), SBB

Spyros Korninos
Associate Professor of Medical Technology (Microbiology)
B.S., M.S. Duquesne University
S.M. (ASCP), M.S. University of Pittsburgh

Reginald A. Ney
Instructor in Medical Technology (Nuclear Medicine)
B.S. University of California
M.S., University of Pittsburgh

Margaret Plotnick
Instructor in Medical Technology (Hematology)
B.A. Carlow College
M.T. (ASCP)

Thomas L. Rahn
Clinical Instructor in Pharmacy
B.S. (Pharmacy), Duquesne University

Gene A. Riley
Professor of Pharmacognosy
B.S. (Pharmacy), Duquesne University
Ph.D. Western Reserve University

Bruce Livengood
Instructor in Clinical Pharmacy
B.S. (Pharmacy), Temple University
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Elsie M. Lovsted
Assistant Professor of Pharmaceutical Chemistry
B.S. (Pharmacy), Ph.D. University of Minnesota

Manuel J. Manolios
Clinical Instructor in Pharmacy
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Bruce D. Martin
Professor of Pharmaceutical Chemistry and Dean of the School of Pharmacy
B.S. (Pharmacy), University of Pittsburgh
M.S. Ph.D. University of Pittsburgh
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Professor of Pharmacology  
St John's Hospital  
B.S. M.S. Ph.D. University of Pittsburgh

Eileen Steele  
Associate Professor of Medical Technology and Education  
Coordinator, Mercy School of Medical Technology (Hematology-Urinalysis)  
B.A. Carlow College  
M.T. (ASCP)  
M.S. in Education, Duquesne University

Rita M. Windisch  
Associate Professor of Medical Technology (Clinical Chemistry)  
B.S. Ph.D. Duquesne University

Charles I. Winick  
Professor of Toxicology  
B.S. (Pharmacy), M.S. Duquesne University  
Ph.D. Ohio State University

Gerard I. Wolf  
Clinical Instructor  
B.S. (Pharmacy) Duquesne University

Carl Kaplan  
M.D.  
Chairman  
Division of Radiation Therapy  
Radiology Department  
Mercy Hospital

Arthur Katoh  
Ph.D.  
Research Associate  
Radiology Department  
Mercy Hospital

Edward F. Keating  
Adjunct Professor of Pharmaceutical Administration  
Director of Trade Relations (Retired)  
Merck Sharp & Dohme Laboratories West Point, Pennsylvania

Delbert D. Konnor  
M.S. R.Ph.  
Adjunct Professor in Pharmaceutical Administration, Manager, Voluntary Compliance Program  
Drug Enforcement Administration  
U.S. Department of Justice

Lawrence M. Mulhern  
M.D.  
Chief of the Division of Rheumatology  
Mercy Hospital

Angelo L. Pantalone  
M.D.  
Director of the Department of Anesthesia  
St. Francis General Hospital

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M.A. American University

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B.A. University of Alabama

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Associate Professor of Military Science  
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Assistant Professor of Military Science  
B.A. Carnegie Mellon University  
M.P.A. University of Pittsburgh

Frank K. Schweighardt  
Professor of Military Science  
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Ph.D. Duquesne University

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Court of Common Pleas  
Fifth Judicial District  
Commonwealth of Pennsylvania

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M.D.  
Adjunct Professor of Pathology  
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Assistant Professor of Aerospace Studies
B.A., University of Rochester
M.A., University of Massachusetts

Major Bruce D. Mills
Assistant Professor of Aerospace Studies
B.S., Lincoln University
M.B.A., Missouri University

Lieutenant Colonel James L. Warren
Professor of Aerospace Studies
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B.S., Texas A&M University
M.S., Ph.D., Arizona State University

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