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Undergraduate Catalog
1983-1984

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IUP IS ACCREDITED BY THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION, THE MIDDLE STATES ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS, AMERICAN HOME ECONOMICS ASSOCIATION, THE AMERICAN CHEMICAL SOCIETY, THE NATIONAL LEAGUE OF NURSING AND THE NATIONAL ASSOCIATION OF SCHOOLS OF MUSIC.

IUP IS COMMITTED TO PROVIDING LEADERSHIP IN TAKING AFFIRMATIVE ACTION TO ATTAIN EQUAL EDUCATIONAL AND EMPLOYMENT RIGHTS TO ALL PERSONS, WITHOUT REGARD TO RACE, RELIGION, NATIONAL ORIGIN, ANCESTRY, SEX, PHYSICAL HANDICAP, OR AFFECTATIONAL OR LIFESTYLE PREFERENCE. THIS POLICY IS PLACED IN THIS DOCUMENT IN ACCORDANCE WITH STATE AND FEDERAL LAWS INCLUDING TITLES VI AND VII OF THE CIVIL RIGHTS ACT OF 1964, TITLE IX OF THE EDUCATIONAL AMENDMENTS OF 1972, SECTIONS 503 AND 504 OF THE REHABILITATION ACT OF 1973 AS WELL AS FEDERAL AND STATE EXECUTIVE ORDERS. THIS POLICY EXTENDS TO DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA. PLEASE DIRECT INQUIRIES CONCERNING EQUAL OPPORTUNITY TO: ASSISTANT PROVOST, 223 SUTTON HALL, INDIANA UNIVERSITY OF PENNSYLVANIA, INDIANA, PENNSYLVANIA 15705.

**Indiana University
of Pennsylvania Bulletin**

**1983-84
Undergraduate Catalog**

IUP
INDIANA, PENNSYLVANIA 15705

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University Calendar

FALL SEMESTER - 1983

Registration	Aug. 30
Classes Begin	Aug. 31
Thanksgiving recess begins at close of classes	Nov. 23
Classes resume at 8 a.m. . .	Nov. 28
Final Exams	Dec. 12-17

SUMMER SESSIONS - 1984

Dates undetermined as of this printing.
Contact the Office of Associate Provost,
Sutton Hall, for dates.

SPRING SEMESTER - 1984

Winter Interim	Jan. 9-21
Registration	Jan. 24
Classes begin	Jan. 25
Spring vacation begins at close of classes	Mar. 17
Classes resume at 8 a.m. . .	Mar. 26
Spring weekend begins at close of classes	Apr. 19
Classes resume at 8 a.m. . .	Apr. 24
Final Exams	May 14-18
Commencement	May 19



The University

A University Education

As an institution of higher learning, IUP is a community of scholars of both faculty and students, committed to discover, preserve and impart truth in all its forms. Our primary concern is with the intellectual, moral, cultural, physical, social and aesthetic development and maturation of its students. To this end we are charged with providing a liberal education of both general and specialized studies which will allow our students to liberate themselves from narrow interests and prejudices, to broaden their intellectual horizons by increased cultural perspective, to develop the ability to think logically, critically and creatively and to communicate their judgments clearly and forcefully. The curriculum involves a body of knowledge about the universe and about people, their nature, behavior and values. It also provides an opportunity to gain specialized knowledge as a preparation for graduate study and entry into professional life. Beyond this breadth and depth of knowledge, the university recognizes that such an education is only a beginning and hopes to stimulate its students to pursue continuous development in the areas of human knowledge, to seek wisdom, to challenge the mysteries of life and examine its ultimate meaning, and to become useful members of society by embracing careers which will touch the whole community.

Approved by the University Senate in May, 1979.

HISTORY OF THE UNIVERSITY

Throughout the history of IUP, great emphasis has been placed on maintaining high academic standards and providing facilities conducive to individual and group growth. The present record and reputation enjoyed by the University have evolved during a century's history. Having observed the need for a teacher training institution in Western Pennsylvania, the General Assembly passed an act in the legislative session of 1871 granting aid for the establishment of a Normal School in the Ninth District, at Indiana.

The first building, named John Sutton Hall in honor of the first president of the Board of Trustees, was opened for students on May 17, 1875.

In April, 1920, control and ownership of the school passed to the Commonwealth of Pennsylvania. In May, 1927, by authority of the General Assembly, the State Normal School became a college, with the right to grant degrees. The name was then changed to the State Teachers College at Indiana, Pennsylvania. With the development of a Liberal Arts program in 1960, the institution was renamed Indiana State College.

In December, 1965, Indiana was redesignated Indiana University of Pennsylvania and given the authority to expand its curriculum and to grant degrees at the master's level. At this time the first doctoral program was initiated.

Since the founding of the University in 1875, IUP has graduated over 40,000 students, and since the University became a degree-conferring institution in 1927, over 30,000 degrees have been granted. Many of the graduates are organized into a strong Alumni Association, with units active in many sections of Pennsylvania, as well as in New York, Michigan and the District of Columbia. The Alumni Association cooperates with the University in many projects relating to the improvement of the institution and the welfare of the students.

ACCREDITATION

IUP is a state-owned and state-controlled institution for higher education. It is an approved and fully accredited member of the Middle States Association of Colleges and Secondary Schools, the National Council for the Accreditation of Teacher Education, the American Home Economics Association, the American Chemical Society and the National League of Nursing. Membership in these organizations is of immediate personal importance to the student in two ways: first, the student may transfer college credits from one approved institution to another without loss of credit, but, more importantly, it assures the student a quality education.

LOCATION

IUP is located in Indiana Borough, Indiana County seat, in the foothills of the Alleghenies at an elevation of about 1,300 feet. It is easily accessible by automobile over state highway routes coming from all sections of the state. These leading routes are Route 422 east and west, Route 286 northeast and southwest, and Route 119 north and south. Bus passenger services operate on frequent schedules to and from Indiana and all nearby cities and towns, including Pittsburgh, Altoona, Johnstown, Butler, Punxsutawney, Kittanning, DuBois, Ridgeway and New Castle.

BUILDINGS AND GROUNDS

The campus at Indiana is frequently described as one of the most beautiful in the state. The main campus, originally consisting of 12 acres and one building, is now composed of a total of 137 acres on which are located 79 major buildings and seven athletic fields. In the center of the campus is the historic Oak Grove, about which are grouped many of the main buildings, forming three sides of a quadrangle. The University Lodge, located a few miles from Indiana and surrounded by 280 acres of wooded hillside offers opportunity for nature study and such recreational activities as hiking and skiing.

THE CENTER FOR COMMUNITY AFFAIRS

The Center for Community Affairs was established in 1976 to meet community needs through the use of IUP resources and technical services.

The purpose of the Center is to forge a strong link between community planning efforts and the analytical capabilities of the University. The Center also seeks to improve the quality of community decision-making and public policy by providing informational resources and analytical skill to elected officials, government bureaus, civic organizations and health or social welfare agencies.

The Center serves these officials and agencies through computer services, surveys and studies, media services, conferences and workshops and publications.

Besides these services the Center has established a mechanism to provide consultants through a resource survey of IUP faculty and staff. The Center also serves as a referral agency and contact point to direct local government officials and agencies to assistance from state/regional agencies as well as IUP and other educational institutions.

The staff of the Center includes four full-time members, graduate and undergraduate students, faculty associates and an advisory board. The office is located in 359 Sutton Hall on the IUP campus.

COMPUTER CENTER

The Computer Center, established in July, 1963, is located on the ground floor of Stright Hall. The Center provides computational support for undergraduate and graduate courses, faculty and student research, and the administrative requirements of the University. The computing capacity of the Center is provided by a large-scale disk oriented central processor which supports both time-sharing and batch processing services for the university community. Computer terminals, located both in the Computer Center and in various departments on campus, permit the use of the computer on a time-sharing basis. Terminal facilities and a full complement of tabulating equipment are available in Stright Hall for student use. Additional facilities in Mack Hall consisting of remote front end processor, card reader, line printer, CRT terminals and hard copy terminals are available for student use. Aid in the use of the computer and facilities may be obtained from user assistants on duty at the Computer Center and from the Center's professional staff.

IUP's Computer Center plays an active part in the daily functioning of the University. It is the principal laboratory facility for computer-oriented courses and is used as a teaching aid in many classes involving statistical and numerical analyses and computer simulations. The staff at the Center is actively involved in continuing work aimed at making computers a more effective and readily accessible tool for the academic, administrative and research segments at IUP.

LIBRARY AND MEDIA SERVICES

The combined Stapleton and Stabley Library buildings provide study room for approximately 1500 students, including private carrels and group study facilities. The library houses 530,000 volumes including 75,000 volumes of periodicals and receives 3,800 current periodical titles. The well-organized general holdings are enhanced by the reference collection and 1,450,000 units of microform as well as a media resources collection consisting of slides, filmstrips, recordings, filmloops, textbooks, courses of study and films. All of these media resources together with listening facilities are housed in Stabley Library with the exception of the films, which are located in Davis Hall.

An instructional program in the use of library tools and reference books is available to develop skills in library use.

Media services, operated from Davis Hall, consist of photographic services, sound recording and reproduction, design and production of conventional instructional materials and the procurement, inventory, maintenance and circulation of University multi-media equipment.

THE BRANCH CAMPUSES

Robert H. Doerr, Director Armstrong Branch
Norman T. Storm, Director Punxsutawney Branch

IUP operates two branch campuses, one in Punxsutawney, 28 miles north of Indiana Campus, and one in Kittanning, 28 miles west of the Indiana Campus. The first branch campus was established in September, 1962, in Punxsutawney. The following year the Armstrong County Campus in Kittanning was opened. Over 200 students are enrolled at the Punxsutawney Campus and 550 students at Armstrong County Campus.

Both campuses have University faculty members who teach full time at the branch campuses. To meet additional curriculum needs, other faculty from the main campus travel to the branch campuses. The branches provide one to two full years of college work which, if satisfactory, is transferable to the main campus of IUP or to other accredited colleges.

Control of the branch campuses is directly vested with the IUP Administration and Board of Trustees. Advisory Boards from the respective areas identify local needs. Both branch campuses carry full accreditation as integral parts of the undergraduate programs of IUP. This means that courses offered at the branch campuses are of the same quality as those offered at the main campus.

Programs of Study

The branch campuses of IUP offer basic general education courses in most majors in the various undergraduate schools of the University. Thus students may schedule a full program for the freshman and sophomore years by pursuing work that will fulfill these general education requirements. In addition to these required courses a number of electives are offered in many fields.

In some majors, the student will be able to complete only one year's work at a branch campus instead of the two years which would qualify him/her for junior status; hence it will be necessary to continue studies at the main campus after the first year. This is true of students majoring in highly specialized fields. In any event, no student accepted at either of the branch campuses is eligible for transfer to the main campus at Indiana until he/she has completed two semesters and has achieved the necessary grade point average.

Students find many advantages in remaining at the branch campuses for two years providing they can obtain a full program of University credit. A smaller student body and a closer relationship among faculty members, administration and students at the branch campuses are very beneficial to students.

Faculty advisers and administrators at the branch campuses are available to advise students on their instructional program and the proper time for continuing at the Indiana Campus whether it be after two, three or four semesters.

Business Associate Degree Program

The two-year Associate of Arts Degree in Business is based upon a broad liberal arts program as well as professional competencies needed in the field of business. The program is offered only at the Punxsutawney campus of IUP. A student accepted for this program may concentrate in accounting. Under the program the student will complete 30 credits in the field of business, including business electives, and 30 credits in general education courses. It is understood that students in the two-year program may not transfer into any other major offered by the University until completion of the program. At that time the student may apply for admission into a four-year baccalaureate degree program according to the availability of openings on the main campus of IUP. The credits earned in the two-year program will apply toward the four-year degree programs in Business.

Criminology Associate Degree Program

This special two-year program in Criminology is offered only at the Punxsutawney branch campus and is not offered at the main campus of IUP. When a student is accepted for admission into this two-year program, it is understood that he/she will remain in the particular program at the branch campus until it is completed. It is further understood that the student in this special two-year program may not transfer into any other major offered by the University until completion of this program. At that time, the student may apply for admission into a four-year baccalaureate degree program according to the availability of openings on the main campus of IUP. Admission is not guaranteed. If accepted, however, the credits earned in the two-year program will apply toward the four-year degree program in Criminology.

Admission

Any prospective student who wishes to attend either of the branch campuses instead of the Indiana Campus may apply for admission by requesting an application from the Admissions Office or from the Director of either branch campus. The same standards and requirements used for admission at the main campus are applied at both University branch campuses. The mailing addresses for the respective branch campuses follow:

Armstrong County Branch Campus
Indiana University of Pennsylvania
Kittanning, Pa. 16201

Punxsutawney Branch Campus
Indiana University of Pennsylvania
Punxsutawney, Pa. 15767

Housing

Both the branch campuses have privately owned residence halls for students living beyond commuting distance. Students are free to choose their housing from all available sources which include the privately owned residence halls and private homes or apartments in the community. At the Punxsutawney Campus, the Punxsutawney Area College Trust maintains two residence halls: Pact Hall (women) and Trust Hall (men). There are two privately-owned residence halls at the Armstrong County Campus as well as rooms and apartments in private homes in the community adjacent to the branch campus. A list of rooms and apartments is available in each campus director's office.

Both branch campuses have residence halls with integral laundry facilities.

Food Service

Each branch campus has its own dining hall within the residence hall. Meals are served seven days a week during the time the University is in session. Residence hall students as well as students living in private homes and apartments may make arrangements to take meals in the dining halls. The dining service is operated by the same food service contractor as on the main campus.

Libraries

The Armstrong County Campus Library, an integral part of Academic Hall, has more than 22,000 volumes. In addition, the library provides microfilm, 150 periodicals, and language and shorthand tapes and records. All books and magazines are displayed on open stacks. The library, which seats about 100 students, is open 70 hours per week.

The Punxsutawney library contains more than 13,500 volumes as well as 100 periodicals and recordings of music, poetry and dramas. There are 59 titles available on microfilm in addition to The New York Times, 1965-1970. The Punxsutawney library is open 56 hours a week.

The University employs professional librarians for both branch campuses. The libraries at the branch campuses are especially practical since the volumes are geared for the specific curricula. If volumes and other materials are not immediately available, the general holdings of the Stapleton-Rhodes Library on the Indiana campus are available to the students through inter-library loan.

Extra Curricular Activities - Armstrong County Campus

A large part of the extra curricular activities at the Armstrong County Campus takes place in the Student Union which adjoins the two dormitories and the academic building. The Union is a two-story building, the first floor of which is equipped for such activities as pool, ping-pong and dancing. The second floor is furnished as a lounge with television and a piano. Movies are scheduled biweekly, and dances are scheduled on alternate Fridays.

Each Wednesday from 7 to 10 p.m. the students may participate at the local YMCA in a Gym-Swim sponsored by the branch campus and supervised by college faculty. The Gym-Swim physical activity includes swimming, gymnastics, volleyball and basketball.

Each year two semi-formal dances for students and faculty are held, one during the Christmas season and the other in the Spring. A fall outing at the University Lodge on the outskirts of Indiana is supervised by faculty members. All three functions are organized and sponsored by student government.

The students of the Armstrong County Campus are encouraged to attend the University Artists-Lecture Series on the Indiana campus. Bus transportation is provided for those students who wish to attend these monthly activities.

Many of the students are active in Women's Judicial Board, Student PSEA, Big Brother and Big Sister, Newman Club and other branch campus activities.

The churches and social and civic organizations of the area invite and encourage the students to take an active part in their projects and activities.

Extracurricular Activities - Punxsutawney Campus The Student Union building is the scene of a major portion of extra-curricular activities at the Punxsutawney Campus. The new Union provides facilities for dances, pool, ping-pong and movies and also has a lounge area equipped with color television and piano.

Outstanding functions of the school year are the Christmas and Spring semi-formal dinner dances and an informal party at the University Lodge held in conjunction with the Kittanning Campus.

A campus van facilitates the transporting of small groups of students for such events as intramural athletic activities to both Main Campus and the Kittanning Campus. Bus transportation is provided for larger groups of students wishing to attend artist series performances, athletic events and other Main Campus activities.

Various clubs are active on the Punxsutawney Campus, especially the Circle K, which is the college division of Kiwanis International. Circle K participates in many worthwhile community service projects. The elected Student Government supervises and arranges for all extra curricular activities on the campus.

The churches and the social and civic organizations of the area invite and encourage students to take an active part in their functions.

Rules and Regulations Concerning Student Behavior

Students at the Branch Campuses are subject to the same rules and regulations as students on the main campus.

Fees

Branch Campus students pay the same basic fees as main campus students, except for the health fee. The health fee at the Armstrong County Branch Campus is \$23 per semester, while Punxsutawney Branch Campus students do not pay a health fee.

CONTINUING EDUCATION

The School of Continuing Education plays a significant role in programming community-university studies classes (non-credit) and academic workshops and institutes in the Punxsutawney and Kittanning Areas. While meeting the needs of the traditional students in the Criminology Extension Program, the School is also responsive to the needs of the local community through credit and non-credit activities.

A representative of the School maintains office hours at both branch campuses.

COURSE OFFERINGS AT THE BRANCH CAMPUSES

Anthropology-Sociology Department

AN 110 Intro to Anthropology

SO 151 Principles of Sociology

Art Department

AH 101 Introduction to Art

AR 116 Western Art: Renaissance to Baroque

Biology Department

BI 103 General Biology I

BI 104 General Biology II

Business Department

AD 101 Business Organization and Management

BE 111 Foundations of Business Mathematics

BE 131 Principles of Typing

BE 132 Intermediate Typing

AG 201 Principles of Accounting I

MK 320 Marketing

AD 235 Introduction to Business Law

AG 202 Principles of Accounting II

BE 261 Shorthand Theory

BE 262 Shorthand Dictation

BE 271 Advanced Typing

AD 272 Introduction to Word Processing

BE 275 Filing and Records Administration

AD 321 Business Communications

- DE 330 Merchandise Information
- DE 331 Modern Merchandising
- DE 332 Retail Management
- DE 333 Principles of Selling
- BE 335 Machines Mathematics
- AD 336 Law of Business Organization
- FS 292 Business Data Processing
- AG 301 Intermediate Accounting I
- AG 311 Cost Accounting
- AG 302 Intermediate Accounting II
- BE 363 Shorthand Transcription
- BE 364 Office Procedures
- BE 365 Advanced Transcription
- BE 433 Work Experience and Seminar in Office Occupations
- DE 434 Work Experience and Seminar in Retailing
- FS 351 Business Information Systems

Chemistry and Physics Department

- SC 105 Physical Science I
- SC 106 Physical Science II

Criminology Department

- CR 101 General Administration of Justice
- CR 102 Criminology
- CR 301 Criminal Law I
- CR 302 Criminal Law II
- CR 201 Police Administration I
- CR 202 Police Administration II
- CR 310 Criminal Investigation
- CR 340 Crime Prevention
- CR 350 Techniques of Interviewing
- CR 370 Community Relations
- CR 431 Etiology of Delinquent Behavior
- CR 432 Treatment and Control of Delinquency
- CR 440 Institutional Treatment of the Offender
- CR 445 Non-Institutional Treatment of the Offender
- CR 490 Crime in Modern Society

Economics Department

- EC 101 Basic Economics
- EC 121 Principles of Economics I

English Department

- EN 101 English I
- EN 102 English II
- EN 201 English III
- EN 358 Modern American Fiction

Foreign Language Department

- SP 151 Spanish I
- SP 152 Spanish II
- SP 251 Spanish III
- SP 252 Spanish IV
- FR 151 French I
- FR 152 French II
- FR 251 French III
- FR 252 French IV
- GM 151 German I

Geography Department

- GE 101 World Geography
- GE 102 Geog of United States and Canada

Health and Physical Education Department

- HP 101 Health

History Department

- HI 101 Hist of Civilization I

HI 102 History of Civilization II

HI 104 Hist of U. S. and Pa. II

Home Economics Department

CS 113 Management and Equipment

CS 315 Family Finance and Consumer Economics

Mathematics Department

MA 110 Elementary Functions

MA 121 Calculus I for Business and Social and Natural Sciences

MA 101 Foundations of Math

MA 127 Calculus I (Math Majors)

MA 151 Math for Elementary Teachers I

MA 152 Math for Elementary Teachers II

MA 217 Probability and Statistics

Military Science Department

MS 101 World Military History (Fresh)

MS 102 American Military History (Fresh)

MS 203 Fundamentals of Tactical Operations With Applied Terrain
Analysis & Military Topography (Soph)

MS 204 National Security and Concept of Force (Soph)

Music Department

MU 101 Introduction to Music

Philosophy Department

PH 101 General Logic

PH 110 World Religions

PH 120 Intro to Philosophy

PH 221 Symbolic Logic

PH 222 Ethics

Political Science Department

PS 111 American Politics

PS 101 World Politics

Psychology Department

PC 101 General Psychology

EP 302 Educational Psychology

PC 354 Developmental Psychology

Theater Department

TH 101 Intro to Theater

Admission and Registration

ADMISSIONS POLICY

Any graduate of an accredited four-year high school or holder of GED equivalency diploma is qualified to apply for admission to IUP. Prospective students who have completed the third year of high school may file an application beginning the following July 1. Applications filed before completion of the junior year will be returned to the sender.

Requests for application papers and catalogs should be addressed to:
The Admissions Office
Indiana University of Pennsylvania
Indiana, Pennsylvania 15705

Admission will be based on college quotas at IUP, taking into consideration restrictions in some curriculums. The Admissions Committee, in reviewing the applications, will take the following into consideration: academic excellence, giving equal opportunity to all students, needs and welfare of the students, high school grades, SAT/ACT scores, achievement tests, guidance counselors' recommendations, faculty recommendations, extra-curricular activities and other pertinent information that would help the Admissions Committee.

Although the University does not require a specific number of high school credits in certain subject matter fields, it does strongly urge all applicants to take the usual college preparatory program in high school. Applicants should also take all available work offered in the field in which they plan to major.

Applicants are expected to name their major field upon application, but a change in major can be made during the freshman year without loss of credit. A change of major after the freshman year (restricted areas are excluded) usually entails a loss of credit and results in a program of more than four years to satisfy graduation requirements.

Applicants to the departments of Art and Music will be admitted to the University by the Admissions Office, subject to the acceptance by the Department of Art after the portfolio review and by the Department of Music after the audition. It is the responsibility of the student to contact the department chairperson and make the necessary arrangements.

APPLICATION FEE

A CHECK or MONEY ORDER (cash will not be accepted) for \$10, payable to Indiana University of Pennsylvania, must accompany each application. This fee is non refundable and will be used to meet the cost of filing and processing applications.

The application form, the \$10 application fee and the high school transcript must be mailed to: the Accounts Receivable Office, IUP, Indiana, Pennsylvania 15705.

FRESHMAN APPLICANTS

The Scholastic Aptitude Test

All persons expecting to apply for admission as freshmen should plan to take the Scholastic Aptitude Test ('College Boards') on or before the November test date of the senior year of high school. The Admissions Committee recommends that the applicant first take the test in the spring of the junior year, because the application, if complete, may receive early consideration in the fall of the senior year. If the applicant has an excellent high school record and high College Board Scores, the application for admission may be approved by November 30 of the senior year.

Whether or not the applicant takes the College Boards in the junior year, it is recommended that the College Boards also be taken no later than the November testing date of the senior year. The Admissions Committee gives the applicant the benefit of the highest total Board scores from all test dates. It is, therefore, in many instances, to the applicant's advantage to take the Boards in the senior year. However, the Committee will use the Boards completed in the junior year if the senior Boards are not available at the time admissions decisions are being made.

The applicant should arrange to take the College Boards through the high school principal or guidance counselor or by writing to the College Entrance Examination Board, Box 592, Princeton, New Jersey 08540 for an information pamphlet and test application. IUP will accept the test battery of the American College Testing Program (ACT) in lieu of College Boards (SAT).

When the applicant receives the information and test application, he/she should fill out the test application and designate IUP as one of the schools he/she desires to receive a copy of the test scores. The test application is to be returned to the Princeton, New Jersey, address.

The Admission Application

Applications for admission will be available after June 1 following the student's junior year of high school.

The applicant may fill out and submit the application and accompanying forms to the guidance counselor after July 1 of the summer following completion of the junior year. The deadline for applications for early consideration is October 1.

The application deadline depends on the number of available vacancies in the freshman class and the number of applications received. Students are encouraged to submit an application and the required supportive information by December 31. Students who have an outstanding high school record and apply to the main campus after December 31, therefore, may run the risk of not being awarded admission to the Indiana Campus Fall Program. Deadlines for the branch campuses vary from year to year depending on the number of applications received and the academic quality of the students who apply. The University reserves the right to close admissions when it feels that it has offered a sufficient number of acceptances to academically qualified students.

The applicant should give the completed application form and the \$10 application fee to his/her high school principal or guidance counselor for completion of the high school record portion of the application. The principal or counselor must then mail the complete packet of admissions materials to the Accounts Receivable Office, IUP, Indiana, Pennsylvania 15705.

The student's application is complete when the Admissions Committee receives the Junior College Board and/or Senior College Board or ACT test results, the high school record, the completed application form, and the application fee. In some cases the Committee may request additional information, such as a list of senior year subjects or a senior grade report.

This university uses the Social Security Account Number (SSN) as the basis for all student recordkeeping. Although disclosure of the SSN is not mandatory, its use will facilitate the coordination of your national test results, your financial aid awards, and the maintenance of accurate records. The SSN will be used solely for identification and/or record keeping purposes.

Processing the Application

- (1) The Admissions committee reviews, with care and understanding, each of the several thousand applications that are submitted each year.
- (2) Those persons who, in the Committee's judgment, satisfy the standards for early decision will receive notification by November 30 of their senior year. Decisions on most applications are deferred until later in the year. Final action on a completed application takes from eight to sixteen weeks, depending on the number of applications that must be processed. This delay is necessary if each application is to be examined carefully. Applicants who are not given early decision can expect a decision by January 31 of their senior year.
- (3) The applicant who is admitted to an entering class is required to visit the campus on an appointed date to discuss his/her academic and career plans with the College Dean and other advisers. Choosing a major and possible career is an important problem for young men and women. It is hoped that early consultation with knowledgeable advisers will help the applicant make these crucial decisions. The date of this appointment for the orientation interview accompanies the notice of acceptance.
- (4) A medical examination is required of every applicant after the student is admitted.
- (5) Attendance at the orientation interview and payment of the \$20 orientation fee signifies the applicant's interest, but NOT commitment, to attend IUP.
- (6) Around April 15 a \$100 advance is required of all incoming freshmen. This advance payment will be credited to the applicant's housing charges and basic fees. Fifty percent of the \$100 is refundable if applicant cancels admission before July 1. Exceptions to refund policy may be made by application to Admissions Committee in cases of unusual circumstances.

EARLY ADMISSIONS PROGRAM

The Early Admissions Program permits students to enroll as college freshmen after completing the junior year in high school. Student applications for acceptance must originate with the student's high school guidance counselor and principal. Admission consideration will be given to those applications which contain a statement indicating explicit approval by the high school principal. The applicant must rank in approximately the top tenth of his/her class and have a SAT score of approximately 1150. The University Admissions Committee will exercise the final judgment as to University acceptance after a personal interview with the applicant. The University strongly recommends prior summer school attendance by all students admitted through the Early Admissions Program.

TRANSFER STUDENTS

A student who has been attending another institution of higher education and wishes to transfer to IUP must submit an application, official transcripts of all post-secondary educational work and a statement from his/her dean certifying that he/she is in good academic standing and entitled to honorable separation from that institution. Transfer students are not required to submit their high school transcript or SAT/ACT scores.

Applications will be accepted for consideration for the fall and spring semesters after July 1 of the preceding year. The application deadline depends on the number of available vacancies in the transfer program and the number of applications received. Students are encouraged to submit an application, \$10 application fee and the required supportive information by February 1 for the fall semester and November 15 for the spring semester. Students who have an outstanding college academic record but who apply after the above designated dates risk not being awarded admission to the University because of space limitations.

A non refundable orientation fee of \$20 is required of all accepted students. Attendance at a Transfer Orientation Day in July is required. If a waiver of attendance at summer orientation is approved by the Admissions Office, the student will schedule courses as available in late registration the day before the start of classes.

The evaluation of credits from other institutions of higher education is the responsibility of the Director of Academic Services and the academic college dean who has jurisdiction over the student's desired major. Normally, courses considered for transfer are only those taken from institutions which are accredited by the six regional accrediting agencies. Each course is usually evaluated separately. The evaluation normally includes a review of the description, semester hours and grade of each course along with the applicability of the course to the student's major at IUP. However, only credits transfer, not grade point average. It has been the policy of the University that only courses with a 'C' or higher grade will be accepted except for two-year associate degree graduates of state-supported community colleges in Pennsylvania. No matter how many credits are transferable, the student must satisfy all of the degree requirements falling into the categories of (1) University requirements, (2) college requirements and (3) department requirements.

University requirements. Since all students are obliged to fulfill a basic program in General Education consisting of 52 semester credit hours and there is a reasonable degree of flexibility in the General Education requirements, the Director of Academic Services and the college deans will look this area first for applicable credits for transfer. Most introductory courses are generally equivalent.

Residency requirements. The University requires that the last 30 credits in a student's curriculum must be earned by enrollment in courses at IUP. It should also be noted that for community college graduates, a maximum of 60 credit hours are transferable to this institution for the purpose of fulfilling a specific program of study. Excess credits, if any, may be transferred but cannot be used for fulfilling the minimum requirements for the degree.

Transfer students, to remain in good academic standing, must meet the same quality-point average requirements as those specified for all other undergraduate students. See section entitled 'Criteria Governing Continuance at IUP.

The articulation policy as adopted by the Board of State College and University Directors on September 20, 1973, and transmitted by memorandum by Commissioner Ziegler on December 7, 1973, to the State College and University Presidents, and whereby the 'D' grade obtained by two-year Associate Degree graduates of state-owned community colleges should be treated by the senior institution in the same manner as the senior institution treats the 'D' of its indigenous students is applicable.

PART-TIME STUDY

Any high school graduate or holder of GED equivalency diploma is eligible for part-time study.

Students who plan to participate in the part-time study must obtain an application from the School of Continuing Education.

Applications and official transcripts from high school and other institutions attended must be submitted to the School of Continuing Education by August 15 for the Fall Semester and December 15 for the Spring Semester.

At the end of 15 credit hours of course work taken at IUP, a part-time student must have a 1.8 cumulative quality-point average to continue. At the end of 30 credit hours taken at IUP, a part-time student must have a cumulative quality point average of 2.0 to continue.

A part-time student MAY apply for degree candidacy after the completion of 15 credit hours of 'C' work or better in academic subjects and maintenance of a cumulative quality point average of 2.0 or better. A part-time student MUST apply and be approved for degree candidacy by the time he/she has earned 30 credit hours. STUDENTS WHO HAVE NOT BEEN APPROVED FOR DEGREE CANDIDACY AFTER THE COMPLETION OF 30 CREDIT HOURS OF PART-TIME STUDY WILL NOT BE PERMITTED TO CONTINUE AT THE UNIVERSITY.

Part-time students who are transferring 12 credits or more from another institution, where they are in good standing, are eligible to apply for degree candidacy after completing nine credit hours of 'C' work or better at IUP. This course work must be completed during the Fall or Spring Semester.

Degree candidates who wish to continue as part-time students must file a part-time application with their undergraduate College Dean each semester prior to the application deadline.

PROGRAM FOR HIGH SCHOOL JUNIORS

Honor students who have completed the junior year of high school with at least a B average in all college entrance subjects taken in the sophomore and junior years may preview University life and earn regular college credit by enrolling in two or three lower division courses. Students seeking admission to this program should write to the Registrar for further details.

CERTIFICATION STUDENTS

(Students who graduated with other than B.S. in Education degree)

A student who wishes to be admitted to complete requirements for an Instructional I certificate must submit an application and official transcript of college work showing degree attained. One semester on campus is a prerequisite to Student Teaching.

READMISSION POLICY FOR STUDENTS WHO WITHDRAW FROM THE UNIVERSITY VOLUNTARILY

A student who withdrew from the University on a voluntary basis for reasons of health, financial difficulty, etc., and who wishes to re-enter, must notify, in writing, the Dean of the College in which the student was enrolled at the time of his/her withdrawal before April 1, if requesting readmission for that year's summer sessions, or before July 1 for the Fall semester (starting in September). Written requests must be made to the above-mentioned offices before November 1 if requesting readmission for the Spring semester starting in January.

THE SUMMER SESSIONS

The Summer School is an integral part of the year's work. Students from other colleges or universities, new students, teachers in-service, and students in regular attendance can secure, in the summer sessions, credits toward any certificate offered or toward graduation in curriculum. The courses are planned for a wide range of student needs. There are courses for those who wish to begin their higher education courses, for those who wish to accelerate their program of studies, for students from other colleges or universities who wish to transfer IUP credits, and for those who find it necessary to use the summer program to make up deficiencies in courses in which they previously earned unsatisfactory grades.

All courses given in the summer session require the same amount of time and are granted the same credit as if taken during a regular semester. The Summer Bulletin will be mailed to anyone desiring more complete information regarding the courses to be offered.

Three sessions, two of three weeks and one of six weeks, are generally offered during the summer. The pre-session opens the first week of June. Main session begins the last week of June and continues into the first week of August. The post-session opens in early August and usually closes a week prior to the end of the month.

Address the Registrar to obtain the Summer Sessions Bulletin which indicates courses and activities of the Summer Session. Normally, Summer Sessions Bulletins are available after March 1.

Finances

***BASIC FEES (as of May, 1983)**

The fees set forth in this section were those in effect in May 1983. The fee schedule is subject to change: these figures are to be considered simply as an estimate. You may request a current fee schedule by writing to the Admissions Office, IUP, or by phoning (412) 357-2230.

The basic fee for all full-time in-state students is \$740 per semester. This fee covers registration and the keeping of student records, use of the library, student welfare and laboratory facilities. An additional \$62 per credit will be charged for credits scheduled in excess of 18.

Out-of-state full-time students pay a basic fee of \$1295 per semester. An additional \$108.00 per credit will be charged for credits in excess of 18.

The basic fee for part-time in-state undergraduate students is \$62 per semester hour. A part-time undergraduate student is one taking 11 or fewer semester hours. See the section on Admission and Registration and on University Policies for further information concerning part-time students.

The basic fee for part-time out-of-state students is \$108 per semester hour.

An in-state student is defined as one who is a bona fide resident of and domiciled within the State of Pennsylvania for a reasonable period, not less than one year, immediately preceding his or her registration for a term or semester in any State-supported college or university in the State of Pennsylvania. A minor will generally be presumed to be a resident of the place of his/her parents' or guardian's domicile.

The establishment of domicile is primarily a matter of continued residence and intention. Generally, Pennsylvania domicile is considered to be established upon the completion of at least 12 months of continuous residence within the State at the time of registration for courses. For special cases, the University has a committee to review individual circumstances.

*The University reserves the right to change its fees without notice.

*OTHER FEES

AUDIT FEE- Full standard fees will be assessed for each course audited, exception being persons on social security or equivalent retirement benefit, who will be given remission of basic fees for such classes where space is available.

ADVANCE REGISTRATION FEE- A non-refundable confirmation fee of \$20 must be paid by each student accepted for enrollment. This confirmation fee will be used to cover the cost incurred by the University on the students' behalf during Freshman Orientation Day on campus and Fall Freshman Orientation.

HEALTH FEE - The student health fee of \$34 per semester is assessed for each full-time undergraduate or graduate student at the main campus. All students enrolled in Summer Sessions will be assessed a student health fee according to the following schedule: pre session - \$7; main session - \$14; post session - \$7. This fee covers most services provided by the IUP Health Center. Students will be assessed an additional amount, upon use, for certain medications and laboratory tests. In-patient cost in the Health Center will be \$6 per night if the student does not have a valid meal card. No charge for in-patient care at the IUP Health Center will be assessed for students with valid meal cards. Part-time undergraduate students taking 6-11 credit hours will be assessed a \$17 per semester health service fee which will provide limited service. Part-time students have the option of paying the \$34 per semester fee, or they may choose the Fee-for-Service schedule available at the IUP Health Center. Students attending the Armstrong County Branch Campus of IUP will be assessed a health fee of \$30 per semester. There is no health fee for students attending the Punxsutawney Campus of IUP.

HOUSING FEE - The housing fee for students living in commonwealth residence halls is \$514 per semester and the meal fee is \$420 per semester; thus, students who reside in a commonwealth residence hall and have their meals in one of the University dining halls pay a total of \$934 per semester. This includes room and meals in one of the University dining halls. This applies only to full-time students, as part-time students are not permitted to live in University dormitories or residences, except during summer sessions. Effective September 1, 1980, students assigned for four or more days to temporary residence hall facilities where accommodations are less than those provided in permanent facilities, shall have their weekly housing fee reduced by 25 percent, with credit applied to forthcoming semester bills for returning students and refunds processed for non-returning students.

See the section on Housing for details concerning housing policies at the University.

STUDENT ACTIVITY FEE - An activity fee is collected from all students and administered through the Student Cooperative Association under regulations approved by the Board of Trustees. This fee of \$51 per semester covers the cost of student activities in athletics, lectures, entertainment, student publications, etc., and is payable in one sum for the semester. The Student Activity Fee is \$19 for part-time students. (These fees are subject without notice during the academic year.) Included in the Student Activity Fee is a \$2 Commonwealth Association of Students (CAS) membership fee. This fee is refundable through Harrisburg.

LATE REGISTRATION FEE - Each student registering after the last date officially set for registration is required to pay \$10 for each day thereafter to a maximum of \$20 (except when permission for late registration has been secured in advance from the President because of illness or other unavoidable causes).

BAD CHECK CHARGE - Students making checks payable to 'Indiana University of Pennsylvania' which are not acceptable to the bank because of insufficient funds will be charged \$5 for each bad check in the amount of \$.01 to \$9.99 and \$10 for bad checks written for \$10 or more.

*The University reserves the right to change its fees without notice.

MILITARY SCIENCE FEE - An Activity Fee of \$5 is required for ROTC Cadets to cover the cost of Cadet Corps functions. A uniform deposit fee of \$10 which is refundable, is required of all cadets. These fees are payable directly to the Military Science Department.

STUDENTS STUDYING ABROAD - Students enrolled in the studies abroad program will pay a \$75 administrative fee per semester to the University. All other fees assessed by the foreign institution will be paid directly to the foreign institution by the student.

MED-TECH STUDENTS - During the clinical year a fee may be levied and collected by the participating hospital. The only other cost to these students shall be an administrative fee of \$150 to be collected by the University. The total fees charged by the hospital and the University shall not exceed the basic fee costs paid by other students for that same academic year. Room and board shall be the responsibility of the student.

FINANCIAL DELINQUENCY POLICY - Registration is not in fact complete until a student pays the fee for such registration, and the University reserves for itself the right to bar such a student from classes. When it has been determined during the course of a semester that a student's account has become delinquent from accrued charges, the Registrar's office will be notified of this delinquency and advised to refrain from reporting the student's grades and from issuance of any transcripts for that student's work until the delinquent account has been satisfied. Faculty members will continue to submit a grade for the financially delinquent student; however, only after the student has cleared his account or established a payment plan satisfactory to the Accounts Receivable Office will requests from and official reports to students be honored by the Registrar's office.

MISCELLANEOUS COSTS - In some courses students are required to obtain supplies and materials to complete course projects. In many courses, a student may make a voluntary contribution to a cooperative fund established for the purpose of obtaining these supplies and/or services at a lower cost. Examples are art courses, field trips, etc.

MUSIC - University-owned instruments for certain classes are usually available for a modest rental fee. For each Applied Music course, the fee is \$50 per half-hour of instruction. This charge is in addition to credit hour costs.

ESTIMATED EXPENSES PER SEMESTER

	In-State	Out of State
Tuition	\$ 740.00	\$ 1295.00
Housing	514.00	514.00
Meals	420.00	420.00
Student Activity Fee	70.00	70.00
Health Fee	34.00	34.00
Books and Supplies	250.00	250.00
	—	—
	\$2,028.00	\$2,583.00

Miscellaneous and travel expenses would be in addition to the above.

*Cost of books and supplies may vary depending on major and class enrollment

SUMMER SESSIONS FEES

BASIC FEE - The basic fee for students enrolled for any of the regular summer sessions is \$62 per semester hour for undergraduate students.

HOUSING FEE - Summer session rates will be calculated based upon the number of weeks within the session. Weekly summer rates are \$34 per week for residence hall room, double occupancy, and \$51 per week for single occupancy, and \$27.50 per week for meals in one of the University dining halls.

See the section on Housing for housing-policy details at the University.

STUDENT ACTIVITY FEE - For the Main Summer Session, this fee is \$19 and for the Pre and Post Sessions, \$8 per session, payable at time of registration.

STUDENT HEALTH FEE - Each undergraduate and graduate student enrolled in IUP Summer Sessions will be assessed the following fees for Student Health Services: \$7 for pre session, \$14 for main session, and \$7 for post session.

SPECIAL FEES

DEGREE FEE - A fee of \$20 to cover the costs of a diploma and processing must be paid by each candidate for a degree.

TRANSCRIPT FEES - Applications for transcripts must be made **ONLY IN WRITING** to the Registrar, either by U.S. Mail or on forms available at the Transcript Window in Clark Hall. Such requests **MUST** include:

- (1) Your full name and social security number as of your graduation or termination of enrollment at IUP. (Please note any name changes since graduation);
- (2) Your present address;
- (3) Whether you are requesting a transcript of your undergraduate and/or graduate work;
- (4) Whether you graduated, or if not, when you were enrolled;
- (5) The full and clearly stated name(s) and address(es) of person(s) to whom you wish the transcript(s) sent;
- (6) The transcript fee is \$2 for each copy requested. (Checks or money orders should be made out to Indiana University of Pennsylvania.)

Any requests which are not accompanied by the proper fees or information will be returned to the senders for inclusion of them. No transcript requests will be processed without the payment of transcript fees.

OFFICIAL transcripts (containing signature and University seal) will not be issued to students directly. The University will attempt to mail official transcripts within a reasonable time. However, in the event of its failure to do so, damages will be limited to the fee, if any, paid by the student for the copy or copies of the transcript. In no case is the University responsible for consequential damages.

DAMAGE FEE - Students are responsible for damages, breakage, loss or delayed return of University property.

BILLING AND PAYMENTS

All bills, including basic fee and housing fee, are payable as specified on the bill for at least the first nine weeks. Checks or money orders, in the exact amount of the account, should be made payable to the account designated on the bill. Book Store purchases are on a cash basis.

It is desired that payments for the entire semester be made in August for the first semester and in December for the second semester; however, the half- payment option may be exercised, if necessary.

Delinquent Accounts

Students will not be permitted to enroll for any semester nor to graduate, until all bills previously incurred have been paid; nor will credit be certified to any other institution or the Department of Education until all overdue accounts have been paid. A late payment fee of

\$5 for each day past the due date will be assessed for delinquent accounts up to a maximum of \$25.

Undergraduate students desiring to leave school before the close of a semester must report to the Vice President of Student Affairs and to the Accounts Receivable Office to settle all unpaid accounts. Graduate students report to The Graduate School Dean.

UNIVERSITY REFUND POLICY

The University must engage its faculty, assign residence hall space and arrange for meal contracts in advance of each term in accordance with the number of students who expressed their intent to be enrolled. When students withdraw from the University, they create vacancies which cannot be filled and financial commitments for salaries and services by the University must be honored. The refund policy at IUP applies to all students enrolled in credit producing programs at the University either full- time or part-time.

CANCELLATION

Students who have made prepayments to the University and due to circumstances are prevented from enrolling at registration are entitled to a full refund of all fees paid less applicable advance deposit payments. To be eligible for such a refund, the student must notify the Director of Accounting in writing, not later than the day preceding the first day of classes. Students who use University residence halls and/or food service the week prior to the start of classes and cancel will forfeit an amount equal to one week's fee for such services plus the full amount of any advance payment deposit paid.

WITHDRAWALS FROM THE UNIVERSITY

Students who have been processed through registration and afforded the opportunity to attend class(es) for that session or semester and then find circumstances require total withdrawal from the University are subject to the following:

Undergraduate students withdrawing from the University must process such withdrawal through the Dean of Student Life Office, 202 Pratt Hall. The official withdrawal date will be established by this office for undergraduate students. Students totally withdrawing from courses, Residence Halls and/or meal contracts upon receiving approval from the Dean of Student Life will forfeit a portion of the semester charges in accordance with the following schedule:

From the first full day of semester classes to and including the fourteenth (14th) calendar day following the start of classes.

Forfeit twenty (20) percent of the student's total semester charges.

From the fifteenth (15th) calendar day and including the twenty-first (21st) calendar day following the start of classes.

Forfeit thirty (30) percent of student's total semester charges.

From the twenty-second (22nd) calendar day to and including the twenty-eighth (28th) calendar day following the start of classes.

Forfeit forty (40) percent of the student's total semester charges.

From the twenty-ninth (29th) calendar day to and including the thirty-fifth (35th) calendar day following the start of classes.

Forfeit fifty (50) percent of the student's total semester charges.

After the thirty-fifth (35th) calendar day following the start of classes.

No refund will be granted and all semester fees forfeited.

The start of days is defined as the first day of classes to begin as scheduled.

Refunds for students receiving financial assistance from scholarships and/or grants will be returned to the source of aid in accordance with the provisions prescribed by the funding source.

During summer sessions, students totally withdrawing from courses, residence halls and/or meal contracts, upon receiving approval from the applicable office (Dean of Student Life for undergraduates), will forfeit a portion of the total session charges in accordance with the following schedule:

Pre, Main and Post Sessions -
Through fourth calendar day
after the beginning of the
class.

Forfeit fifty (50) percent
of the total session charges.

Fifth calendar day
following the beginning
of the class and beyond

Forfeit one hundred (100) percent
of the total session charges. No
refund granted.

Once a student registers for a course, the maximum refund shall be 50 percent regardless of when the class(es) begin.

The Associate Provost (for undergraduate students) and the Graduate School Dean (for graduate students) in cooperation with the Registrar will determine the official start of classes. Refunds to students enrolled in credit-bearing summer conferences, institutes, workshops or tours of less than three-weeks duration will be granted a 50 percent refund through the first day of class (unless a no-refund policy is required by the sponsor).

INDIVIDUAL COURSE WITHDRAWAL

No refunds will be made to full-time students who reduce class load after classes have started.

Individual course withdrawal is defined as a reduction in class load but not total withdrawal from the University. Example: A student who registers for three courses and then withdraws from one or two classes but continues with the other class or classes.

Part-time students (undergraduate students who register for less than 12 semester hours and graduate students who register for less than eight semester hours) will forfeit a portion of the semester fee in accordance with the following schedule:

From the first calendar day of
class through the 35th day

Forfeit fifty (50) percent of
the student's instructional fee.

From the 36th calendar day of
class and beyond

Forfeit one hundred (100) percent
of the student's instructional fee.
No refund granted.

Refunds will be granted only for the instructional fee. No refund will be granted to students who add or drop a like number of semester hours.

Refunds will be granted students for individual course withdrawals during the summer sessions under the same basis as the schedule listed previously for summer sessions refunds (see Withdrawals from the University).

WITHDRAWAL FROM RESIDENCE HALLS AND FOOD SERVICE

Students who withdraw from University residence halls and/or food service will forfeit a portion of the semester charges in accordance with the following schedule:

From the day preceding the start of classes through the 35th calendar day following the start of classes.

Forfeit fifty (50) percent of the total semester fee.

From the 36th calendar class day and beyond

Forfeit one hundred (100) percent of the total semester fee. No refund granted.

The refund schedule outlined under WITHDRAWALS FROM THE UNIVERSITY will be followed during the summer sessions.

OTHER PROVISIONS OF THE REFUND POLICY

No refunds will be granted unless formal withdrawal procedure has been initiated through the Office of the Dean of Student Life by the student (or his/her family in special circumstances) within 30 days of the date of withdrawal. Written and dated notice is required.

No refunds will be made by the University to students who are suspended or expelled from classes, residence halls and/or food service.

The Office of the Dean of Student Life (for undergraduate students) may request exceptions to these policies to grant pro-rated refunds when circumstances justify it. Example: Death, medical reason or military obligation.

The Accounts Receivable Office, located in the Administrative Annex, is responsible for implementing this refund policy. Students who wish to appeal the decision rendered by the Accounts Receivable Office may do so through the Director of Accounting and the Vice President for Finance respectively.

FINANCIAL AID

The Financial Aid Office, located at 308 Pratt Hall, offers financial information and counseling to all students attending IUP. The types of financial assistance offered by the Financial Aid Office include student employment, loans, grants and scholarships. In most cases, a Pennsylvania State (PHEAA) Grant Application is used to determine eligibility for these programs.

STATEMENT OF STUDENT'S RIGHTS

The Financial Aid Office of IUP is providing the following information in compliance with HEW guidelines for the dissemination of financial aid information.

In order to be considered for financial aid administered through the University, a Pennsylvania State (PHEAA) Grant Application must be submitted to PHEAA, Harrisburg, PA. Students will be awarded assistance based on demonstrated financial need. In order to be eligible for continued funding, the applicant must remain in satisfactory academic standing at the University and show continued satisfactory progress.

The appeal process regarding financial aid decisions is through the Vice President of Student Affairs.

Payment of financial aid awards is done on a semester basis. All financial aid, with the exception of the private scholarships, work-study and the guaranteed student loans, is credited to the student's bill in advance.

The cost of attending IUP and the University's refund policy are listed in this catalog. Please refer to the index for further information.

EMPLOYMENT provides an opportunity for students to earn money to help finance their educational expenses. Students may be employed on campus for up to twenty (20) hours per week. The University encourages students to participate in the on-campus student employment program, since studies have demonstrated that part-time employment provides a positive stimulus to students in their adjustment to campus life and the maintenance of their academic averages. All campus employment is administered by the Financial Aid Office.

ROTC - Students participating in the Advanced ROTC Program, junior and senior years, are given a subsistence allowance of \$100 per month for up to ten months per academic year. Additionally, the student will earn approximately \$500 plus room and board, travel expense and medical and dental care for six weeks summer camp between the junior and senior years. This is approximately \$2,400 for the two years.

Students enrolled in ROTC may apply for ROTC Scholarships. Recipient benefits include all tuition, University fees and all books and expense costs, in addition to \$100 per month subsistence for each ten month academic year during the period of the scholarship. Three-year, two-year and one-year scholarships are applied for in the freshman, sophomore and junior years, respectively. For winners, upon graduation, a four-year active duty obligation is incurred as an officer in the U.S. Army.

LOANS are a form of aid for which repayment must begin upon termination of the student's University education. Interest rates normally range to 9 percent.

GRANTS are funds which carry no obligation for repayment. These funds are awarded to the student on the basis of financial need.

SCHOLARSHIPS are funds which carry no obligation for repayment. They are gifts awarded to the student on the basis of ability.

Federal aid administered through the University is available for both the regular academic year and the summer sessions. The application deadline for upperclassmen for these federal aid programs is normally May 1 for the following academic year. Freshmen may apply for aid upon acceptance to the University. For the summer sessions, the application deadline is also May 1.

A Financial Aid Fact Sheet containing specific information about financial aid may be obtained at the Financial Aid Office. In addition, the director and assistant directors of Financial Aid are available for student consultation from 1 to 4 p.m. Monday through Friday. The Financial Aid Office recommends that students with questions contact the office at (412) 357-2218.

EMPLOYMENT

Campus part-time employment for students is available in the academic offices, residence halls, library, administrative offices, student co-op and dining halls.

The University operates two student employment programs under which students may be employed:

FEDERAL - To be employed under the Federal College Work-Study Program (CWSP), a student must show 'financial need' as determined by the Pennsylvania State (PHEAA) Grant Application. A student employed under the Federal College Work-Study Program may work up to a maximum of fifteen (15) hours per week when classes are in session and forty (40) hours per week when classes are not in session.

STATE - The State University Employment Program (UE) employs students. Under this program, a student may work up to twenty (20) hours per week when classes are in session and forty (40) hours per week when classes are not in session. No application is necessary for this program.

The Financial Aid Office offers placement assistance to students. When an employment opening is located, the potential employer indicates his intention of employing the student by giving him an employment assignment card. The student takes this card to the Student Employee Payroll Office and is then placed on the appropriate student payroll. There is no provision to have employment earnings deducted from student accounts. Students are paid directly by check every two weeks.

LOANS

Government-Sponsored Loan Programs

NATIONAL DIRECT STUDENT LOAN PROGRAM - The application for the National Direct Student Loan Program is the Pennsylvania State (PHEAA) Grant Application. The loan is awarded to students on the basis of financial need. It is interest-free and nonrepayable until six months after termination of education, at which time it becomes repayable at 5 percent interest with a minimum \$30 payment per month and up to ten years to repay.

GUARANTEED STUDENT LOAN PROGRAM - Applications for the Guaranteed Student Loan are obtainable from lending institutions. These include banks, savings and loan associations, credit unions, etc. Through this program, undergraduate students may borrow up to \$2500 per academic level (\$5000 for graduates.) The loan is interest-free until six months after termination of education and is then repayable directly to the lending institution at 9 percent simple interest.

PARENT LOANS FOR UNDERGRADUATE STUDENTS (PLUS) are obtained from lending institutions such as banks and credit unions and administered in conjunction with the Federal Government. Up to \$3,000 per academic level may be borrowed by parents with a total limit of \$12,000 for the undergraduate year. Up to \$2,500 per academic level may be borrowed by independent students with a total of \$10,000 for the undergraduate years. For all borrowers, repayment at 12 percent interest per year starts 60 days after the check is issued. Applications are available at participating lending institutions.

University-Sponsored Loan Programs

The Financial Aid Office, in conjunction with the Student Co-operative Association, administers the University Loan Fund in behalf of IUP students. Loans are available to assist students who are in financial need and have a financial aid refund coming to them or who have a financial emergency which requires immediate aid. The maximum loan available will be \$200 with repayment to be made in 60 days. No interest will be charged for these loans. Loans will be made to meet educational expenses only. Applications for the University Loan and additional information may be obtained at the Financial Aid Office.

The University Loan Fund encompasses the following individual loan accounts:

JENNIE E. ACKERMAN LOAN FUND - By action of the Executive Committee of IUP's Alumni Association, the Jennie E. Ackerman Loan Fund was established in 1962, by contributions from alumni and friends, in memory of Jennie E. Ackerman, who served as Supervisor of Student Teachers at IUP for many years.

ROBERT BELLIS LOAN FUND - This loan fund has been established at IUP by friends and relatives of Robert G. Bellis, a graduate of Indiana State College.

MARY EDNA FLEGAL LOAN FUND - In 1978 a loan fund was established at IUP by Alpha Chapter of Delta Kappa Gamma Society International, an honorary society for distinguished women educators, in memory of Mary Edna Flegal who graduated from Indiana Normal School in 1899 and served as Director of Art at IUP. Upperclass students enrolled in the College of Education are eligible to receive these funds.

COLETTE CROMER GERSHMAN LOAN FUND - Family and friends of Colette Cromer Gershman established this fund in 1972 in memory of Colette Cromer Gershman, a home economics education graduate. Upperclass students enrolled in the College of Home Economics are eligible for the loan.

MARGARET FLEGAL HARTE LOAN FUND - Established in 1978, the primary purpose of this fund is to aid students who are in temporary need of assistance.

SUZANNE MARSHALL HARTMAN LOAN FUND - In 1970, a loan fund was established by family and friends of Suzanne M. Hartman, a home economics graduate of IUP. This loan is granted to deserving students in their sophomore, junior and senior years.

JOHN HAYS MEMORIAL FUND - In 1977, a loan fund was established in memory of Dr. John Hays of IUP's educational psychology department. Dr. Hays was a faculty member at IUP for 21 years.

OLIVER W. HELMRICH MEMORIAL LOAN FUND - The Helmrich Memorial Loan Fund was established in 1971 by family and friends in memory of Oliver W. Helmrich, an IUP faculty member. Eligibility is limited to seniors and graduate students enrolled in the College of Education.

WILLIAM HENZELMANN MEMORIAL FUND - This loan provides assistance to junior and senior students enrolled in German or Russian in the department of foreign languages. This loan was established in 1972 in memory of William J. Henzelmann, a faculty member in German in the IUP foreign languages department.

MARY ANNE KOLESSAR LOAN FUND - The Kolessar Loan was established in 1978 in memory of Mary Anne Kolessar, a consumer services student at IUP. The purpose of the fund is to aid students majoring in consumer services who are in temporary need of funds.

JANE E. LEONARD MEMORIAL LOAN FUND - The Leonard Loan was established in 1951 in honor of Jane E. Leonard, a faculty member at Indiana Normal School from 1875-1921.

MACK LOAN FUND - This fund was established in 1962 by the Mack Family for the purpose of providing assistance to worthy students with financial need.

RUSTY PREISENDEFER MEMORIAL LOAN FUND - This fund was established in 1967 by Mrs. Suzanne Preisendefer Brickner in memory of her husband, First Lieutenant Harold A. Preisendefer, who was killed in action in South Vietnam.

FLOSSIE WAGNER SANFORD STUDENT LOAN FUND - In 1964, the Pennsylvania Federation of Women's Clubs established this loan fund in honor of Flossie Wagner Sanford, past president of the club and former member of the faculty of Indiana.

VARSITY I LOAN FUND - Established in 1951 by the Men's Varsity I Club, this loan is available for use by all IUP students. Preference in granting this loan is given to freshmen.

NORAH ZINK LOAN FUND - The Zink Loan was established in 1972 in honor of Dr. Norah E. Zink, a former geography professor at IUP. Foreign students in their sophomore, junior or senior year are eligible to receive these funds.

GRANTS

PELL GRANTS (formerly known as BEOG) are available for eligible students. Applications for and information on deadlines for this program are available from the Financial Aid Office or high school counselors. All students are urged to apply for this grant.

PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY GRANTS (PHEAA) are available for both regular academic year and the summer sessions. Contact the Financial Aid Office to determine the application deadlines for the PHEAA Grant Program.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (SEOG) are available to eligible students who demonstrate financial need as based on the PHEAA Grant Application.

SCHOLARSHIPS

The Financial Aid Office administers various scholarship programs in behalf of the University. These scholarships have been established by alumni and friends of the University to recognize outstanding students and assist them in financing their educational expenses. Unless otherwise noted, no application is required for consideration.

AETNA LIFE AND CASUALTY SCHOLARSHIP - A \$100 award is presented each semester to a safety management major under this scholarship established by the Aetna Life and Casualty Insurance Company. The award is to be given for academic excellence with strong consideration for women and minority students. Applications should be made to the chairperson, safety sciences department.

J. DONALD BARTOLOMUCCI SCHOLARSHIP - The J. Donald Bartolomucci Memorial Fund was established to award scholarships to upperclass students in the College of Business who are deemed worthy by the Scholarship Committee.

JEMIMA S. BOYD SCHOLARSHIP - The Jemima S. Boyd Scholarship has been established from the estate of Grace Noble Lacock. Each year, the interest from the account is awarded to female students who intend to teach in schools in Pennsylvania and whose parents are American born. The scholarships are granted to students who will be entering their freshman year at IUP. Applications are available from the Admissions Office.

BRAMAN MUSIC SCHOLARSHIP FUND - Interest, up to an amount of \$100, will be granted as a single scholarship to an eligible prospective freshman music major, whose performing area is one of the following: violin, viola, cello or double bass. Selection of grantee is made by the string area music department faculty and awarded for the second semester. Application and information are available from the music department.

M. VASHTI BURR MEMORIAL AWARD - The sum of \$100 is awarded annually to that student of IUP who is deemed by the faculty to be most deserving, having in mind his or her economic need and the excellence of his or her industry and scholarship. This award is given through the generosity of Mr. William V. Whittington, Washington, D.C.

HOWARD B. BUTERBAUGH SCHOLARSHIP FUND - This scholarship money was a gift to the University from Dr. Howard Buterbaugh's estate. The scholarship is to be given to a student/s based on his or her academic performance at IUP.

CLARK SCHOLARSHIP - The Lieutenant Alpheus Bell Clark Memorial Scholarship was established by Mr. and Mrs. Steele Clark, Cherry Tree, Indiana County, in memory of their son. The sum of \$100 is awarded each semester to that young man or woman, a senior in the University and a resident of Indiana County, who in the opinion of a committee chosen by the President, best qualifies for the honor in terms of academic ability, leadership, and service to the University, with preference going to a veteran or a son or a daughter of a veteran.

JACK CROSSAN MEMORIAL SCHOLARSHIP FUND - Established in Jack Crossan's honor by fellow athletes, classmates and friends, this scholarship shall be awarded at the discretion and good judgment of the head basketball coach to a basketball player of good character and sound academic standing.

ROY A. DAUGHERTY SCHOLARSHIP - Scholarships will be given to worthy student with preference given to sons and daughters of members of Sigma Phi Epsilon Fraternity who attended IUP with Mr. Daugherty.

CHARLES DAVIS SCHOLARSHIP - This scholarship is awarded each year to a music major who has shown outstanding ability. The amount of the award will be determined by the funds available from Phi Mu Alpha, the professional music fraternity at IUP.

DISTINGUISHED ACHIEVER SCHOLARSHIPS - The IUP Distinguished Achiever Scholarships were established to honor outstanding students who rank in the top tenth of their high school classes and who score at least 1100 on the junior SATs. Consideration is also given to school and community leadership, entrepreneurship, music, art, theater, forensics and other special accomplishments. The scholarships are valued at \$1000 per year for four years. Applications and further information are available through the IUP Admissions Office.

EXTENSION HOMEMAKER SCHOLARSHIP - Homemakers participating in the Home Economics Extension Program contribute funds annually for scholarships to be given to sophomores, juniors, or seniors who are majoring in home economics in several colleges in the state. IUP is allotted several each year, to be awarded on the basis of 4-H experience, need, scholarship and other outstanding characteristics. Each award is for \$250 per year.

THOMAS V. FRAZIER MEMORIAL SCHOLARSHIP - A senior student interested in the theater arts is the recipient of this award. The student may be a drama student or just active in off-stage roles. Financial need will be a consideration, with the Chairperson of the Theater Department and members of the Financial Aid Office selecting the recipient.

GORRELL EDUCATION FUND - Established by the Gorrell family, these scholarships are awarded to students with exceptional need.

MARGARET FLEGAL HARTE SCHOLARSHIP - Fourteen \$450 Margaret Flegal Harte Scholarships are awarded to top students of each freshman class for the first year. Eligibility is based on academic achievement and financial need. Scholastic achievement is measured by the computation of high school rank and College Entrance Examination Board scores. Financial need is determined through the Pennsylvania State (PHEAA) Grant Application. Applications are available from the Admissions Office.

WILLIAM HEARD SCHOLARSHIP - Established as a memorial by friends and colleagues of William Heard, formerly a professor at IUP, the William Heard Scholarship is awarded each year to a junior chemistry major for his/her senior year. The recipient is selected by the chemistry department steering committee on the basis of contributions to the department and the University, financial need, academic record, and interview - qualities esteemed by Mr. Heard. Applications are available each spring in the chemistry office.

H. EUGENE HULBERT SCHOLARSHIP - The H. Eugene Hulbert Scholarship is awarded to junior music majors each year on the basis of academic excellence and financial need. The recipient is selected by the H. Eugene Hulbert Scholarship Committee. Applications are available in the music office during the second week of classes in the fall.

PATTI HURLEY SCHOLARSHIP - A four-year scholarship of \$150 per year is awarded to a female graduate of Indiana Area High School attending the University, based upon academic achievement, participation in school activities and economic need. This memorial scholarship was established by the family and friends of Patti Hurley, a 1971 graduate of Indiana Area High School who was killed in an automobile accident two weeks after high school graduation and prior to entering college.

SALLY JOHNSON MEMORIAL SCHOLARSHIP FUND - This scholarship will go to a female junior student, based upon her outstanding athletic abilities. Information and applications available through the physical education department.

JOEL L. LOGAN MEMORIAL SCHOLARSHIP - The \$500 Joel L. Logan Memorial is awarded each year to a senior, male nursing student who demonstrates financial need. Preference is given to a student who exhibits an interest in psychiatric nursing. 'Need' is measured by the Pennsylvania State Grant Application. The scholarship is donated by Joan and Homer Logan in memory of their son Joel, a 1977 IUP graduate.

MATHEMATICS CONTEST SCHOLARSHIP - Each year the IUP mathematics department sponsors a contest involving students from an area high school. A \$200 scholarship is

awarded to the winning school to be used by a student from that school attending IUP as a math major.

McFARLAND SCHOLARSHIPS - McFarland Scholarships are awarded each year to honor upperclassmen who have earned more than 45 but less than 75 credits at IUP, who have grade point averages of at least 3.80 and who have made special contributions to the University and community. The \$500 scholarships are awarded in the spring for use in the fall and spring of the junior year. No application is required.

REGIS MCKNIGHT SCHOLARSHIP FUND - The Regis McKnight Scholarship is awarded to male high school graduates excelling in athletics as a tribute to Regis 'Peck' McKnight, who for many years was head basketball coach at IUP. Selection of recipients will be made by the Athletic Director and the head basketball coach.

ALAN P. MEWHA MEMORIAL FUND - Used for annual scholarships to students in the geography and regional planning department, the grant selection will be made by a three-member geography and regional planning scholarship committee. The scholarships are unrestricted as to use or purpose and flexible in the amount awarded and time presented. For further information, contact the geography and regional planning department.

ARTHUR G. MORRELL MEMORIAL SCHOLARSHIP - The Arthur G. Morrell Memorial Scholarship is a cash award given to a mathematics major completing his/her junior year at IUP who best reflects the character and interests of Captain Arthur G. Morrell, a graduate in mathematics from IUP, United States Marine pilot and IUP football captain. The recipient is selected by the Morrell Scholarship Committee. Students may apply for the award (applications are available at the mathematics department office) or be nominated by a mathematics faculty member.

MORRIS SCHOLARSHIP - The Helen Wood Morris Scholarships were established by Lieutenant-Colonel L.M. Morris of Altoona, in memory of his wife, a graduate of the University. Scholarships are awarded annually to students selected by a committee named by the University. One award is made to a sophomore, the other to a junior. Students chosen must be in the highest quarter of their class, must be in need of financial assistance and must have demonstrated worthiness in terms of character, personality, leadership and American citizenship.

MARY MULDOWNEY SCHOLARSHIP - A scholarship in the amount of \$100 for any junior or senior student majoring in music with an emphasis on voice, this award is governed in amount and number of scholarships given by the music department.

RUSSEL C. NELSON SCHOLARSHIP - The Russel C. Nelson Scholarship is awarded each year to an upperclass music education major deemed worthy by the Music Scholarship Committee. Further information is available in the music office.

TOM NORMAN SCHOLARSHIP - This award is available to a soccer player in financial need. All disbursements will be controlled by the soccer coach in the amount he feels necessary.

ETHYL V. OXLEY, OPAL T. RHODES AND HELEN C. MERRIMAN SCHOLARSHIPS- Each year the Home Economics Alumni Association honors three former faculty by awarding \$200 scholarships. The Opal T. Rhodes Scholarship is awarded to a home economics education major; the Ethyl V. Oxley scholarship to a food and nutrition major; and the Helen C. Merriman scholarship to a consumer services major. Announcements concerning applying for these scholarships are made in the Daily Bulletin and in the College of Home Economics during the Fall semester.

MARGARET M. PATTON FOUNDATION SCHOLARSHIP - This scholarship has been established at IUP to assist students attending the University who are worthy and in need of such assistance. Preference will be given to students attending the Armstrong County Campus.

ALBERT PECHAN SCHOLARSHIP - This is a scholarship for a science major. The amount of the award depends on the money available in the scholarship fund. Selection of a recipient is made by the science department faculty.

LENORA PECHAN SCHOLARSHIP - The Lenora Pechan Scholarship was established by the late Dr. Albert R. Pechan, a former member of the Senate of the Commonwealth of Pennsylvania and of the Board of Trustees of IUP, to provide funds for students who are members of the Reserve Officer Training Corps, who have been outstanding students in the ROTC and whose other academic work is satisfactory. First priority will be given to students from Armstrong County, selected by the officers of the ROTC and the Faculty Scholarship and Loan Committee.

EDNA B. PIERCE MEMORIAL FUND - An Indiana High School student, accepted at IUP, and enrolled in a teacher education curriculum, will be awarded a one-year scholarship.

WILLIAM E. PIERCE SCHOLARSHIP - This scholarship has been established to award a one-year grant to the junior ROTC cadet having the highest standing in his/her sophomore ROTC class.

PITTSBURGH HOME ECONOMICS TEACHERS SCHOLARSHIP FUND - An award of approximately \$500 annually may be given to an undergraduate student majoring in a program in the College of Home Economics, who graduated from one of the Pittsburgh public schools. Preference is given to students majoring in home economics education and seniors, but the award may be given to a junior or a sophomore student enrolled in any College of Home Economics major who is deserving both scholastically and financially. Eligible students should apply for this scholarship through the dean of the College of Home Economics.

WILLIS E. PRATT AWARD - The Savings and Trust Company of Indiana has established an athletic scholarship in the name of Dr. Willis E. Pratt, Chancellor Emeritus and President of IUP from 1948 to 1968. It will be awarded to athletes chosen on the basis of scholastic and athletic ability and financial need.

PROGRAM FOR SCHOLARS SCHOLARSHIP - The Program for Scholars at IUP was established to promote leadership development among academically talented minority students. IUP offers \$1,000 and \$500 scholarships to participants in the program who have scored at least 1000 on the SATs and rank in the top quarter of their high school class.

FRANK ROSS MEMORIAL SCHOLARSHIP - Frank Ross Memorial Scholarships are awarded each year to upperclass students of ceramics who are deemed worthy by the Scholarship Committee. The awards are presented in memory of Frank Ross, formerly a ceramics faculty member at IUP.

DAVID SCHWARTZ MEMORIAL JOURNALISM SCHOLARSHIP - The David Schwartz Memorial Scholarship is being established in memory of David Schwartz, a graduate of IUP, by his parents, the Indiana Evening Gazette, the journalism department and friends at IUP. The scholarship will be available to outstanding students majoring in journalism. Contact the journalism department for further information.

ETHEL SEAVEY SIMPSON SCHOLARSHIP - The Ethel Seavey Simpson Scholarships are awarded to academically talented freshmen at IUP who demonstrate financial need. No application is required for the scholarships.

SAM SMITH FOOTBALL SCHOLARSHIP FUND - The solicited funds are to be used for football scholarships. All the funds are to be distributed as scholarships in accordance with the rules and regulations of the University and its memberships.

GREGORY SPINELLI MEMORIAL FUND - This fund provides a meaningful award and recognition for students with exceptional promise and commitment to a career in the criminal justice system of the U.S. An award of \$100 will be made annually to a second-semester senior enrolled in the IUP criminology department.

STUDENT ART SCHOLARSHIP - Students of the department of art and art education contribute art works to be sold. Funds thus received permit awards of \$50 to be made periodically. Applications for these awards are received and screened and awards made by a committee of art students. This award is confined to students of the art department.

STUDENT GOVERNMENT FOREIGN STUDENT SCHOLARSHIP - The Student Government Association grants scholarships annually to foreign students who have not previously been in the United States. Applications should be submitted to the Foreign Student Adviser no later than March for the following year.

MURRAY M. VARNER SCHOLARSHIP - Murray M. Varner was an alumnus and professor at IUP. This scholarship has been established by his friends and family as a fitting memorial to a dynamic educator. The Murray M. Varner Scholarship is awarded each year to an upper class (at least 27 credits at IUP) student in the College of Business who is a permanent resident of Indiana county. The recipient must be academically stable, personable, enthusiastic, and motivated. Applications are to be submitted to the Financial Aid Office by April 15. Winners will be announced during the summer.

CORRINE MENK WAHR SCHOLARSHIP - Awarded to the top students of each incoming freshman class, this is a \$500 scholarship for the first year without regard to financial need. Scholarship achievement is established by the computation of high school rank and College Entrance Examination scores. Applications are available from the Admissions Office.

ZUCHELLI SCHOLARSHIP FUND - This \$100 scholarship will be awarded to a female IUP student majoring in physical education. Information and applications are available through the health and physical education department.

VOCATIONAL REHABILITATION ASSISTANCE

Students who have substantial physical or mental handicaps may receive educational benefits through the Bureau of Vocational Rehabilitation Assistance. In order to be eligible, students must satisfy the physical and financial requirements of the Agency. For further information regarding this assistance, the student should contact his local bureau of Vocational Rehabilitation Assistance office or representative.



Academic Policies

CLASSIFICATION OF STUDENTS

In order to be classified as FULL-TIME, undergraduate students attending any regular academic year semester must be currently enrolled in at least 12 semester hours of credit.

In the IUP summer sessions, a student must be currently enrolled in at least three semester hours during the Pre or Post Session, and/or six semester hours during the Main Session in order to be certified as a FULL-TIME enrollee for any one of those scheduled instructional periods.

Full-time certification for students enrolled in instructional periods which do not conform to the regularly scheduled academic sessions will be based upon the number of enrolled semester hours during that period of enrollment (e.g., one semester hour in one week of instruction would equal the minimum full-time certification standard).

For purposes of designating students by class, the following credit-hour classification ranges are used:

Freshmen	28 semester hours or less
Sophomores	29-56 semester hours
Juniors	57-90 semester hours
Seniors	91 semester hours or more

Class designations are based on credits EARNED rather than credits ATTEMPTED.

Persons holding a degree and working for a second baccalaureate degree may be classified as seniors.

GRADES AND QUALITY POINTS

GRADING SYSTEM - The following grades are used in reporting the standing of students at the end of each semester or summer term: A, excellent; B, good; C, average; D, passed; F, failed; I, incomplete; R, deferred; P, pass/fail (option). Regarding the option of pass/fail courses, if a student fails the course, he/she will be awarded an F and the terms of 'failing'

a course will prevail. The grade of R is used to indicate deferred status for certain types of continuing study courses. It must be converted within one calendar year after issuance.

The grade of I is used to record work which, so far as covered, is of PASSING GRADE but is incomplete because of PERSONAL ILLNESS or other UNAVOIDABLE REASON. It must be made up within 180 calendar days after issuance of the grade. The grades of W, WP and WF are used to designate that the student has voluntarily withdrawn from a course within a specified period after the beginning of any regular semester. The W, WP and WF grades carry no credits or quality points for the courses in which they are reported but do appear on the student's record.

QUALITY POINTS - Quality points are assigned as follows: Grade A, 4 quality points per semester hour; B, 3 quality points per semester hour, C, 2 quality point per semester hour; D, 1 quality point per semester; F, no quality points. Quality points are not counted on grades from other schools, and a student transferring from another school is held responsible for quality points only on work taken in this University.

CUMULATIVE QUALITY-POINT AVERAGE is determined by multiplying the credit hours per course by the grade in quality point received for that course, repeating this procedure for each course attempted, totaling the credit hour quality points thus obtained, and dividing by the total number of credit hours attempted.

COURSE REPEATS - The semester hours for a course repeated after January 1, 1974, shall be counted only ONCE for all attempts; and it is this number of hours that will be used in quality point average (QPA) computation. (In the case where a course is repeated for a different number of hours of credit than when taken initially, the number of hours corresponding to the highest grade will be used in the QPA computations.)

The total quality points for all attempts of the repeated course will be the number assigned for the highest grade earned.

The QPA for the repeated course will be determined by dividing the number of quality points by the number of semester hours earned. Only courses with a D or F grade may be repeated and then only with the approval of the student's adviser. Only six repeat attempts may be made subsequent to the adoption of this policy during a Baccalaureate Degree Program.

GRADE REPORTS - Shortly after each semester or summer session, a full grade report is mailed to each student at his home address.

CRITERIA GOVERNING CONTINUANCE AT IUP

To be in good academic standing, an undergraduate student must maintain a 2.0 cumulative quality-point average.

Freshmen entering the University any time after June 1, 1971, must have attained a 1.8 cumulative quality-point average upon the completion of their first full-time academic year to remain at the University. A cumulative quality point average of 2.0 is required for an undergraduate's remaining years. Those students who have not attained such quality-point average will be notified of academic dismissal at the conclusion of the Spring Semester. A student may attend the Pre, Main and Post Summer Sessions immediately following the year's Spring Semester to achieve the stipulated average to qualify for enrollment in the Fall Semester. Students who fail to be in good academic standing at the end of a summer will be dismissed from the University for at least one academic year.

All courses taken at IUP become a part of the student's permanent academic record. The record shall show hours attempted, hours earned and quality points earned.

The academic standing of all students is computed on the basis of courses attempted at this University only. Credit is granted for work completed in other institutions in accordance with the stipulations set forth under 'Admission and Registration.'

At IUP, a student is considered to be making SATISFACTORY PROGRESS when he or she is permitted to enroll in credit-bearing classes in a curriculum leading to a degree or certificate. Such continued enrollment is subject to the academic policies of the institution.

READMISSION AFTER ACADEMIC DISMISSAL - Students who have been dismissed from the University for academic reasons and who desire to return after the dismissal interval must file a formal application for readmission with the Dean of the College in which they were enrolled at the time of their dismissal.

In addition to filing the formal application, students must improve their academic average to meet the minimum requirements of the University, which are 1.8 and 2.0 for freshmen and upperclassmen respectively. For exceptions, refer to Criteria Governing Continuance at the University. Filing must be before April 1, if requesting readmission for the following summer sessions, or before July 1 for the Fall semester starting the following September. Filing must be before November 1 if requesting readmission for the following Spring semester.

CANCELLED SEMESTER POLICY

This policy shall apply only to students who have attended IUP and have not been enrolled for at least TWO CONSECUTIVE CALENDAR YEARS. Upon application for readmission (or within one year after readmission) the student may request that one particular semester completed before readmission be cancelled from his/her Cumulative Quality-Point Average (C.Q.P.A.). Any semester (full or part time, with the summer sessions altogether counting as one semester) may be cancelled from the C.Q.P.A.; however, all grades received in that semester (good or bad) must be cancelled from the C.Q.P.A. All grades remain on the record and credit toward graduation for courses passed remains on the record. A student may never cancel more than one semester from his/her C.Q.P.A. under this policy.

ACADEMIC VIOLATIONS POLICY*

Minor Violations, with maximum sanction of 'F' in the course:

- a. Cheating by those who give as well as receive aid in course or lab work.
- b. Evasion of University policies or procedures.
- c. Plagiarizing in any way.

Major Violations, with any sanction up to and including expulsion from the University:

- a. A second minor academic violation at any time in a student's career at IUP.
- b. Purposeful evasion of University policies or procedures.
- c. Possessing an examination without the instructor's authority or prior knowledge.
- d. Defacing library books or educational instruments or materials.

Minor Violation Procedure:

An instructor may recommend the failure of any student for any minor violation in his/her course. Within ten (10) days of the violation, the instructor must inform the student and must file a written report of the violation with the Academic Discipline Subcommittee of the Senate Academic Procedures Committee and the Vice President of Academic Affairs, making the violation a matter of record. The report may be submitted on a form available in each departmental office and must include the following:

name of student involved; course; instructor; date and time; circumstances and supportive data and sanction recommended.

*This policy and procedures are in review as this edition goes to press.

If the student disagrees with the sanction recommended, the following appeal procedure must be followed. If the student does not appeal within fifteen (15) days at any appeals level, the sanction will be automatically invoked. At no stage of the appeal may the original sanction be increased.

1. Within fifteen (15) days of the date of the instructor's written report, the student must request a conference with the Chairperson of the Department wherein the student and instructor involved are heard by the chairperson. The heaviest sanction which can be imposed by the chairperson is to uphold the sanction imposed by the instructor. Within ten (10) days of the conference, the Chairperson must forward a written report of his decision concerning the instructor's sanction to the Academic Discipline Subcommittee and the student and instructor involved.
2. Within fifteen (15) days of the date of the Chairperson's report, the student may appeal to the Academic Discipline Subcommittee of the University Senate's Academic Procedures Committee.
3. In the case when the Chairperson decreases the sanction originally recommended by the instructor, the instructor may appeal the Chairperson's ruling to the Academic Discipline Subcommittee within fifteen (15) days of the date of the Chairperson's report.
4. The Academic Discipline Subcommittee is composed of faculty and students elected from Senate Committee B-1. The Subcommittee is chaired by a student elected by the members of the Committee B-1. After holding a hearing, the Academic Discipline Subcommittee may: accept the instructor's sanction; accept the Chairperson's ruling; reduce the sanction so far recommended or send the case back to the Chairperson for reconsideration along with recommendations (this is not DOUBLE JEOPARDY, since the first hearing is not complete).

The Subcommittee may NOT increase the sanction originally recommended by the instructor. Within ten (10) days of the hearing, the Academic Discipline Subcommittee must send a written report of its decision to the student and the instructor involved. The decision is deemed final and will be implemented by the direction of the Vice President of Academic Affairs.

Major Violation Procedure:

In the case of defacing library books or educational instruments or educational material, possessing an examination without the instructor's authority or prior knowledge and purposeful evasion of University policies or procedures, a written report must be sent to the Academic Discipline Subcommittee of Senate Committee B-1, the student involved, and the Vice President of Academic Affairs, within ten (10) days of the violation, making the violation a matter of record. The report may be submitted on a form available in each departmental office and must include the following:

name of student involved; course (if relevant); date and time; instructor/ person in charge; circumstances and supportive data and sanction recommended (if any).

In the case of a second minor violation, the Academic Discipline Subcommittee will send written notification to the student involved within ten (10) days of the receipt of the written report of the second minor violation.

In either situation above which constitutes a major violation, there will be an immediate hearing called by the Academic Discipline Subcommittee. The hearing will be governed by its own rules as to internal proceedings along lines of 'fundamental fairness' and will follow the standards of procedure where the accused should:

- a. receive ten (10) days written notice of the charges against him/her and the sanctions which may be applied if the charges are proved;

- b. receive written notice of the time, date and place of the hearing (this should accompany the charges); non-appearance of the student is tantamount to a plea of nolo contendere;
- c. be advised of the names of the witnesses who will appear against him/her and the substance of their testimony;
- d. have the right to present a defense and witnesses in his/her own behalf, and the right to cross-examine witnesses against him/her (the Academic Discipline Subcommittee naturally has the same right to cross-examine defense witnesses);
- e. have the right to be assisted by an adviser of his/her choice including the right to legal counsel;
- f. receive a transcript of the proceedings and a written report of the findings of the Academic Discipline Subcommittee.

If the student disagrees with the sanction recommended by the Academic Discipline Subcommittee, within fifteen (15) days of the date of the Academic Discipline Subcommittee's written report, he/she may appeal to an Appeal Board consisting of the Academic Vice President (who will serve as chairperson), the Dean of the College in which the violation occurred, the Vice Chairperson of the Senate, and the President of the Student Government Association. If the student does not appeal within fifteen (15) days of the date of the Academic Discipline Subcommittee's written report, the decision of the Academic Discipline Subcommittee is deemed final and will be implemented by direction of the President of the University.

ACADEMIC HONORS

Students with appropriate academic records may be graduated with one of the following distinctions:

- Summa cum laude
3.75-4.00 cumulative quality-point average
- Magna cum laude
3.50-3.74 cumulative quality-point average
- Cum laude
3.25-3.49 cumulative quality-point average

These honors are calculated using all credits and quality-points earned at IUP. Honors are not granted for subsequent degrees.

DEAN'S LIST - To be eligible for the Dean's List, which is compiled after each semester, a student must be carrying a minimum of 12 semester hours and have a minimum quality-point average of 3.25 (exclusive of P/F courses).

CLASS ATTENDANCE

Class attendance and class participation beyond mere physical presence are essential for maximum educational advantage and are strongly encouraged. Responsibility for all course material rests entirely with the student, whether or not he/she attends each class. Class attendance, per se, shall not be used as a basis for awarding or altering a grade in a course. This applies to freshmen through senior class levels. The exceptions this policy apply to students enrolled in ED 100, EN 100, MA 100 and elementary foreign languages (levels I and II). These students are permitted a maximum of three unexcused absences during the semester. At the discretion of the individual instructor, more than three unexcused absences could result in a grade penalty, up to and including failure in the course.

Course grade will be based on such factors as class preparation, class participation, skill development, effectiveness of oral presentations and/or written reports, quiz grades and test and final examination scores. It is the prerogative of the instructor to administer unannounced quizzes as part of the student evaluation process and to pass judgment on the

merits of all cases involving late class submissions and class requirements missed by the students.

All students are required to attend class at the opening of semester in order to stabilize enrollments and class rosters.

NORMAL SEMESTER HOUR LOADS

A normal semester hour load is 15-17 academic hours. A student who wishes to schedule more than 17 semester hours must obtain approval from the Dean of the College in which he/she is registered; approval will be predicated upon the student's demonstrated competencies.

AUDIT POLICY

To audit an undergraduate course, a person must be admitted to the University and have met course prerequisites. Students wishing to audit a course, for which they registered at registration, should obtain a Course Audit Form from the Department Chairperson of the course. TO AUDIT A COURSE NOT PREVIOUSLY REGISTERED FOR AT REGISTRATION, STUDENTS MUST FIRST PROCESS AN 'ADD' FOR THE COURSE BEFORE FILING A COURSE AUDIT FORM. ALL AUDIT PROCESSING, INCLUDING REVOCATION OF PREVIOUSLY REQUESTED AUDIT CLASSIFICATION, MUST BE COMPLETED DURING THE REGULAR DROP/ADD PERIOD. Copies of the completed form are returned to the Scheduling Center, Department Chairperson, and the student. Audit students have the same privileges as other students in all course work. There is no limit on the number of courses which may be audited.

All audited courses will be identified as such on the student's grade report and transcript. Work taken on an audit basis will not be graded and will not count toward the fulfillment of requirements for a degree to be awarded by IUP. Since credit hours attempted and quality-points will not be awarded for audited courses, they will not affect the student's Quality Point Average in any way whatsoever.

Auditors will pay normal tuition and such other fees as may be required for the course.

PASS-FAIL POLICY

A student may take courses on a pass-fail basis to a total of 15 semester hours throughout his/her University career. The student is limited to one pass-fail course in any given semester during his sophomore, junior, and senior years. All courses in THE STUDENT'S General Education program and in HIS/HER major and minor fields are excluded from this prerogative.

The student may declare his/her intent to choose pass-fail in a specific course no later than six weeks after the beginning of the semester or the equivalent timespan in a summer session. Instructors will NOT be notified of the identity of pass-fail students in their courses; identification will be handled by the Computer Center through an appropriate coded control.

A student shall be given academic credit WITHOUT QUALITY POINTS for a course taken pass-fail upon receiving a passing mark in the course. The semester hours successfully completed under pass-fail ('passed'), within the overall 15 semester hour limitation, shall be recorded as counting towards the total semester hours earned for graduation but not towards the semester hours attempted data used in calculation of the cumulative quality-point average. However, if a student fails a pass/fail course he/she will receive the 'F' grade and the corresponding quality-point average.

The summer sessions, collectively or in any combination, shall be considered a unit similar to a spring or fall semester for pass-fail purposes. Hence, a student is permitted to take only one course during the summer on a pass-fail basis.

The purpose of pass-fail is to permit a student to take an elective course in a field of personal interest where he/she may be competing with major students in the department in which the course is offered. When scheduled, such a course shall be included in the student's normal course load for the semester.

CHANGES OF CURRICULUM

A student must indicate his/her desire to change to a new curriculum in the office of the Dean of the College in which the student is registered if the curriculum change desired is from one department to another within the same College (for example, change from a mathematics major to a biology major) or in the office of the Dean of the College to which the student wishes to transfer if the curriculum change is from one College to another (for example, secondary education major to biology major). In either case, the student will complete an application form that is available in the Dean's office. Before seeking a curriculum change, it is advisable that the student consult with the chairpersons of both the old and 'new' departments.

When a student changes Colleges, the Dean of the College (or Dean's agent) into which the transfer is sought will evaluate the student's credits before approving the transfer. A copy of the evaluation will be made available to the student and his/her new adviser if a change in curriculum is effected.

In cases involving veteran students, the Dean of the College into which transfer is sought (or Dean's agent) shall give the veteran a statement of prospective approval and the effective date of the proposed changes. This statement shall also indicate the amount of extended training time the change of curriculum will entail and the amount of credit loss, if any. The veteran shall take this statement to the veteran's counselor at least one month prior to the effective date of the change. No transfer of curriculum shall be made by veterans until VA approval has been assured.

DISCRETE COURSE WITHDRAWAL POLICY

During the fall, spring and summer sessions, students are permitted to withdraw from a course with a grade of 'W' up to the midpoint of the course. Faculty are required to inform students of their standing in class prior to the midpoint of the course.

After the close of the prescribed withdrawal period, a student may withdraw from a course only with the approval of his/her adviser, department chairperson, and College Dean (in that order), for such reasons as illness, accident, or extreme personal problems. Such withdrawal may occur no later than one week before the beginning of final examinations.

For all discrete course withdrawals, the student must complete a course withdrawal form, available in department offices. This form must be signed by both the student and the instructor.

If a student fails to complete the requirements for a course but has not formally processed a withdrawal as described above, and if the instructor does not receive notice of withdrawal from the University, the instructor shall note in his/her course records the student's last attendance date and/or other student activity and assign an 'F' for the course.

WITHDRAWALS FROM THE UNIVERSITY

An undergraduate student who does not register for the succeeding semester or, having registered, does not appear for classes at the beginning of the succeeding semester, is considered to have withdrawn from the University. Thereafter he/she must apply for readmission as prescribed under 'Admission and Registration.'

Any undergraduate student withdrawing from the University during a semester or a summer session must secure an official Withdrawal Form from the office of the Dean of Student Life, 114 Clark Hall. The student will clear with the appropriate offices listed on the form, securing

their signatures as evidence of clearance. The Withdrawal Form will be returned to the Office of the Dean of Student Life, which will notify the appropriate College Dean of withdrawals approved, and official notification of withdrawal from specific classes will be sent to each instructor by the College Dean. No person shall be considered withdrawn from the University within a semester or summer session unless such notice is received. Based upon the date of withdrawal, W, WP or WF grades will be assigned to those courses from which the student is withdrawing.

ADVISORY PROGRAM

A group of selected faculty members act as freshman advisers for entering freshmen in their departments. In some curricula the advisers continue with the same group of advisees from year to year. In other curricula the freshman advisers remain with their advisee group only for the student's first year; under this program, the student is then assigned an academic adviser for the remaining years through to his/her degree in his/her chosen field.

Faculty advisers counsel the students on academic achievement, dropping courses, changing curriculum, student activities, study schedules and personal problems. The adviser receives a copy of the student's permanent record at the beginning of the academic year.

SOPHOMORE SCREENING FOR JUNIOR STATUS APPROVAL

General Policy at IUP permits each College to determine its own scheme for evaluating the development and progress of its major students. However, each College is expected to employ some effective procedure for such evaluation.

Several of the Colleges use a procedure called 'Sophomore Screening for Junior Status Approval' with the following required: All students (in such a College) enrolled in their fourth semester or who will complete 57 semester hours ATTEMPTED by the end of the current semester must apply for Junior Status approval by filling out an application form by the deadline date designated and announced.

All students should check with their faculty advisers to determine which Colleges use 'Junior Status' screening procedure and the criteria for Junior Status Approval.

INTERSHIPS

Many departments of the University have developed internship programs which allow a student to participate in University-supervised work experiences for academic credit. Internships are viewed as an integral part of a student's academic preparation. An internship gives the student an opportunity to apply theoretical and philosophical tenets of a discipline in a practical job experience related to the student's academic program.

Students may apply for an internship if they have completed 57 semester hours and have at least a 2.0 QPA. Internship sites are normally located within a 500-mile radius of the campus. Overseas placements are located near an IUP center. Internships are available in state and federal offices; businesses at the local, state and national level; state-related agencies; corporations; and foundations.

Students who are accepted for internships may also be placed through the Life Experience Internships Program (LEIP) in the Harrisburg area, or through the Washington Center for Learning Alternatives (WCLA) in the Washington, D.C., area.

Students who are eligible for financial aid may receive federal and state funding while participating in an internship. Students must apply to the Relating Experience to Academic Learning Program (REAL).

Because internships are viewed as an integral part of the student's academic program, students who are interested in specific internship programs should consult with the internship adviser in the department of their major.

For general information about University internships, placement options, and REAL, LEIP and WCLA experiences, the student should contact the University Coordinator of Internships.

HEALTH AND PHYSICAL EDUCATION SPECIAL REGULATIONS

Credits in health and physical education are required of undergraduate students in the General Education segment of the University curriculum or are part of an option for students in that segment. The University requirement in physical education may be altered after consultation with the department chairperson in health and physical education, who will act upon the recommendation of the University physician and the Dean, College of Health Sciences.

Physically incapacitated students must obtain a medical waiver from or through the University physician. This procedure should be repeated each semester except in cases of permanent disability. The waiver form should be filed with the chairperson of the Health and Physical Education department. Such students may elect to participate in specially arranged adaptive physical education courses or defer the University requirement until such time as the disability dissolves. These regulations do not refer to temporary illness of short duration; such cases are managed by the individual instructor.

RESERVE OFFICERS TRAINING CORPS

The United States Army established a unit of the Reserve Officers Training Corps at the University in 1950. In fulfilling the University's four-credit General Education requirement for graduation, students may take four credits of Military Science and receive full credit for the Health and Physical Education requirement. Enrollment in the four-credit ROTC option incurs no military obligation whatsoever and allows the student the option of competing for a three-year ROTC Scholarship.

Upon graduation from the University and successful completion of the Advanced Course ROTC program, the student will receive a Commission as a Second Lieutenant and serve from three months to three years on active duty, depending on active Army requirements. As an alternative to active duty, the individual may either be chosen or volunteer to complete his/her service obligation with the Army Reserve or National Guard.

Students seeking advanced degrees can be granted an educational delay by the Army following completion of their baccalaureate degrees. Upon completion of the advanced degree, students then enter active duty or Army Reserve/National Guard duty.

UNIVERSITY SENATE

Purpose

The purpose of the University Senate is to provide a formal means through which the student body, faculty and administration, working as a unified group, shall share in the governance of the University through the establishment of University policy.

Nothing relating to the organization and administration of the University Senate shall be construed so as to limit the authority of the Board of Trustees or the President of the University with respect to the administration of the University as prescribed by law.

Composition and Elective Procedures

The University Senate shall consist of a number of faculty double the number of departments of the University, an administrative segment one-third the size of the faculty segment and

a student segment one-half the size of the faculty segment. Faculty and administrative members must hold full-time contracts at the time of election or appointment, and students must be full-time and in goodstanding. 'Student' refers to both the undergraduate and graduate student bodies. The student segment shall consist of ten times as many undergraduate students as graduate students, each delegation to be elected by its representative student body. Undergraduate students shall be elected under the auspices of the Student Government Association and graduate students through elections arranged by their comparable body. In both cases, the officiating body shall call for and accept such voluntary nominations for election to the Senate as shall be made to it.

Student members of the University Senate serve on most of the Senate Committees.

STUDENTS' ACADEMIC GRIEVANCES

If a student feels that he/she has been treated unfairly by any instructor (this will refer principally to grading policy but very occasionally may include genuine disagreement in class participation), he/she must try to resolve the problem first with the chairperson of the department in question. If the student is not satisfied with the solution offered by the department chairperson, he/she should confer with the Dean of the College in which he/she is enrolled.

COURSE NUMBERS AND ABBREVIATIONS

COURSE NUMBERS - courses for freshmen are numbered in the 100's, for the sophomores in the 200's, for juniors in the 300's, and for seniors in the 400's.

Required courses usually are numbered from 1 to 50 and elective courses are numbered from 51 to 100, within each 100.

DEPARTMENTAL COURSE ABBREVIATIONS. The departmental abbreviations used in the undergraduate catalog and the corresponding transcript number codes (OO) used to identify courses are as follows:

AC 85 ADULT/COMMUNITY EDUCATION	GL 32 GEOLOGY
AD 26 ADMINISTRATIVE SERVICES	GM 34 GERMAN
AG 28 ACCOUNTING	GR 90 GRADUATE SCHOOL
AH 88 ART HISTORY	GS 14 GEOSCIENCE
AL 05 ALLIED HEALTH PROFESSIONS	HE 43 HOME ECONOMICS
AM 56 APPLIED MUSIC	HI 40 HISTORY
AN 02 ANTHROPOLOGY	HO 42 HOME ECONOMICS EDUCATION
AR 01 ART	HP 37 HEALTH AND PHYSICAL EDUCATION
AT 89 ART EDUCATION	HU 92 HUMANITY
AY 03 ASTRONOMY	IS 83 INTERNATIONAL STUDIES
BA 08 BUSINESS ADMINISTRATION	JN 36 JOURNALISM
BE 09 BUSINESS EDUCATION	LA 48 LATIN
BI 04 BIOLOGY	LB 59 LIBRARY
BU 07 BUSINESS	LI 47 LINGUISTICS
CE 13 COUNSELOR EDUCATION	LR 84 LABOR RELATIONS
CH 10 CHEMISTRY	MA 49 MATHEMATICS
CI 12 CHINESE	MG 38 MANAGEMENT
CL 33 CRITICAL LANGUAGE	MI 54 MARINE SCIENCE
CM 45 COMMUNICATIONS MEDIA	MK 39 MARKETING
CN 86 CONTINUING EDUCATION	MS 52 MILITARY SCIENCE
CO 18 COMPUTER SCIENCE	MT 62 MEDICAL TECHNOLOGY
CR 46 CRIMINOLOGY	MU 55 MUSIC
CS 11 CONSUMER SERVICES	NS 93 NATURAL SCIENCES
DE 06 DISTRIBUTIVE EDUCATION	NU 58 NURSING
EA 41 EDUCATIONAL ADMINISTRATION	PC 70 PSYCHOLOGY
EC 15 ECONOMICS	PH 60 PHILOSOPHY

ED 16 EDUCATION	PN 73 PUBLIC SCHOOL NURSING
EE 21 EARLY ELEMENTARY	PS 67 POLITICAL SCIENCE
EH 27 EDUCATION OF HEARING IMPAIRED	PY 64 PHYSICS
EL 19 ELEMENTARY EDUCATION	PH 53 REHABILITATION
EM 24 ELEMENTARY MATHEMATICS	RT 63 RESPIRATORY THERAPY
EN 22 ENGLISH	RU 74 RUSSIAN
EP 71 EDUCATIONAL PSYCHOLOGY	SA 76 SAFETY SCIENCES
ES 20 ELEMENTARY SCIENCE	SC 75 SCIENCE
EX 50 EDUCATION OF EXCEPTIONAL CHILDREN	SH 51 SPEECH AND HEARING
FA 91 FINE ARTS	SO 78 SOCIOLOGY
FE 17 FOUNDATIONS OF EDUCATION	SP 82 SPANISH
FL 23 FOREIGN LANGUAGE	SS 79 SOCIAL SCIENCES
FN 44 FOOD AND NUTRITION	ST 80 STUDENT PERSONNEL
FR 25 FRENCH	SW 77 SOCIAL WORK
FS 30 FINANCE AND MANAGEMENT INFORMATION SYSTEMS	TH 81 THEATER
GE 31 GEOGRAPHY	VO 29 VOCATIONAL EDUCATION
GK 35 GREEK	XX 94 GENERAL ELECTIVES



Student Programs and Services

The Student Affairs Staff of the University provides programs and services to students to support the best learning climate possible and to guide the student toward optimum personal and special development. Beginning with the Freshman Orientation Program, the student is invited to participate in the activities of the University. An attempt is made to provide each student with a maximum opportunity for self-development during his/her years as a citizen of the University community. The Student Affairs Staff, together with student groups and other faculty members, endeavors to create a rich environment which will extend the classroom experience and will involve students in making meaningful decisions.

ORIENTATION

At the beginning of each semester an orientation program is held for all new students entering the University. The purpose behind this program is to provide new students with academic information, to help them become acquainted with each other and to help them to become familiar with the University and the services that it has to offer. Orientation leaders are selected on a volunteer basis from the student body and are specially trained to conduct all programs.

RESIDENCE LIFE

IUP is a residential campus. Its 13 residence halls are structured on a geographical basis into four 'quads.' Each quad is supervised by a full-time student affairs professional with a background in student development and counseling. In addition, each residence hall has a Residence Director to handle the management functions of the building with responsibilities for programming and staff development. In addition, each building has undergraduate Hall Counselors who are responsible for counseling students, planning programs, carrying out administrative tasks and maintaining a community atmosphere among the approximately thirty students living in their individual section of the residence hall.

Housing available to students includes:
University-Owned residence halls
Fraternity-houses

Private apartments and houses
Privately owned residence halls
Accommodations at home or with relatives

IT IS THE POLICY OF IUP TO OFFER FULL, EQUAL AND NON-DISCRIMINATORY ASSISTANCE TO ALL STUDENTS WITHOUT REGARD TO THEIR RACE, COLOR, RELIGION, NATIONAL ORIGIN, SEX, ANCESTRY OR DISABILITY in both the placement in University housing and in the furnishing of facilities and services in connection with that housing.

Rooms will be available to full-time, undergraduate students enrolled at IUP. Each year the University reviews its housing policies and revises them according to its needs for the coming year. The Office of Residence Life is responsible for all room assignments, food service, information on privately owned residence halls and collecting local address and telephone data for the Student Directory. The Residence Life Office is located in G14 John Sutton Hall, ext. 2696.

University Residence Halls

Since college students spend about 85 percent of their time outside of the classroom, IUP residence halls are out-of-classroom learning environments wherein educational, social, recreational and community service programs are planned and conducted with the express purpose of facilitating personal growth on the part of the individual residents.

Because residence hall living is seen as a positive educational experience, freshmen are encouraged to live in residence halls unless they are commuting from home. In an effort to make residence hall living more responsive to individual needs, the University offers two separate life styles; single sex and co-ed. Students are encouraged to consider these options carefully and to select the one in which they would feel most comfortable.

Generally, the policy of the University is to encourage the development of positive social behavior and good study habits rather than to exercise close supervision of the individual. Residents should recognize their individual responsibility to protect the dignity, rights and feelings of fellow students. In residence hall living, students are considered to be adults who are responsible for their own behavior. Within the confines of Federal, State and local laws, the faculty and administration delegates much of the responsibility for community development programs and leadership opportunities for students to the Residence Hall Association which in turn establishes the entire residence hall system. All students are encouraged to become actively involved in RHA.

Student accommodations are based on double occupancy. Furnishings include beds, mattresses, mattress covers, desks, chairs, mirrors, dressers and telephone. Students should bring their own blankets, bedspreads, towels, study lamps and pillows.

All IUP residence halls are equipped with study lounges, recreational equipment, laundry facilities and locked mailboxes. In addition, sewing machines, computer terminals, self-correcting electric typewriters and other specialized equipment are located in each Quad for student use. In order to provide security, all residence halls are locked nightly. Each student has a card key for his/her building which provides entry after the closing hours.

New students will be admitted to their residence halls Sunday prior to the first day of classes.

Other students may enter the residence halls not earlier than twenty-four hours prior to the first day of class. Closing notices will be posted before each vacation period indicating dates residence halls will reopen.

Food service will be available to all students who have been issued an I.D. card validated for food service.

Housing and food charges must be paid to the Accounts Receivable Office, according to the established standards, before residents will be issued a room key and have their I.D. card validated for food service.

Application for Housing

The University will not discriminate in room or hall assignment on the basis of race, color, religion, national origin, ancestry, sex or disability. Incoming freshmen who have been accepted by the Admissions Office as residence students will be billed for a \$100 advance deposit in April, one half of which serves as a housing prepayment. A 'Residence Hall Contract for Housing and Food Service' will accompany same and must be returned to IUP with the deposit payment. Continuing students may apply for University housing for each year in accordance with procedure published and posted by the Office of Residence Life.

Readmitted students and those transferring from other Universities should contact the Office of Residence Life directly for housing applications and/or information.

Food Services

All students residing in University residence halls must take meals in University dining halls (Foster or Folger). Other students may contract for food service each semester with the Office of Residence Life. There are two meal plans offered by the University:

Plan A - 21 meals per week

Plan B - 15 meals, Monday through Friday

The above plans are for one breakfast, one lunch and one dinner each day. Guests may eat in either of the dining halls at the current transient rate.

Students and guests may purchase meals at Roy Rogers in the Student Union, at Allenwood cafeteria in Ackerman Hall, at the Oak Room or the Coffee Shop in Foster Hall or at other restaurants near the campus.

Insurance for Personal Belongings

Students are encouraged to carry insurance covering the loss or theft of money or property while residing in a residence hall. Check with your parents to determine whether their Homeowners Policy will cover you while you're at college. If not, riders can be attached.

Student Room Refrigerators

Student room refrigerators are rented on a one or two semester basis from the Office of Residence Life. These refrigerators are UL approved, 2.1 cubic foot refrigerators requiring a maximum of .5 amps. Privately owned refrigerators which meet these specifications may be used in University residence halls and are assessed a fee of \$1 per semester for electricity.

Student Room Telephones

Each student room on campus has a telephone which is part of the University Centrex system. With Centrex telephones, it is possible to dial all telephones on campus, dial direct station-to-station local and long distance calls, receive directly dialed incoming calls, and transfer incoming calls from one telephone on campus to another.

Telephone bills are mailed directly to residence hall rooms each month. Long distance calls and telegram charges only appear on the bill. Both occupants of a room are responsible for all charges made to their telephone. Payment is made directly to the Bell Telephone Company.

AUTOMOBILES

Each student, faculty or staff member who parks an automobile in campus parking areas must register his or her auto each year with the Campus Police. Resident students are not permitted to park on campus without a decal. Decals are issued only for the following

reasons: 1. student teaching; 2. medical reasons; 3. work requirements. A decal for these students must be obtained through writing to the Parking Authority Review board. A LIST OF PARKING RULES AND REGULATIONS MAY BE OBTAINED AT THE CAMPUS POLICE OFFICE, JOHN SUTTON HALL.

FACILITIES FOR COMMUTING STUDENTS

A variety of accommodations are provided for commuting students in their lounge in the basement of Stewart Hall. Among the facilities found in this area are a refrigerator (for brown-bagging purposes), typewriter, lockers, a telephone, a television and a calculator. Library facilities provide pleasant study conditions for commuter students, and several lounges in the Student Union are always available for their use. Commuter students may purchase lunches in Foster Dining Hall, Folger Dining Hall, Foster Dining Hall Coffee Shop, or Roy Rogers Restaurant in the Student Union. In addition, several restaurants are located close to the University campus.

STUDENT LIFE

The Student Life Office, located in G14 John Sutton Hall, provides University information and assistance to students. The University INFO system is located here. Students wishing to withdraw from the University must begin the withdrawal process here.

The Off Campus Relations Office is particularly concerned with the needs of off campus/-community students. A list of off campus housing facilities is maintained for student use.

HEALTH SERVICES

Albert R. Pechan Health Center is well equipped primary health facility on the corner of Maple Street and Pratt Drive. The two story structure is staffed by physicians and nurses who offer care to students 24 hours a day during the period that class is in session. Four physicians staff the Health Center with office hours week days from 9 a.m. until noon, and 1 to 4 p.m. Saturday hours are 9 to 11 a.m. At other times, emergency cases are seen as required 24 hours a day when school is in session. Beds are available for in-patient care. Emergencies and illnesses of a severe nature are hospitalized in Indiana Hospital or transferred to the students's hometown hospital.

The Health services work in cooperation with campus and community counseling services.

COUNSELING AND STUDENT DEVELOPMENT CENTER

The Counseling and Student Development Center provides a wide range of resources which will enable students to deal more effectively with 'early adult' concerns, better meet their personal and academic goals, and develop skills for life-long learning. The staff consists of professional counselors, psychologists, and student development specialists, trained and experienced in working with college students on issues, problems, and challenges they encounter. Confidential, one-to-one counseling and psychotherapy is available to students. Other services include career planning, testing, and women's programming. A 24-hour crisis intervention services is available by calling the Concern Line, 357-2567.

The Center also has a Student Development Lab which provides a variety of workshops and seminars which allow students to more effectively manage everyday life experiences. These workshops are designed to help students more effectively communicate and assert themselves, handle stress, and make better decisions.

The Center is open from 8 a.m. to 4:30 p.m., Monday through Friday and is located in Clark Hall. Students coming to the Center will be asked to fill out a brief information sheet and meet with a counselor to discuss their concerns. Students can call 357-2621 to arrange for an appointment.

SPECIAL CLINICS

Two clinics at the University offer diagnostic testing and remedial or improvement service or instruction in the following areas:

READING CENTER (Stouffer Hall) - diagnosis and remedial instruction for reading problems and instruction for the improvement of present skills.

SPEECH AND HEARING CLINIC (Davis Hall) - diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy.

These services are made available without charge to students regularly enrolled at the University to give the necessary assistance to alleviated efficiencies which would interfere with successful performance and progress in the University and in future work. Students who need help in any of the areas suggested above are encouraged to use the facilities provided for them and may of their own initiative come to any clinic for help, or they may be referred by any faculty member or University official.

INSURANCE

IUP makes available a student health insurance plan to all students at a very reasonable premium. The plan is optional for students who wish to participate in the program. Full information concerning this insurance coverage is mailed to enrolled students with their billing instructions.

CAREER SERVICES

Career services are available to students who are graduating, students who are enrolled to obtain teacher certification, students who have been accepted as candidates for degrees in The Graduate School and alumni. Occupational counseling is provided to students of all class levels as well as alumni.

In addition to career counseling the primary functions of the office are to transmit credentials to prospective employers, arrange for campus interviews, prepare a current file of job opportunities, maintain an extensive library of occupational information, make follow-up studies of the graduates, conduct group counseling and orientation meetings and provide general assistance in the career planning and job-seeking process.

A credit course is available to juniors and seniors in career planning and development.

The Office of Career Services also receives and makes available to graduates and undergraduates information concerning summer employment. Positions are not guaranteed by the University, but IUP's record of placement is one of the very best in Pennsylvania.

VETERANS

An individual who served with the Armed Forces for more than 180 days after January 31, 1955, is eligible for the G.I. Bill (PL 89-358), providing he/she meets certain other requirements. A prospective student should contact the Veterans Counselor and submit to him the Veteran's application for Program of Education.

Veterans eligible for the G.I. Bill should report to the office of the Veterans Counselor prior to registration for a semester or for summer sessions to be entered or continued in training for Veterans Administration benefits purposes.

No veteran receiving G.I. benefits may change curriculum without clearance from the Veterans Counselor. All veterans must maintain normal class progression and report any change in course load to the Veterans Counselor.

Any undergraduate receiving benefits from the Veterans Administration must carry at least 12 credit hours during a regular semester in order to be considered a full-time student by the Veterans Administration. The minimum full-time requirement for a graduate student is nine credit hours.

VETERANS' CHILDREN- Children of a deceased or disabled veteran whose death or injury was due to service-related causes may be eligible for educational assistance from the Federal Government under Public Law 634 (Dependents Educational Assistance Act). Immediately upon acceptance to IUP, men and women who qualify for such assistance should contact the Veterans Counselor to process their application for payment.

GUIDELINES FOR STUDENT CONDUCT

Indiana University of Pennsylvania (IUP) is an academic community within the society at large. As a community within a larger society, it has formulated a code of standards and expectations which the university considers to be consistent with its purpose as an educational institution. IUP reaffirms the principle of students freedom coupled with an acceptance of full responsibility for individuals actions and the consequences of such action. A student as a member of the academic community and of the larger society retains the rights, protections, guarantees and responsibilities which are held by all citizens.

The judicial system of IUP exists to review all alleged academic violations as well as violations of university regulations and/or federal, state and local ordinances. The primary intent of this system is an educational one and it seeks to create behavioral change in the students while also protecting the rights of the members of the University community. The system will hold the student accountable for his/her actions when regulations or statutes have been violated. A complete statement of regulations is available in 'The Eye,' the student handbook.

MAIL

The University Post Office is located in the basement of Folger Dining Hall, at the corner of Pratt Drive and Maple Street. The mail is delivered to offices and residence halls from this location. As it is a branch of the Indiana Post Office, the University Post Office provides most postal facilities, including boxes.

SERVICE FACILITIES

Student Union The Student Union, built by the students through their Activity Fee, offers many facilities for the University family.

Students may relax or watch television in the lounge, buy a snack or a complete meal at Roy Rogers Restaurant, listen to their choice of records in the center or play cards, billiards or table tennis.

Bookstore

The Co-op Store is located near the Student Union Building. The store stocks a complete line of all needed textbooks, supplies, paperback books and other requirements for class use. In addition, the shopper will find an extensive selection of records, college wear, stationery, jewelry, sundries and souvenir items.

The store is operated on a competitive retail basis, with all profits from operations reverting to the Student Cooperative Association for use in supporting student activities.

CO-OP RECREATIONAL PARK

The Co-op Recreational Park is an important part in the recreational and co-curricular life of the University. Owned by the Student Cooperative Association, this 270 acres of wooded hillsides and fields contains a rustic Lodge building, several picnic shelters, rope ski tows, a togoggan run, garden plots, athletic facilities such as a softball field and archery range, and

nature, hiking and skiing trails. These varied facilities provide ample opportunity for individual and group recreation, for classes to study nature and conservation, and are also in demand for picnics, meetings, and winter sports. The Lodge building will accommodate groups of two to three hundred persons.

CO-CURRICULAR ACTIVITIES

As participating members of the IUP community, students have a responsible role in the governance of the campus. Since a valuable part of education lies in participation in groups where experience in leadership, social and community responsibility, intellectual curiosity and religious interests can be met, voluntary participation in a number of varied organizations is available and encouraged. In addition, students are encouraged to initiate and support any new groups which may reflect their interests. Faculty, selected by the students, act as advisers.

GOVERNANCE

Student Government Association

The Student Government Association (SGA) at IUP exists to provide the student body with a means to deal with the affairs of students and as a forum for the expression of student views and interests concerning student development within the University.

All SGA Congress members are elected at large. The elections are held twice a year, each involving approximately half the Congress. The terms of office are for one year. The President and the Vice-President are elected in the Spring, and the other officers are chosen from among the representatives at the first meeting of each new session.

The Student Government Association is active making recommendations to the administration for the improvement of student welfare, and it is also instrumental in promoting the general welfare of the University and good community relationships. SGA provides an opportunity for discussion of student problems, brings the student body, faculty and administration closer together through a frank understanding of mutual problems and promotes the observance of policies that will lead to the improvement of University campus life.

Commonwealth Association of Students

IUP is a member of the Commonwealth Association of Students (CAS), the statewide student voice of the fourteen state-owned institutions. Headed by an executive director in Harrisburg, the Association is set up to serve the special interests of the state colleges and university through the collection of student opinions and their dissemination to the proper state or federal agencies, as well as to actively promote the passage or defeat of legislation deemed relevant to the students and public higher education in Pennsylvania. CAS also acts as a liaison between students and the state government, the faculty union or any organization or individual that affects the state colleges and university.

At IUP, the CAS local chapter operates independently of the Student Government Association. The local chapter president, student government representative and minority representative are each accorded voting privileges at the statewide meeting held bi-monthly. Any full-time or part-time undergraduate or graduate student at IUP is welcome and encouraged to join and to actively participate in the Association's activities, either on the state or local level.

University Senate

Students also are elected to the University Senate and have full voting rights, together with Faculty and Administrative members. Most of the Senate Committees include students as voting members. Any full-time student may be elected to the Senate. This is the body which shares in the governance of the University through the establishment of University policy.

Student Cooperative Association

The Student Cooperative Association plays an extremely broad role in the extracurricular life of the University. All students and all staff who pay the activity fee are eligible for membership in the Association. Almost all campus-wide activities outside of the instructional program are sponsored wholly or in part by the Association.

The activity fee is the chief source of income for the Association's activities. The student's 'ID' card will admit him/her free of charge or at reduced prices to University social, cultural and athletic activities. Other income for the Association comes from the Co-op Store profits, and income from other events sponsored by the Association.

Facilities under the governance of the Student Cooperative Association are the Student Union, the Co-op Store and the Co-op Recreational Park.

Residence Hall Association

Residence Hall Association (RHA) is made up of all students living in University residence halls. The executive body of RHA is composed of elected representatives from each residence hall. The purpose of RHA is to provide educational, social and community service programs for residents; to collect information on various aspects of residence hall life; and to assist in formulating housing policies and procedures.

ACTIVITIES

Activities Board The Activities Board is the student organization that sponsors many of the major co-curricular activities on campus. It is financed by the Student Cooperative Association. The Board is advised by the Director of Student Activities and Organizations and works in close cooperation with the staff of the Student Union. An active program of lectures, bus trips, concerts, coffeehouses and films are presented throughout the year.

Artist Series

The Student Cooperative Association, in cooperation with the office of the Director of Student Activities and Organizations sponsors a series of cultural programs in the areas of dance, music and theater each year. The programs are selected by a Student-Faculty Committee.

University Concert Committee

The University Concert Committee programs major popular concerts throughout the year. The UCC is funded by the Student Cooperative Association and is chaired by a staff member of the Office of Student Activities and Organizations. The Committee consists of students who submit applications and are selected by a student-staff screening committee.

STUDENT PUBLICATIONS

THE PENN, the campus newspaper, is published three times a week, Monday, Wednesday and Friday, by students who wish to gain writing experience. Interested students are advised to attend the organizational meeting, which is held early each semester.

The positions of editors and news editors are filled by Student Government action upon recommendation of a student-faculty committee. The co-editors select their own staff. There are numerous paid positions in the production, business and editorial departments of the newspaper.

Applications for editor are available at 'The Penn' office. Only those students with at least one semester experience on the PENN staff are eligible to apply for the two top positions. THE OAK is the University yearbook, a pictorial and written review of the year's activities. Subscriptions may be purchased during the Fall Semester. The Penn will carry

notices of the subscription drive. Applications for staff positions may be obtained from the Oak office. From these applications, a committee, composed of students and faculty, selects the staff members. The paid positions on the staff are subject to the approval of the Student Government.

IUP REVIEW is a newsletter which is sent to all incoming students prior to their arrival on campus. Contents are geared to areas of concern to new entrants. The staff is open to anyone who is interested. Contact the Admissions Office in Room 216, Pratt Hall.

The UNIVERSITY DIRECTORY is distributed early in the fall term to students and faculty. It contains a listing of all properly registered students, staff, faculty and University offices.

THE EYE, an IUP student handbook, is distributed annually to all students, free charge. It includes rules and regulations, the extra-curricular program and general information of interest to students.

ATHLETICS

FRANK CIGNETTI, DIRECTOR; RUTH PODBIELSKI, ASSOCIATE DIRECTOR; ANTHONY, BARTHELEMEY, BECK, BERNARDI, BLACKSMITH, CAMPISANO, CELTNIKS, CHAUMP, CLARK, CORTAZZO, DAVIS, DRAKE, ELTZ, FRY, JOHNSON, JOHNSTON, MCCUE, MONTGOMERY, MURTHA, RAEMORE, SLO-NIGER, SOMSKY, SUTTON, THOMPSON.

The men's and women's athletic teams of the University compete at the Division II Level of the National Collegiate Athletic Association and hold membership in the Eastern College Athletic Conference and Pennsylvania Conference.

Men's sports offered in the fall include cross country, football and soccer. Basketball, wrestling, swimming and rifle take the stage in the winter, and track and field, golf, baseball and tennis hold the spotlight in the spring.

Women's sports offered in the fall are tennis, cross country, field hockey, volleyball, basketball, gymnastics, swimming and diving, and fencing (men and women's team) are offered in the winter. With spring comes softball and track and field.

Intramurals - Royden P. Grove, Director

A well-organized and varied program of intramural sports and athletic activities is conducted for men, for women and on a coeducational basis.

Intramural handbooks are available. Contact the Intramural Director, Memorial Field House, for this information.

RELIGIOUS LIFE

The religious life of students is cared for through the activities of some twelve organizations. Three of these, the Newman Center, the United Campus Ministry and the Lutheran Center, maintain private facilities near the campus. Other affiliate with and meet in local churches for worship and meetings.

STUDENT ORGANIZATIONS

There are more than 200 active student organizations at IUP. Through participation in organizations, students can extend classroom experiences into relevant programs which will improve leadership ability, enhance academic achievement and develop social skills.

EDUCATIONAL OPPORTUNITY PROGRAM AND PROGRAM FOR SCHOLARS

The Educational Opportunity Program was created as a result of the Higher Education Equal Opportunity Act 101 passed in 1971 by the Legislature of the Commonwealth of Pennsylvania. Although this program focuses on servicing students living within a 50 mile radius of IUP, students from throughout Pennsylvania are assisted in order to make the ideal of 'equal' educational opportunity' a reality for all qualified students. All EOP students are provided assistance in the areas of academic tutoring, career counseling, financial aid information and personal counseling, as well as academic advisement concerning curriculum and an appropriate major.

The Program for Scholars (PFS) began in the Spring of 1978. The PFS is designed to identify and attract academically talented minority students and to provide an on-campus program of leadership development and intellectual motivation. The Scholars serve as peer models and assist all minority students to interpret information concerning opportunities at IUP.

Further information on the EOP and Program for Scholars may be received from the director or any member of the staff. The main office is in 201 Pratt, ext. 2729.

Requirements For Graduation

Undergraduate students at IUP may pursue programs of study in any one of the seven undergraduate colleges: the College of Business; the College of Education; the College of Fine Arts; the College of Health Sciences; the College of Home Economics; the College of Natural Sciences and Mathematics; or the College of Social Sciences and Humanities. A student may earn the degree of Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, or the Bachelor of Science in Education. To do so, the student must satisfy all of the degree requirements, which fall into three categories: 1) University requirements; 2) College requirements; 3) Department requirements. Requirements of the latter two categories may be found under the College and the Department in which the student is pursuing a program of study.

University requirements for graduation in all curricula consist of General Education requirements, residency requirements and the semester hour and cumulative quality point average requirements.

GENERAL EDUCATION

All students are obligated to fulfill a basic program in General Education consisting of 52 semester hours. Different Colleges and sometimes Departments within Colleges may have specific variations as to how these General Education requirements are to be met.

The primary objective of General Education is to develop those understandings, attitudes, values and social skills that will enable the student to enjoy a life that is satisfying to himself/herself as an individual and that will enable him/her to play a constructive role in his/her community and in society, without respect to his/her professional vocational interest or activity.

The courses in the program will be distributed throughout the four years of University study, but the basic or introductory courses should be concentrated in the first two years of the student's program.

GENERAL EDUCATION REQUIREMENTS

ENGLISH	Three Courses	10 sh
EN 101 - English I		4
EN 102 - English II		3
EN 201 - English III		3

(OR: EN 210 required substitute for EN 201 for majors in English and Communication)

FINE ARTS	One Course	3 sh
AH 101 - Introduction to Art		3
MU 101 - Introduction to Music		3
TH 101 - Introduction to Theater		3
FA 100 - Introduction to Art/Music/Theater		3

HUMANITIES	Two or Three Courses*	6-9 sh
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*If only two courses are selected from humanities, one additional course must be selected from courses listed as natural science or science/math electives.

FOREIGN LANGUAGES.* (two courses in language sequence; only six semester hours of foreign languages courses apply to General Education requirements) **6**

AR 115 - Ancient and Medieval Art		3
AR 116 - Renaissance and Baroque Art		3
EN 346 - Contemporary American and British Poetry		3
EN 347 - Modern American Fiction		3
EN 348 - Black American Literature		3
EN 349 - The English Bible as Literature		3
HI 101 - History of Civilization I		3
MU 301 - Music History I		3
PH 100 - Introduction to Religion		3
PH 101 - General Logic: Methods of Critical Thinking		3
PH 110 - World Religions		3
PH 120 - Introduction to Philosophy		3
PH 221 - Symbolic Logic I		3
PH 222 - Ethics		3
PH 223 - Philosophy of Art		3

*Note: Students in the Colleges of Natural Sciences and Mathematics and Humanities and Social Sciences take one year of intermediate level Foreign Language. Students in the Colleges of Business, Education, Fine Arts, Health Sciences and Home Economics may elect one year of a foreign language, any appropriate level, or two courses from the above list. Exception: English Education majors must take the intermediate level sequence of a foreign language.

MATHEMATICS	One Course	3-4 sh
Course designated by department to meet requirement:		
MA 101 - Foundations of Mathematics		3
MA 110 - Elementary Functions		3
MA 121 - Calculus I for the Natural and Social Sciences and Business		4
MA 123 - Calculus I for Physics and Chemistry		4
MA 127 - Calculus I		4
MA 151 - Math for Elementary Teachers I (specific departments only)		3
MA 217 - Probability and Statistics		3

NATURAL SCIENCES A Two-Semester Sequence in Laboratory Science 8 sh

Sequence may be designated by department.

BI	103-104	- General Biology I and II	8 sh total
CH	101-102	- College Chemistry I and II (Specific departments only)	8 sh total
CH	111-112	- General Chemistry I and II	8 sh total
CH	113-114	- Concepts in Chemistry	8 sh total
GS	101/102-103/104	- Earth Science I and II with labs	8 sh total
GS	121/131-122/132	- General Geology I and II with labs	8 sh total
PY	111-0/111-1 and PY 112-0/112-1	- Physics I and II with labs	8 sh total
PY	131-0/131-1 and PY 132-0/132-1	- Physics I and II with labs	8 sh total
SC	105-106	- Physical Science I and II (either order)	8 sh total

SOCIAL SCIENCES Five Courses from Twelve Alternatives 15 sh

1.	AN 110	- Introduction to Anthropology	3
2.	CR 101	- General Administration of Justice	3
3.	EC 101	- Basic Economics	3
		OR	
	EC 121	- Principles of Economics I	3
4.	GE 101	- World Geography	3
5.	GE 102	- Geography of United States and Canada	3
6.	HI 102	- History of Civilization II	3
7.	HI 103	- History of US and PA I	3
		OR	
	HI 104	- History of US and PA II*	3
8.	PS 101	- World Politics	3
9.	PS 111	- American Politics	3
10.	PC 101	- General Psychology*	3
11.	SO 151	- Principles of Sociology	3
12.	SS 101	- Contemporary Social Science	3

*Required for all students in College of Education and teacher certification programs.

HEALTH AND PHYSICAL EDUCATION One Option 4 sh

OPTION 1: Health and Physical Education

HP	101	- Personal and Community Health	2
		AND	
HP	---	- Physical Activity courses - 2 courses, 1 credit each (HP 110-138, 144-172, 260-262, 266)	2

OPTION 2: Military Science

MS	101	- World Military History and Lab	2
MS	102	- American Military History and Lab	2
OPTION 3: Military Service			4

Veterans are given four credits toward these requirements.

Verification of service must be established by form DD 214. Students continuing in Military Science (ROTC) beyond their freshman year should use the elective hours available to them by their department towards Military Science classes. Upon entering the sophomore year of Military Science students are encouraged to discuss this with their Military Science class adviser who will assist them in this matter.

SCIENCE/MATH ELECTIVES Zero to One Course 0-3 sh

If only six credits are earned in the humanities group, an additional course must be selected from the natural science electives or the following:

BI	110	- Plant Biology	5
BI	120	- Animal Biology	5
BI	261	- Ornithology	3

BI 262 -	Etymology	3
BI 271 -	Evolution	3
BI 272 -	Conservation of Plant and Animal Resources	3
CO 110 -	Intro to Computer Science	3
CO 200 -	Intro to Computers	3
GS 110 -	General Astronomy	3
GS 120 -	Geology of Pennsylvania	3
GS 330 -	Paleontology	3
GS 321 -	Mineralogy	3
GS 361 -	Oceanography	3
GS 371 -	Meteorology I	3
MA 110 -	Elementary Functions	3
MA 121 -	Calculus I for the Natural and Social Sciences and Business	4
MA 122 -	Calculus II for the Natural and Social Sciences and Business	4
MA 217 -	Probability and Statistics	3
PY 222 -	Mechanics I	2
PY 231 -	Electronics	4
PY 242 -	Optics	3
PY 342 -	Thermal and Statistical Physics	3
PY 472 -	Nuclear Physics	3
SC 111 -	Science in Modern Civilization	3
SC 401 -	Growth of Science and Its Concepts I	3
SC 402 -	Growth of Science and Its Concepts II	3

GENERAL EDUCATION SUBSTITUTIONS

The following courses constitute the approved substitution list as approved by the University Senate. All courses on the approved substitution list require the approval of the student's major adviser. These General Education substitutions may not be taken pass-fail if they are taken as General Education courses.

GENERAL EDUCATION COURSE

AN 110	Intro to Anthropology
CR 101	General Administration of Justice
GE 101	World Geography: Man and Environment
GE 102	Geography of the U.S. and Canada
HI 104	History of U.S. and Pa. II
PH 110	World Religions
PH 221	Symbolic Logic I

APPROVED SUBSTITUTIONS

AN 211	Cultural Anthropology
AN 312	World Ethnography
AN 313	World Archaeology
CR 102	Criminology
GE 230	Cultural Geography
GE 231	Economic Geography
GE 251	Geography of Pennsylvania
GE 252	Geography of Latin America
GE 253	Geography of Europe
GE 254	Geography of USSR
GE 255	Geography of Africa
GE 256	Geography of East Asia
GE 257	Geography of South and Southeast Asia
HI 103	History of U.S. and Pa. I
PH 210	World Scriptures
PH 330	Philosophy of Science

MU 301 Music History I	MU 103 Perspectives in Jazz
	MU 201 Jazz History I
	MU 302 Music History II
	MU 303 Music History III
MA 101 Foundations of Math	MA 102 Finite Mathematics
	MA 110 Elementary Functions
	MA 121 Calculus I for the Natural and Social Sciences & Business
	MA 123 Calculus I for Physics and Chemistry
	MA 127 Calculus I
	MA 214 Probability and Statistics for Business Majors
	MA 217 Probability and Statistics
SC 105 Physical Science I	PY 111 Physics I (lec & lab)
	PY 131 Physics I (lec & lab-Calc)
	PY 111 Physics I (lec)
	PY 131 Physics I (lec-Calc)
PY 111 Physics I (lab)	PY 131 Physics I (lab-Calc)
PY 112 Physics II (lec)	PY 132 Physics II (lec-Calc)
PY 112 Physics II (lab)	PY 132 Physics II (lab-Calc)
PY 131 Physics I (lec-Calc)	PY 111 Physics I (lec)
PY 131 Physics I (lab-Calc)	PY 111 Physics I (lab)
PY 132 Physics II (lec-Calc)	PY 112 Physics II (lec)
PY 132 Physics II (lab-Calc)	PY 112 Physics II (lab)

RESIDENCY REQUIREMENT

The last 30 semester hours in a student's curriculum MUST be earned by enrollment in courses at IUP.

SEMESTER HOUR AND CUMULATIVE QUALITY-POINT AVERAGE REQUIREMENT

Each student must complete a minimum of 124 semester hours to graduate, including 52 hours in General Education (all on a passing basis), and must have a 2.0 ('C' grade) cumulative quality-point average and a 2.0 ('C') average in his/her major field.*

*Effective for members of the 1971 freshman class onward and for students admitted from spring 1971 onward.

ADVANCED PLACEMENT AND EXEMPTION EXAMINATIONS

Courses taken by students prior to admission to college under the Advanced Placement Program of the College Entrance Examination Board may be recognized by the award of college credit or by exemption from required subjects. Those who earn a grade of 3, 4 or 5 in the Advanced Placement Examination will be granted credit toward the number of credit hours required for graduation.

For students who have had other unusual opportunities of instruction or have advanced in a given field, an opportunity to gain exemption from a course is afforded through exemption examinations, given at the discretion of each department. Departments offering such options will publicize their availability campus-wide every year. A student who passes an exemption examination will be exempt from taking that course in his/her academic program.

When a student receives CREDIT for a course by examination, the credit will be applied to graduation requirements just as though the course had been taken. If a student is granted EXEMPTION ONLY from a course, he/she will be permitted to take a free elective in place of that course.

This enables the student to further specialize, to correct weaknesses outside his/her major field, to build his/her knowledge in an ancillary area, or to introduce himself/herself to an entirely different area.

Courses for which credit or exemption are awarded by examination will not be used in the determination of quality-point averages.

ELIGIBILITY AND APPLICATION FOR GRADUATION

Commencement ceremonies are held annually at IUP at the conclusion of the spring semester during the month of May. Only students who have completed all requirements for graduation by the end of the spring semester are eligible to participate in the commencement exercises. Students who have withdrawn from courses or have elected to take incompletes or have failed courses during the spring semester and thus have not met the requirements for graduation may not participate in commencement exercises until those requirements have been fulfilled. Students completing requirements in August or December are included on the graduation list the following May and may participate in commencement at that time.

It is the student's responsibility to complete an application-for-graduation form in the office of the Dean of his/her College early in the term prior to graduation. Students are responsible for knowing and fulfilling the requirements for graduation in their degree program.

Certification for graduation is not final until approved by the Dean of the College in which the student is enrolled.

Students who expect to graduate at the end of the summer session must complete all requirements for graduation by the conclusion of the Second Summer Session UNLESS PRIOR EXCEPTION is made by the student's College Dean. Diplomas will not be issued until all bills and obligations have been satisfied, including the degree fee.

SECOND BACCALAUREATE DEGREE

A graduate either of IUP or of another accredited college or university may receive a second or subsequent baccalaureate degree by earning at least 30 additional credits in courses at IUP which are approved by the Department and the College in which the subsequent degree is earned. In addition, the student must meet any other degree requirements of the department and the College in which the degree is earned. A student may not receive two baccalaureate degrees simultaneously.

Honors are not granted for subsequent degrees.

THREE-YEAR DEGREE PROGRAM

There is no special significance to the four-year baccalaureate program; more or less time could be used effectively in pursuit of the Bachelor's degree. For those who wish to graduate in three years, the accelerative features outlined below indicate how this could be accomplished:

Six semesters at 17 semester hours each	102 s.h.
Exemption and credit for English 101	4 s.h.
Advanced Placement Examination Program College Level Examination Program	
Departmental Examinations for exemption and credit	18 s.h.
Summer Session Enrollment (s)	—
Minimum requirement for degree	124 s.h.

Any student who desires an accelerated program should consult BOTH his/her adviser AND the Dean of his/her college concerning the opportunities for credit by examination and the total semester hours and courses required for graduation.



The College of Business

Cyrus A. Altimus, Dean
Howard B. Cox, Associate Dean

The establishment of a College of Business was authorized by the IUP Board of Trustees in May, 1966.

Departments within the College of Business include: Accounting, Administrative Services and Business Education, Finance and Management Information Systems, and Management and Marketing.

The Bachelor of Science degree in Business Administration is offered by the Accounting, Finance and Management Information Systems, and Management and Marketing Departments. The Administrative Services and Business Education Department offers the Bachelor of Science in Education degree with a Business Education major, Bachelor of Science in Education with a with a Business Education of Distributive Education major, Bachelor of Science degree in Business Administration and a two-year Associate of Arts degree in Business with a major in Accounting.

Bachelor of Science in Business Administration

For those pursuing the Bachelor of Science degree in Business Administration, IUP's training will provide a broad liberal background in the behavioral sciences; a keen perception of the socioeconomic world in which we live and work; a foundation of general professional education for personally fruitful and socially useful careers in the varied fields of business; and opportunity to obtain the specialized knowledge and skills essential to future occupational growth and advancement. There are six areas of specialization for those pursuing the Bachelor of Science in Business Administration - Accounting, Finance, Management, Marketing, Management Information Systems or Office Administration.

The curriculum is generally similar for all areas of specialization during the first two years. The selection of a major area is necessary prior to the beginning of the student's junior year.

Each area provides for a variety of business and business-related courses which are designed to enrich the student's understanding of the modern business system.

Students may, in consultation with their advisers, plan their program of study to obtain a minor in an area of business specialization other than their major or a related area outside of the College of Business.

Bachelor of Science in Education

IUP's College of Business seeks to serve the needs of its students and the needs of business, industry and education through its diverse programs. Known for 50 years for excellence in Business Education, IUP's secondary program in Distributive Education prepares teacher-coordinators for schools offering programs in marketing, distribution and co-operative work experience. These two degree areas (Bachelor of Science in Education with a Business Education major and the Bachelor of Science in Education with a Distributive Education major) are designed to prepare teachers for comprehensive high schools, area vocational-technical schools and community colleges.

Associate of Arts Degree

Students who desire a two-year program that prepares them to enter the business world may elect to pursue the Associate of Arts degree program. For this degree, students may specialize only in Accounting. This program is only offered at the Punxsutawney branch campus.

DEGREE REQUIREMENTS

All four-year degree candidates in the College of Business must fulfill the University's 52 semester-hour General Education requirement (see section on Requirements for Graduation). Variations in the General Education requirements for students pursuing the Bachelor of Science degree in Business Administration areas are listed below. Variations in the General Education requirements for students pursuing the Bachelor of Science in Education, Bachelor of Science in Office Administration and the Associate of Arts degree are listed in the section on Administrative Services and Business Education Department. Candidates for the degrees in Education must also fulfill the 29 semester-hour requirement in Professional Education courses needed for certification (see section on College of Education). Bachelor of Science in Business Administration candidates must also complete the Core Program listed below. Specific courses to meet degree requirements are listed in the sections on the respective departments.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION DEGREE REQUIREMENTS

All students pursuing the Bachelor of Science degree in Business Administration must meet the General Education requirements of the University. The following represent specific variations from the General Education Requirements (see section on Requirements for Graduation for full listing of courses included in the General Education Requirements) which will be followed by all Bachelor of Science in Business Administration students except those majoring in Office Administration (these students should check the General Education requirements listed under Office Administration major):

MATHEMATICS (3-4 s.h.) to include MA 121 Calculus I for Business, Natural and Social Sciences

GENERAL ELECTIVES (3 s.h.) MA 214 Probability and Statistics fulfills this requirement.

SOCIAL SCIENCES (15 s.h.) to include EC 121 Principles of Economics I and PC 101 General Psychology

Core Program

In addition to the General Education requirements, each candidate for the Bachelor of Science in Business Administration degree must satisfy the following 36 s.h. of Business Core Program requirements:

MK 320	Marketing	3 s.h.
FS 310	Finance I	3 s.h.
FS/MG 360	Management and Production Concepts	3 s.h.
AD 235	Introduction to Business Law	3 s.h.
EC 121	Principles of Economics I	
(3 s.h. - A General Education Requirement)		
EC 122	Principles of Economics II	3 s.h.
AG 201	Principles of Accounting I	3 s.h.
AG 202	Principles of Accounting II	3 s.h.
FS 241	Intro to Management Info. Systems	3 s.h.
MA 121	Calculus I	
(4 s.h. - A General Education Requirement)		
MA 214	Probability and Statistics	
(3 s.h. - A General Education Requirement)		
FS 215	Business Statistics	3 s.h.
AD 321	Business & Interpersonal Communications	3 s.h.
MG 311	Human Behavior in Organizations	3 s.h.
BA 495	Business Policy	3 s.h.
		—
Total Semester Hours Required		36 s.h.
(Exclusive of courses that can be counted as part of the General Education requirements)		

BUSINESS ADMINISTRATION

The following course will be offered as a required capstone course for all Business majors. The teaching responsibility for the course will be shared by the College of Business as a whole. It should be taken in the student's senior year, preferably in the final semester.

BA 495 BUSINESS POLICY 3 s.h.

Prerequisites: Completion of all Business Core requirements or permission.

A capstone case analysis course designed to give the student practice in applying business theories to the solution of management problems. An analysis of how top management determines policy and influences the philosophy and character of the company. To develop in the student a general management viewpoint that integrates the various functions of the organization.

ACCOUNTING DEPARTMENT

DONALD J. ROBBINS, CHAIRPERSON; BURNER, CHURCH, GHESSIE, GHOBASHY, LINDH, PLIVELIC, PONKO, TIGER.

The Accounting Department provides the training necessary for one to enter the fields of public accounting, accounting in business or industry or governmental accounting.

In addition to the 53 semester-hour General Education requirement (see sections on Requirements for Graduation and College of Business), candidates for the Bachelor of Science in Business Administration degree with a specialization in Accounting must complete 1) Core Program consisting of 36 semester hours (see College of Business section), and 2) 35 semester hours in the Accounting sequence, including electives.

Accounting Sequence

In addition to the General Education and Core Program requirements, specialization in Accounting requires:

Business (21 s.h.)		
AG 301	Intermediate Accounting I	3 s.h.
AG 302	Intermediate Accounting II	3 s.h.
AG 311	Cost Accounting	3 s.h.
AG 401	Advanced Principles of Accounting	3 s.h.
AG 412	Advanced Cost Accounting	3 s.h.
AG 421	Federal Taxes	3 s.h.
AG 431	Auditing	3 s.h.
Free Electives		8 s.h.
Accounting Electives		6 s.h.
(one course must be an AG course)		
EC 325	Monetary Economics	3 s.h.
EC 334	Economics of Corporate Decisions	3 s.h.
AD 336	Law of Business Organizations	3 s.h.
AG 422	Federal Taxations of Corporations, Partnerships, Estates & Trusts	3 s.h.
AG 441	Accounting for Government and Non-Profit Or- ganizations	3 s.h.
AG 451	Seminar in Accounting Standards	3 s.h.

COURSE DESCRIPTIONS

AG 201 ACCOUNTING PRINCIPLES I 3 s.h.
Introduces the student to the accounting cycle in service and merchandising concerns using the single proprietorship form of business organization; covers use of special journals and subsidiary ledgers in the accounting system as well as accounting and internal control procedures for cash, receivables, inventory, and plant and equipment.

AG 202 ACCOUNTING PRINCIPLES II 3 s.h.
Prerequisite: 2.0 GPA in AG 201
Covers accounting principles and procedures for payroll, partnerships, corporations, long-term liabilities and investments, and manufacturing firms with a general accounting system. Introduces the student to cost accounting systems, financial statements analysis, budgeting and use of accounting information in making managerial decisions.

AG 300 MANAGERIAL ACCOUNTING 3 s.h.
Prerequisite: AG 202
Emphasizes the use of accounting information in performing the managerial functions of planning, control, decision making and performance evaluation.

AG 301 INTERMEDIATE ACCOUNTING I 3 s.h.
Prerequisite: AG 202
An overview of the foundation of accounting theory dealing with application of generally accepted accounting principles as promulgated in professional pronouncements to the reporting process and to accounting for various asset items in the financial statements.

AG 302 INTERMEDIATE ACCOUNTING II 3 s.h.
Prerequisite: AG 301
Application of generally accepted accounting principles to various areas such as accounting for corporations, long-term investments in securities, bonds, pension costs, leases, etc.

AG 311 COST ACCOUNTING 3 s.h.
Prerequisite: AG 301
Cost accounting methods and procedures including cost accumulation under job order cost system and process cost system, cost allocation, budgeting, and accounting for spoilage, joint and by-products. The planning and control aspect of cost accounting is emphasized.

- AG 401 ADVANCED PRINCIPLES OF ACCOUNTING** 3 s.h.
 Prerequisite: AG 302
 Study of accounting issues of specialized nature including partnerships, organization and liquidation, agency and branch accounting, accounting for business combinations, preparation of consolidated financial statements, accounting for government and not-for-profit entities, accounting for estates and trusts, and receivership accounting.
- AG 412 ADVANCED COST ACCOUNTING** 3 s.h.
 Prerequisite: AG 311
 Study of budgets, standard costs, direct and absorption costings, analysis of cost variances, and extensive analysis of various cost control and profit planning programs.
- AG 421 FEDERAL TAXES** 3 s.h.
 Prerequisite: AG 202 Acquaints the student with Federal Income Tax Laws as they apply to individual taxpayers and partnerships.
- AG 422 FEDERAL TAXATION OF CORPORATIONS, PARTNERSHIPS, ESTATES AND TRUSTS** 3 s.h.
 Prerequisites: AG 421 and AG 302
 Advanced course in federal income taxation as it applies to taxpayers other than individuals. Covers the tax treatment of those property transfers subject to federal and state gift and death taxes. The tax planning aspect of the various course topics as well as tax research methodology are also discussed.
- AG 431 AUDITING** 3 s.h.
 Prerequisite: AG 301
 Study of auditing theory and practical application of auditing standards and procedures to the review, testing, and evaluation of accounting controls and to the verification of transactions and balances to express an opinion in an audit report on the fairness of financial statements' presentation.
- AG 441 ACCOUNTING FOR GOVERNMENT AND NON-PROFIT ORGANIZATIONS** 3 s.h.
 Prerequisite: AG 302
 Presents the views of authoritative professional organizations as to desirable standards of accounting and reporting for governmental and non-profit entities. Topics include: budgeting and budgetary accounts, accounting for various funds, the general fixed assets group of accounts, the financial reporting process and application of the principles of fund accounting in specific areas.
- AG 451 SEMINAR IN ACCOUNTING STANDARDS** 3 s.h.
 Prerequisite: AG 302
 Study of professional standards having authoritative support in the field of accounting. APB opinions, FASB interpretations, and SEC Accounting Series Releases are discussed.
- AG 482 INDEPENDENT STUDY** 3 s.h.
 Prerequisite: Consent of Departmental Chairperson and Dean, College of Business
 Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.
- AG 497 INTERNSHIP IN ACCOUNTING (PUBLIC)** 6 s.h.
 Prerequisite: Consent of Departmental Chairperson and Dean, College of Business
 Practical experience with a public accounting firm.
- AG 498 INTERNSHIP IN ACCOUNTING (INDUSTRIAL & GOVERNMENT)** 6 s.h.
 Prerequisite: Consent of Departmental Chairperson and Dean, College of Business
 Practical experiences in an industrial or government accounting setting.

ADMINISTRATIVE SERVICES AND BUSINESS EDUCATION DEPARTMENT

BERNARD MOREAU, CHAIRPERSON: AMES, BIANCO, DEMAND, MAHAN, MORRIS, O'CONNOR, POLESKY, ROBERTS, ROWELL, STEIGMANN, STROCK, TROXELL, WOHLGAMUTH, WOOMER.

This department offers two four-year programs and a two-year associate degree program. The associate degree is offered at the Punxsutawney campus only.

Degrees offered by the Administrative Services and Business Education Department are the Bachelor of Science in Education with a Business Education major, Bachelor of Science in Education with a Distributive Education major, Bachelor of Science in Office Administration with a major in Office Administration, and a two-year Associate of Arts in Business degree with a major in Accounting.

Those students interested in teaching business and distributive education in high schools and vocational-technical schools have a choice of the following areas of concentration: Accounting, Data Processing, Secretarial (all include certification in Typewriting), and Distributive Education. Students are encouraged to select more than one area of concentration, as additional certification beyond the minimum requirements enrich the student's preparation for teaching.

Students interested in a non-teaching degree that prepares them for careers in business, industry and government as administrative assistants, administrative secretaries, office managers and supervisors, and records administrators may select the office administration major. Students selecting this major have a choice of one or more of the following related areas: Accounting, Finance, Human Relations, Marketing, and Secretarial Administration.

Students who want a two-year program that prepares them for entering careers in business and government may select the following area of specialization: Accounting. This program is offered only at the Punxsutawney campus.

FOUR-YEAR DEGREE PROGRAMS

In addition to the 52 semester hours in General Education courses required for all baccalaureate candidates (see section on Requirements for Graduation), and the 29 semester hour Professional Education requirements for the Bachelor of Science in Education degree (see College of Education section), a core program of 31 semester hours (3-6 s.h. of which may count as General Education requirements) is required of all majors pursuing one of the four-year degree programs in Business Education or Distributive Education.

CORE PROGRAM FOR BUSINESS EDUCATION AND DISTRIBUTIVE EDUCATION PROGRAM

Business

AD 101	Business Organization & Management	3 s.h.
AD 235	Introduction to Business Law	3 s.h.
AD 321	Business and Interpersonal Communication	3 s.h.
AD 336	Law of Business Organizations	3 s.h.
*BE 111	Foundations of Business Mathematics	3 s.h.
BE 131	Principles of Typewriting	2 s.h.
BE 132	Intermediate Typewriting	2 s.h.
*BE 335	Machine Mathematics	3 s.h.
AG 201	Accounting Principles I	3 s.h.

AG 202	Accounting Principles II	3 s.h.
FS 241	Introduction to MIS	3 s.h.

*May be part of University's General Education requirement.

B.S. IN EDUCATION (BUSINESS EDUCATION MAJOR)

The Indiana University of Pennsylvania Business Education program is accredited by the National Council for Accreditation of Teacher Education (NCATE). The program leads to the degree of Bachelor of Science in Education and to the certification in Pennsylvania as a business education teacher.

A student must apply to the Dean of the College of Education to receive an initial certificate to teach in Pennsylvania's public schools. Certification to be a business education teacher is approved by the Dean of the College of Education when a student has met all the requirements in professional education, general education and business education major courses.

The curriculum in Business Education prepares students for a professional career in teaching office occupations. The Business Education curriculum is designed with three areas of concentration or fields of specialization. The three fields of concentration are Accounting, Data Processing, and Secretarial. Students may pursue the work of the entire curriculum or they may elect to pursue work according to their aptitudes as follows:

1. The complete program leads to certification in all of the high school business subjects. Those who possess aptitudes that indicate success in Accounting, Data Processing, and Secretarial work may pursue this complete program if they wish. School administrators believe that the complete program is desirable for breadth of certification when teaching in the public schools of the Commonwealth of Pennsylvania.
2. The accounting field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Accounting and Typewriting.
3. The secretarial field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Secretarial subjects and Typewriting.
4. The data processing field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Accounting, Data Processing, and Typewriting.

All Business Education majors are required to complete the requirements for certification in at least two of the following areas of certification: Accounting, Data Processing, Marketing, Secretarial, and Typewriting.

Students pursuing the accounting field or secretarial field may elect courses which will afford certification in a third area of certification since the courses listed under these headings in the curriculum only provide certification in two areas.

Practical Business Experience

Before graduation, each student is encouraged to complete the equivalent of 12 months of secretarial practice, accounting practice, data processing, clerical practice, or a combination of these. This experience should be in the field or fields in which the student is contemplating certification and can be acquired during summer vacations and in offices on the campus during the regular school term.

Business Education

In addition to the General Education, Core Program for Business Education and Distributive Education and Professional Education requirements, all majors in Business Education must complete the following:

BE 271	Advanced Typewriting	2 s.h.
BE 311	Methods and Evaluation in Business Education I	3 s.h.
BE 312	Methods and Evaluation in Business Education II	1-3 s.h.
DE 333	Principles of Selling	3 s.h.
*EC 121	Principles of Economics I	3 s.h.

*May be part of the University's General Education requirements

Areas of Specialization

Specialization in the several areas available to the Business Education student is accomplished by taking courses listed as follows:

Secretarial Sequence

BE 261	Shorthand Theory	3 s.h.
BE 262	Shorthand Dictation	3 s.h.
BE 363	Transcription	3 s.h.
BE 364	Office Procedures	3 s.h.

Accounting Sequence

AG 301	Intermediate Accounting I	3 s.h.
AG 421	Federal Taxes	3 s.h.

Data Processing Sequence

FS 350	Business Systems Technology	3 s.h.
FS 351	Management Information Systems	3 s.h.
FS 352	Business Applications in COBOL	3 s.h.
AG 301	Intermediate Accounting I	3 s.h.
AG 421	Federal Taxes	3 s.h.

Electives

AG 311	Cost Accounting	3 s.h.
AG 431	Auditing	3 s.h.

B.S. IN EDUCATION (DISTRIBUTIVE EDUCATION MAJOR)

The Indiana University of Pennsylvania Distributive Education program is accredited by the National Council for Accreditation of Teacher Education (NCATE). The program leads to the degree of Bachelor of Science in Education and to the certification in Pennsylvania as a distributive education teacher.

A student must apply to the Dean of the College of Education to receive an initial certificate to teach in Pennsylvania's public schools. Certification to be a distributive education teacher is approved by the Dean of the College of Education when a student has met all the requirements in professional education, general education and distributive education major courses.

The curriculum in distributive education is designed to prepare students for a professional career teaching the distributive occupations. Students following this program will be graduated as teachers-coordinators of distributive education and will be also certified to teach certain courses in business education.

Teaching in the field of distributive education combines the personal satisfaction of teaching with the enjoyment of public relations work in the distributive area of business-retailing, wholesaling, and service enterprises. The student who likes the prestige of teaching, along with the plus values of working with business leaders and young people, will find this a

challenging and rewarding career. Distributive education presents a promising future for persons in the teaching profession. With the recognition of the importance of distribution to our national economy, this vocational field of teaching is expanding rapidly.

Distributive Education

In addition to the General Education, Core Program for Business Education and Distributive Education, and Professional Education requirements outlined for the Administrative Services and Business Education Department, all Distributive Education majors must complete the following:

MK 320	Principles of Marketing	3 s.h.
DE 410	Methods and Evaluation in Distributive Education I	3 s.h.
DE 413	Methods and Evaluation in Distributive Education II	3 s.h.
DE 331	Modern Merchandising	3 s.h.
DE 332	Retail Management	3 s.h.
DE 333	Principles of Selling	3 s.h.
DE 434	Supervised Work Experience and Seminar in Distributive Education	6 s.h.
*EC 121	Principles of Economics I	3 s.h.

*May be part of the University's General Education requirements.

B.S. IN BUSINESS ADMINISTRATION (OFFICE ADMINISTRATION MAJOR)

Office Administration is one of the most challenging careers in business, industry, and government. The Office Administration program is built on a broad general education which provides students with a fundamental understanding of the society in which they live and work. The program strives to develop the student's knowledge of the functional areas of business (accounting, finance and marketing), the behavioral sciences, the management sciences, and the systems approach to problem solving. An integral part of each student's program is an intensive study of office administration emphasizing the decision-making aspect of office activities and giving in-depth experiences required for an understanding of the total office system and its relationship to the total business and economic system.

Upon completion of the office administration program, the graduate will be able to pursue careers as administrative assistants in business, industry and government; administrative secretaries with opportunities to specialize in medical, legal and bilingual positions; office managers and supervisors; and records managers and administrators.

In addition to the 52-semester hour General Education requirement (see sections on Requirements for Graduation and College of Business), candidates for the Bachelor of Science degree from the College of Business with a major in Office Administration must complete 1) Core Program consisting of 36 semester hours (see College of Business section), and 2) 36 semester hours in the Office Administration sequence, including electives.

General Education Requirements

All students pursuing the Bachelor of Science degree from the College of Business with a major in office administration must meet the General Education Requirements of the University. The following represent the specific departmental variations from the General Education Requirements (see section on Requirements for Graduation for full listing of courses included in the General Education Requirements):

MATHEMATICS (3 s.h.) to include BE 111 Foundations of Business Mathematics

SCIENCE/MATH ELECTIVES (3 s.h.) to include MA 214 Probability and Statistics

SOCIAL SCIENCES (15 s.h.) to include EC 121 Principles of Economics I and PC 101 General Psychology

Office Administration Sequence

In addition to the University General Education and College of Business Core Program requirements previously outlined, the Office Administration major requires:

BE 131	Principles of Typewriting	2 s.h.
BE 132	Intermediate Typewriting	2 s.h.
BE 364	Office Procedures	3 s.h.
AD 412	Administrative Office Services	3 s.h.
AD 413	Word Processing Concepts	3 s.h.
AD 415	Records Administration	3 s.h.
AD 430	Office Systems	3 s.h.

Business Electives 9 s.h.

Free Electives 8 s.h.

ASSOCIATE OF ARTS DEGREE (Major in Business) (Offered only at the Punxsutawney Campus)

The Associate of Arts Degree in Business is designed to be a two-year curriculum with these objectives:

1. To provide business occupational education with the opportunity for specialization in accounting.
2. To enable the student to enter accounting positions in business and government.
3. To enable the student to upgrade his/her skills and knowledge to qualify for higher positions in business and government.

All students enrolled in this program must complete the requirements listed below under general education, business core, and areas of specialization.

General Education

*EN 100	Basic English	
OR		
EN 101	English I	3-4 s.h.
EN 102	English II	3 s.h.
PC 101	General Psychology	3 s.h.
EC 101	Basic Economics I	
OR		
EC 121	Principles of Economics I	3 s.h.
Social Science Elective		
OR		
Humanities Elective		3 s.h.

Business Core

BE 111	Foundations of Business Mathematics	3 s.h.
BE 131	Principles of Typewriting	2 s.h.
BE 335	Machine Mathematics	3 s.h.
AD 101	Business Organization & Management	3 s.h.
AD 235	Introduction to Business Law	3 s.h.
AD 321	Business and Interpersonal Communications	3 s.h.
AG 201	Accounting Principles I	3 s.h.

*Either EN 100 or EN 101 will satisfy the requirements for the Associate of Arts degree. However, should the student transfer to a four-year program, only EN 101 will satisfy the University's General Education requirement.

Area of Specialization

In addition to the general education and business core requirements listed above, students must select one of the following areas of specialization.

ACCOUNTING

AG 202	Accounting Principles II	3 s.h.
AG 301	Intermediate Accounting I	3 s.h.
AG 302	Intermediate Accounting II	3 s.h.
AG 311	Cost Accounting	3 s.h.
AD 336	Law of Business Organizations	3 s.h.
FS 292	Business Data Processing	3 s.h.
FS 351	Management Information Systems	3 s.h.
BE 364	Office Procedures	3 s.h.
BE 433	Supervised Work Experience and Seminar in Office Occupations	
OR		
	Business Elective	3 s.h.

Pre-Law Minor in College of Business

The pre-law minor is intended for the student who is a business major concentrating in one of the business areas and interested in law as a career. The minor consists of 21 semester hours selected by the student from a predetermined list of courses spread over five areas of Humanities and Social Sciences. The goal of the pre-law minor is both academic accomplishment and guidance and advisement. Interested business students should contact the pre-law adviser in the Administrative Services and Business Education Department.

COURSE DESCRIPTIONS

AD 101 BUSINESS ORGANIZATION AND MANAGEMENT 3 s.h.
Overview of the principles, practices and methods common to most business firms in a private enterprise system. (Not open to juniors and seniors in Business Administration).

AD 235 INTRODUCTION TO BUSINESS LAW 3 s.h.
Introduction to legal systems, torts, contracts and sales law.

AD 275 FILING AND RECORDS MANAGEMENT 3 s.h.
Prerequisite: Sophomore Status
Basic principles and procedures of records storage and control. Included is an in-depth study of various methods and systems of records storage and management of the records system.

AD 321 BUSINESS AND INTERPERSONAL COMMUNICATIONS 3 s.h.
Prerequisite: Junior Status
Study of communication theory and principles as applied to business situations and practices; development of communication skills in areas of communication such as oral, writing, listening and non-verbal. Emphasis in building effective interpersonal relations in a business environment.

AD 336 LAW OF BUSINESS ORGANIZATIONS 3 s.h.
Prerequisite: AD 235
A study of the law dealing with commercial paper, agency, partnerships, corporations and bankruptcy.

AD 337 CONSUMER LAW 3 s.h.
Nature of law as it pertains to the consumer. Attention to consumer protection relationships; real and personal property; credit; environmental law; law pertaining to employment; landlord-tenant relationships; product liability; insurance and family law.

- AD 382 REAL ESTATE FUNDAMENTALS** 3 s.h.
Designed to acquaint the student with the language, principles and laws that govern the business of real estate. Emphasis on the underlying concepts of land, property, rights in realty and the means, methods and laws that govern the conveyance of these rights. Required course for taking the PA Real Estate Salesman's Exam.
- AD 412 ADMINISTRATIVE OFFICE SERVICES** 3 s.h.
Prerequisite: Junior Status
Presentation of fundamental principles and practices used in the development of an office. Specialized areas such as systems analysis work simplification, forms design, word processing, office machines and equipment, records management, office design and layout, office location and physical environment, office supervision, office manuals and development of office personnel will be discussed.
- AD 413 WORD PROCESSING CONCEPTS** 3 s.h.
Comprehensive overview of word processing designed to acquaint the student with the concept of a modern word processing center including equipment, procedures and personnel.
- AD 415 RECORDS ADMINISTRATION** 3 s.h.
Prerequisite: Junior Status
Development of the principles of records administration including creation, use, maintenance and destruction. Storage facilities, records classification, forms analysis, control of records, as well as micro-image systems will be discussed.
- AD 421 PREPARATION AND PRESENTATION OF BUSINESS REPORTS** 3 s.h.
Prerequisite: Junior Status
Application of business and technical writing styles. Formats, visual aids, motivation techniques, special reports and oral presentations are some areas of concern.
- AD 430 OFFICE SYSTEMS** 3 s.h.
Prerequisites: FS 241, AD 412, AD 413, and AD 415
Primarily for the Office Administration major, integrates the concepts of the various courses in the administrative services area.
- AD 481 SPECIAL TOPICS IN ADMINISTRATIVE SERVICES, BUSINESS EDUCATION OR DISTRIBUTIVE EDUCATION** 3 s.h.
Prerequisite: Consent of departmental chairperson and Dean, College of Business
- AD 482 INDEPENDENT STUDY IN ADMINISTRATIVE SERVICES, BUSINESS EDUCATION OR DISTRIBUTIVE EDUCATION** 3 s.h.
Prerequisite: Consent of departmental chairperson and Dean, College of Business
- AD 498 INTERNSHIP IN OFFICE ADMINISTRATION** 6 s.h.
Prerequisites: Senior Status, approval of Internship Coordinator and 2.75 overall GPA and 3.0 GPA in Business
A supervised office experience program with an approved agency (business, industry, and government); includes three, two-hour, on-campus seminars.
- BE 111 FOUNDATIONS OF BUSINESS MATHEMATICS** 3 s.h.
Develops an understanding of numbers and knowledge of fundamental concepts in arithmetic and algebra in the solution of common and advanced problems encountered in business by the businessman and consumer. Topics illustrating and emphasizing the application of business mathematics include methods used to compute interest discount, partial payments, discounting of notes and drafts, depreciation, amortization, sinking fund redemptions, effective rate of interest and preparation of statistical data.
- BE 131 PRINCIPLES OF TYPEWRITING** 3 s.h.
Emphasis on development of correct techniques in typewriting, introduction to basic styles of business letters, simple tabulations and simple manuscripts; specific standards of speed and accuracy are required. Credit may be given by examination.

- BE 132 INTERMEDIATE TYPEWRITING** 2 s.h.
Prerequisite: 2.0 GPA in BE 131 or credit by examination
Emphasis on further development of speed, accuracy and production ability; includes business letters with special features, business reports, business forms, rough drafts, manuscripts, and liquid and stencil duplication.
- BE 261 SHORTHAND THEORY** 3 s.h.
An introductory course in the basic principles of Gregg Shorthand, Diamond Jubilee. Credit may be given by examination.
- BE 262 SHORTHAND DICTATION** 3 s.h.
Prerequisite: BE 261
Major objectives are to review and strengthen student's knowledge of principles of Gregg Shorthand, Diamond Jubilee, to build shorthand-writing speed and to build transcription skill. Credit may be given by examination.
- BE 271 ADVANCED TYPEWRITING** 2 s.h.
Prerequisites: At least a 2.0 GPA in BE 131 and 132
Continuation of speed and accuracy development and production ability, advanced work in letter forms, legal documents, statistical reports, tables and manuscripts.
- BE 280 MACHINE TRANSCRIPTION AND WORD PROCESSING** 3 s.h.
Prerequisites: BE 271 and AD 272
Develops a high degree of proficiency in the use of dictating and transcribing machines, magnetic and memory typewriters, duplicating machines, and basic business English skills required for successful employment as correspondence and administrative secretaries; further the student's understanding of the word processing concept.
- BE 311 METHODS AND EVALUATION IN BUSINESS EDUCATION I** 3 s.h.
Prerequisites: General Psychology, Educational Psychology, and completion of the freshman and sophomore courses in the student's major areas.
Includes general methods of teaching and evaluation plus special methods and evaluation in basic business courses. Courses of study, unit plans, lesson plans, and unit tests are emphasized. Aims, techniques, and procedures of teaching, grade placement of courses and classroom management are studied.
- BE 312 METHODS AND EVALUATION IN BUSINESS EDUCATION II** 1-3 s.h.
Prerequisites: BE 311 or DE 410
Covers three sections of special methods and evaluation in typewriting, stenography and accounting data processing. Objectives, planning, evaluating and skill building are studied. Media and facilities for instruction are examined. Students elect sections needed for certification.
- BE 335 MACHINE MATHEMATICS** 3 s.h.
Prerequisites: BE 111 or permission of instructor
Fundamental mathematical processes utilized in business are applied in realistic business situations through use of office machines including ten-key and full-keyboard adding-listing machines and electronic calculators.
- BE 363 TRANSCRIPTION** 3 s.h.
Prerequisite: BE 262
Develop additional speed in taking dictation, with emphasis on development of transcription skill.
- BE 364 OFFICE PROCEDURES** 3 s.h.
Prerequisite: BE 271
Advanced study of theory and practice in activities common to office records management; handling of mail; bank, telephone and telegraph services; receiving callers; writing reports; dictating and transcription equipment; bank, financial and legal transactions; shipping and receiving services; reference books; etc.

- BE 365 ADVANCED TRANSCRIPTION** 3 s.h.
Prerequisites: BE 271 and BE 363
Stresses advanced shorthand dictation and transcription techniques with emphasis on legal and medical modules.
- BE 371 PERSONAL TYPEWRITING AND DUPLICATING** 1 s.h.
In this beginning course in typewriting, students learn how to touch type and use the spirit duplicator and mimeograph machines. (Open to all students EXCEPT BE and DE majors).
- BE 433 SUPERVISED WORK EXPERIENCE AND SEMINAR IN OFFICE OCCUPATIONS** 6 s.h.
Students gain experience in selected office occupations. This cooperative business experience is conducted by competent business and University personnel. There is a weekly evening seminar.
- BE 482 INDEPENDENT STUDY** 3 s.h.
Prerequisite: Consent of Departmental Chairperson and Dean, College of Business
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.
- DE 330 MERCHANDISING INFORMATION** 3 s.h.
Prerequisite: Sophomore Status
Study of the physical characteristics and construction of various types of merchandise. Students will be able to translate this information into selling facts and statements.
- DE 331 MODERN MERCHANDISING** 3 s.h.
Techniques for planning and controlling inventory, analyzing sales, working with modern systems for handling cash, uses of color, line and design. Practice in preparing merchandise display units.
- DE 332 RETAIL MANAGEMENT** 3 s.h.
Prerequisite: DE 331 or DE 333
Study of structure and changing environment of retailing; special emphasis on merchandise management, organization, sales promotions, services and control.
- DE 333 PRINCIPLES OF SELLING** 3 s.h.
Covers field of selling, preparing to sell, the selling process and an introduction to sales management. Sales demonstrations incorporating audio-visual aids are a part of the course.
- DE 410 METHODS AND EVALUATION IN DISTRIBUTIVE EDUCATION I** 3 s.h.
Prerequisites: MK 320 and completion of freshman and sophomore courses in the student's major areas.
Acquaint prospective teachers with the objectives of vocational distributive education, including state plan and curriculum. Understanding problems in organizing, teaching, administering, and supervising a complete cooperative program is also covered.
- DE 413 METHODS AND EVALUATION IN DISTRIBUTIVE EDUCATION II** 3 s.h.
Prerequisites: DE 410 or BE 111, MK 320, DE 333, and EP 302
Includes two sections of special methods and evaluation in this field. Objectives are to acquaint students with basic principles of group and individual instruction in various subject matter areas, as well as methods of presentation. Unit plans, lesson plans, demonstrations and evaluations will be prepared. Students select sections needed for certification.
- DE 434 SUPERVISED WORK EXPERIENCE AND SEMINAR IN DISTRIBUTIVE EDUCATION** 6 s.h.
Prerequisite: DE 333
Students gain experience in selected distributive occupations. This cooperative business experience is conducted by competent business and University personnel. There is a weekly evening seminar.

FINANCE AND MANAGEMENT INFORMATION SYSTEMS DEPARTMENT

KENNETH SHILDT, CHAIRPERSON: BOLDIN, CHEN, FLETCHER, HALAPIN, MAWHINNEY, McCaffrey, NAHOURAI, SHEPHERD, SOLAK, WALIA, WELKER.

The finance major, leading to the degree of Bachelor of Science in Business Administration, is designed to educate those students who are interested in the financial management of the firm and in investment analysis of securities.

The management information systems area provides education in business computer technology and in the design and implementation of management information systems.

DEGREE REQUIREMENTS

In addition to the 53 semester hour General Education requirements (see section on Requirements for Graduation and College of Business), candidates for the Bachelor of Science in Business Administration degree with a specialization in Finance or Management Information Systems must complete 1) Core program consisting of 36 semester hours (see section on College of Business), and 2) 35 semester hours in the specialization sequence, including electives.

FINANCE SEQUENCE (36 s.h.)

Business

FS 320	Finance II	3 s.h.
FS 322	Life Insurance	3 s.h.
FS 324	Principles of Investments	3 s.h.
FS 420	Investment Analysis	3 s.h.
FS 422	Seminar in Finance	3 s.h.

Economics

EC 325	Monetary Economics I	3 s.h.
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Finance Electives (three courses to be selected from the following):

FS 312	Risk and Insurance	3 s.h.
FS 351	Management Information Systems	3 s.h.
FS 385	Securities & Commodities Markets	3 s.h.
FS 410	Financial Institutions & Markets	3 s.h.
FS 380	Introduction to Management Science	3 s.h.
AG 421	Federal Taxes	3 s.h.

Any Finance and MIS Department approved upper level course

Free Electives 9 s.h.

MANAGEMENT INFORMATION SYSTEMS SEQUENCE (36 s.h.)

Business

FS 350	Business Systems Technology	3 s.h.
FS 370	Advanced COBOL Application Programming	3 s.h.
FS 450	Data Base Theory & Application	3 s.h.
FS 451	Systems Analysis	3 s.h.
FS 470	Systems Design	3 s.h.

Other

CO 220	Applied Computer Programming	3 s.h.
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MIS Electives (three courses to be selected from the following):

At least three s.h. must be in upper level Computer Science courses approved by the Finance and MIS Department. A maximum of three s.h. will be allowed in upper level accounting courses approved by the Finance and MIS Department.

FS 380	Intro to Management Science	3 s.h.
FS 382	Auditing EDP	3 s.h.
FS 480	Distributive Business Information Systems	3 s.h.
FS 481	Special Topics in Management Information Systems	3 s.h.
FS 482	Independent Study in MIS	3 s.h.

Free Electives 9 s.h.

COURSE DESCRIPTIONS

FS 215 BUSINESS STATISTICS 3 s.h.

Prerequisite: MA 214 Probability & Statistics

Expands upon the probabilistic concepts developed in MA 214 to orient the student toward managerial decision making using statistical methodologies. Topics covered include classical hypothesis testing, frequency analysis, analysis of variance, regression analysis and Bayesian decision theory.

FS 240 COMPUTERS IN BUSINESS 3 s.h.

Study of the use of computers in information processing and decision-making functions in business. Computer programming is covered through an introduction to COBOL. (Not open to students who have taken FS 241). Scheduled to be discontinued.

FS 241 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS 3 s.h.

Study of management information systems and their design and implementation. General systems theory, computer hardware and programming are emphasized then integrated to demonstrate how an MIS is developed. (Not open to those who have taken FS 240)

FS 292 BUSINESS DATA PROCESSING 3 s.h.

Students are familiarized with development and use of Business Data Processing Systems. Data processing methods and equipment, computer programming and interpretation of business information are covered.

FS 310 FINANCE I 3 s.h.

Prerequisite: AG 201

Study of methods of securing and managing funds on short, intermediate and long-term bases. The financial analysis, planning and control of a corporation. Also covered is working capital management.

FS 312 RISK AND INSURANCE 3 s.h.

Study of the hazards of underwriting, the principles involved in, and the protection provided by property and liability insurance, including multiple line and 'all risk' insurance, and corporate suretyship.

FS 320 FINANCE II 3 s.h.

Prerequisite: FS 310

Continuation of FS 310 and covers topics on long-term external financing of the firm, capital budgeting, valuation of the firm, mergers, international business finance and business failures.

FS 322 LIFE INSURANCE 3 s.h.

Comprehensive study of that insurance which provides protection against the economic loss caused by termination of earning capacity. Analysis benefits, underwriting, ratemaking and legal doctrines.

- FS 324 PRINCIPLES OF INVESTMENTS** 3 s.h.
Prerequisite: FS 310
Analysis of various types of securities and other forms of investment possibilities and a study of sound investment policies from a corporate viewpoint. Factors influencing the general movement of security prices and the return from investments are considered.
- FS 350 BUSINESS SYSTEMS TECHNOLOGY** 3 s.h.
Prerequisite: FS 241
Student is taught fundamental and advanced concepts of computer hardware, and a procedure for evaluation and acquisition of computer hardware.
- FS 351 BUSINESS INFORMATION SYSTEMS** 3 s.h.
Prerequisites: AG 201 and FS 240 (or FS 241 or CO 110)
Introduces student to philosophy and concepts of business information systems. Areas of problem definition, information, economics, information management, flow charting, truth table testing, documentation, systems analysis and design, and project management are included.
- FS 352 BUSINESS APPLICATIONS IN COBOL** 3 s.h.
Prerequisite: FS 241
Provides the student with a knowledge of how computers are used in business organization to solve their data processing and informational problems; study of computer hardware and software concepts including training in the use of the structured COBOL programming language; survey of latest acceptable industry standards in programming techniques. COBOL exercises will include writing programs based upon common accounting-related problems, e.g., payroll, billing, inventory, sales analysis.
- FS 360 MANAGEMENT AND PRODUCTION CONCEPTS** 3 s.h.
Prerequisite: Upper division students only. FS 241, FS 215.
Analysis of the role and functions of management to include: planning, organizing, staffing, directing and controlling. Study of management in organizations with attention to tasks, functions, and to contributions of various disciplines. Production management as an example of functional management; emphasis on acquisition, transformation and distribution of physical materials. FS 360 will emphasize the quantitative approach to production and MG 360 will emphasize the qualitative approach. Those students who enroll in FS 360 may not enroll in MG 360.
- FS 370 ADVANCED COBOL** 3 s.h.
Prerequisite: CO 220; Corequisite: FS 350
Application of basic COBOL concepts to business. Advanced COBOL, including random file handling, on-line interactive techniques & bus. application development. Structured top-down program development.
- FS 380 INTRODUCTION TO MANAGEMENT SCIENCE** 3 s.h.
Prerequisites: FS 215 and FS 241
Discussion and application of mathematical models in MIS design and managerial decision making. Linear programming, Markov processes, queuing theory, EOQ models and simulation techniques are among the topics covered.
- FS 381 FORMS DESIGN AND CONTROL** 3 s.h.
Prerequisite: FS 241 or by instructor's permission.
Study of all data collection, transmission of data, processing of data and retrieval of data forms. Microfiche and COM forms design are included.
- FS 382 AUDITING FOR EDP SYSTEMS** 3 s.h.
Prerequisites: AG 202 and FS 241
Emphasizes the responsibility of the systems analyst to include in systems design the proper management and financial controls and audit trails in business information systems. The design of control for application programs and systems is covered. Audit software packages are examined.

- FS 385 SECURITIES AND COMMODITIES MARKETS** 3 s.h.
Prerequisites: FS 310 and FS 324
Study of the structure of security and commodity markets; the nature of speculative transaction and methods of trading; analysis of pricing; and the objectives of security and commodity market regulation.
- FS 410 FINANCIAL INSTITUTIONS AND MARKETS** 3 s.h.
Prerequisites: EC 325, FS 324
Review of entire structure of financial institutions, money and capital markets, of which the business enterprise is both a supply and demand factor, and structure and dynamics of interest- rate movements.
- FS 420 INVESTMENT ANALYSIS** 3 s.h.
Prerequisites: AG 301, FS 310 and FS 324
Integrates the work of the various courses in the finance areas and familiarizes the student with the tools and techniques of research in the different areas of investments.
- FS 422 SEMINAR IN FINANCE** 3 s.h.
Prerequisites: FS 310, FS 320 and FS 324
Primarily for the senior Finance major, covers topics in all areas of finance by using recent articles, cases, discussions, speakers and a financial simulation game.
- FS 450 DATA BASE THEORY AND APPLICATION** 3 s.h.
Prerequisite: CO 220, FS 350
After learning data structures, the student will then apply them to CODASYL compatible data base management systems, TOTAL and IBM's data base management system. Student must develop and use a data base as part of requirement.
- FS 451 SYSTEMS ANALYSIS** 3 s.h.
Prerequisites: FS 350, FS 370 or FS 352
Develops understanding of concepts and techniques, involving conventional and structured approaches to analyzing problems of business information systems, systems definition feasibility, as well as quantitative and evaluative techniques of business information systems analysis.
- FS 470 SYSTEMS DESIGN** 3 s.h.
Prerequisite: FS 451
Students learn tools and techniques for design of a business system. Along with classroom discussions of principles and techniques for analyzing, designing and constructing the system, students will formulate system teams to analyze the problems of an existing business information system, to design an improved system and to control implementation of new system.
- FS 480 DISTRIBUTED BUSINESS INFORMATION SYSTEMS** 3 s.h.
Prerequisite: FS 350 or by instructor's permission.
Study of the techniques involved in planning, design and implementation of distributed processing systems. Distributed marketing, financial and corporate accounting systems are included.
- FS 481 SPECIAL TOPICS IN FINANCE** 3 s.h.
Prerequisite: Consent of Departmental Chairperson and Dean, College of Business.
- FS 482 INDEPENDENT STUDY** 3 s.h.
Prerequisite: Consent of Departmental Chairperson and Dean, College of Business
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.
- FS 494 FINANCE INTERNSHIP** 2-12 s.h.
Practical experience in the finance field.

FS 499 INTERNSHIP IN MIS

2-12 s.h.

Prerequisites: FS 241, FS 350 or FS 370

Positions with participating business, industry or governmental organizations provide the student with experience in systems analysis.

NOTE: Internships FS 494 and 499, can be taken, if the student qualifies, as general electives. They do not fulfill the major-area elective requirements. Admission only by permission of the department Chairperson.

MANAGEMENT AND MARKETING DEPARTMENT

VINCENT TAIANI, CHAIRPERSON; ANDERSON, BENECKI, EMMALIZADEH, FALCONE, McAFOOSE, McNEIL, OLSON, PILLION, RYAN, SNYDER, STEVENSON, WEIERS, WILSON.

Graduates holding the Bachelor of Science degree with majors in Management or Marketing find employment opportunities in both public and private organizations. The management program with concentrations in General Management, Claims Management, Human Resource Management, and Industrial Management is designed to give the Management major a strong conceptual framework in the theory and practice of management.

The Marketing program is designed to offer the marketing major the depth required to undertake the responsibilities associated with all aspects of the marketing function to include, but not limited to, product considerations and strategies, pricing considerations and strategies, promotional considerations and strategies, and distribution considerations and strategies.

The Management and Marketing Department also services the needs and requirements of the Master of Business Administration (MBA) program.

DEGREE REQUIREMENTS

In addition to the 52 semester hour General Education requirements (see Requirements for Graduation and College of Business sections), candidates for the Bachelor of Science in Human Resource Management, Marketing or General Business must complete (1) Business Core Program consisting of 36 semester hours (see College of Business section), and (2) 36 semester hours in the appropriate sequence.

GENERAL MANAGEMENT SEQUENCE	36 credit hours
Management CORE	9 credit hours
MG 300 Human Resource Management	
AG 300 Managerial Accounting or	
AG 301 Intermediate Accounting	
MG 390 Principles and Practices of Management	
Advanced Business Electives	6 credit hours
Advanced Economics Electives	6 credit hours
Advanced Electives	6 credit hours
Free Electives	9 credit hours
Human Resource Management, Industrial Management & Claims Management Sequence	36 Credit hours
Management CORE	9 credit hours
Concentration Requirements	9 credit hours
Concentration Electives	9 credit hours
Free Electives	9 credit hours

MARKETING SEQUENCE (36 s.h.)

Major Area Requirements	18 s.h.
AG 300 Managerial Accounting	3 s.h.
OR	
AG 301 Intermediate Accounting I	3 s.h.
MK 321 Consumer Behavior	3 s.h.
MK 420 Marketing Management	3 s.h.
MK 421 Marketing Research	3 s.h.
MK 422 Seminar in Marketing	3 s.h.
Advanced Economics Elective (300/400 Level)	3 s.h.
Major Area Electives (three courses)	9 s.h.
MK 430 International Marketing	3 s.h.
MK 431 Industrial Marketing	3 s.h.
MK 432 Business and Society	3 s.h.
MK 433 Advertising	3 s.h.
DE 332 Retail Management	3 s.h.
DE 333 Principles of Selling	3 s.h.
EC 331 Economic Organization of Industry	3 s.h.
EC 345 International Economics I	3 s.h.
Free Electives	9 s.h.

COURSE DESCRIPTIONS

MG 300 HUMAN RESOURCE MANAGEMENT	3 s.h.
Designed to recognize and evaluate the change to the behavioral science approach in the study of personnel administration. Topics include: recruiting and selection, training, management development, performance evaluation, communications, wage and benefit programs, and management-labor relations.	
MG 311 HUMAN BEHAVIOR IN ORGANIZATIONS	3 s.h.
Prerequisite: PC 101 Human problems of management. Basic ideas and theories from the behavioral sciences as they apply to human behavior in organizations are presented. Management solutions to problems resulting from individual-organization interaction are emphasized.	
MG 360 MANAGEMENT AND PRODUCTION CONCEPTS	3 s.h.
Prerequisite: Upper division students only. Analysis of the role and functions of management to include: planning, organizing, staffing, directing and controlling. Study of management in organizations with attention to tasks, functions and to the contributions of various disciplines. Study of production management as an example of functional management; emphasis on acquisition, transformation and distribution of physical materials. MG 360 emphasizes the qualitative approach to production. Those students who enroll in MG 360 may not also enroll in FS 360.	
MG 390 PRINCIPLES AND PRACTICES OF MANAGEMENT	3 s.h.
Examines quantitative and behavior models and theories used in managerial decision processes. Readings and case studies illustrate applications of management theories, models and structure.	
MG 400 WAGE AND SALARY ADMINISTRATION	3 s.h.
Prerequisite: MG 300 Studies the policies and programs that help managers design and administer compensation systems for private and public sector enterprises. Includes motivation theories and practice designing of compensation systems.	
MG 401 MANAGEMENT DEVELOPMENT AND TRAINING	3 s.h.
Prerequisites: MG 300, MG 360 Principles, problems and procedures in planning, organizing, directing and controlling at all	

echelons of a business enterprise. Methods of improving and development of managerial skills are emphasized.

MG 402 SEMINAR IN HUMAN RESOURCE MANAGEMENT 3 s.h.

Prerequisite: MG 300

Contemporary issues in personnel using case studies.

MG 410 DECISION MAKING IN BUSINESS 3 s.h.

Prerequisites: Senior status and all Business Core subjects completed.

Designed to give the student practice in developing solutions to business problems through the integration and application of the numerous theories covered in the functional areas.

MG 412 SMALL BUSINESS MANAGEMENT 3 s.h.

Role of the entrepreneur and problems involved with managing a small business enterprise.

MG 481 SPECIAL TOPICS IN MANAGEMENT 1-3 s.h.

Prerequisite: Consent of Departmental Chairperson and Dean, College of Business

Covers advanced, innovative, or exploratory topics and disciplines within management. Specific content items developed by instructor. Credits may be applied to either required (by permission of department chairperson) or free electives in a student's program.

MG 482 INDEPENDENT STUDY 3 s.h.

Prerequisite: Consent of Departmental Chairperson and Dean, College of Business

Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.

MG 490 HUMAN RESOURCE MANAGEMENT INTERNSHIP 3-6 s.h.

Practical experience with a personnel office to develop knowledge and experience in the practical application of theory to actual problems in a non-classroom setting.

MK 320 PRINCIPLES OF MARKETING 3 s.h.

Study of those activities necessary to the design, pricing, promotion, and distribution of goods and services for use by organizations and ultimate consumers.

MK 321 CONSUMER BEHAVIOR 3 s.h.

Prerequisites: MK 320 and PC 101

Survey of noteworthy contributions of behavioral science and research of consumer purchasing and decision-making process, with particular attention to formal and informal influence patterns.

MK 420 MARKETING MANAGEMENT 3 s.h.

Prerequisites: MK 320 and MK 321

Analysis of marketing and operational problems and policies involved in planning, organizing, coordinating and controlling a business from a total marketing program

MK 421 MARKETING RESEARCH 3 s.h.

Prerequisites: MK 320 and FS 215

Nature, methods, analysis and application of present-day marketing research techniques utilized in the solution of practical marketing problems.

MK 422 SEMINAR IN MARKETING 3 s.h.

Prerequisites: MK 420 and MK 421

A terminal course designed for majors in marketing; considers current literature in the field, case problems pertaining to the total marketing effort and actual problems of local companies.

MK 430 INTERNATIONAL MARKETING 3 s.h.

Prerequisite: MK 320

International marketing is analyzed with consideration given to the significance of govern-

ment regulations; organization structures of export and import enterprises; and credit policies.

MK 431 INDUSTRIAL MARKETING 3 s.h.

Prerequisite: MK 420

Concerned with the major activities involved in the marketing of industrial goods and services, including the industrial marketing system, marketing information needs of the industrial firm, industrial marketing implementation and control, and channel, pricing, product and promotional strategies for industrial goods.

MK 432 BUSINESS AND SOCIETY 3 s.h.

Overview of the interactions between business and the larger social system in which it operates. Considers the problems, solutions and future directions of societal issues and their relationships to the business environment. Topics discussed include consumerism, the morality of advertising, self-regulation, pollution and ecology, overpopulation, government regulation, and the social and ethical responsibilities of business and industry.

MK 433 ADVERTISING 3 s.h.

Prerequisite: MK 320

Introduction to the principles, practices and creations of advertising. Use of various media, legal, economic, social and ethical aspects of advertising are also considered.

MK 481 SPECIAL TOPICS IN MARKETING 3 s.h.

Prerequisite: Consent of Departmental Chairperson, and Dean, College of Business

Covers advanced, innovative or exploratory topics and disciplines within marketing. Specific content items developed by instructor. Credits may be applied to either required (by permission of departmental chairperson) or free electives in a student's program.

MK 482 INDEPENDENT STUDY 3 s.h.

Prerequisite: Consent of Departmental Chairperson and Dean, College of Business

Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.

MK 490 MARKETING INTERNSHIP 3-6 s.h.

Practical experience in the marketing field to develop knowledge and experience in the practical application of theory to actual problems in a non-classroom situation.

NOTE: Internships MG 490 and MK 490 can be taken, if the student qualifies, as a general elective. They do not fulfill the major-area elective requirements. Admission only by permission of the Department Chairperson.

The School of Continuing Education

Jerry T. Ice, Dean

For a variety of reasons, increasing numbers of American adults will enroll in continuing education programs to pursue their educational objectives during the rapidly changing final quarter of the Twentieth Century. As a response to this need for recurrent education, IUP established the School of Continuing and Non-resident Education. The programs within the School of Continuing Education are typically characterized by innovation and experimentation in educational philosophy, teaching methods and techniques. The learning activities are designed to meet the educational needs and goals of adults whose primary occupation during the enrollment period is not that of full-time student. The School of Continuing Education strives to carry out the mission of lifelong learning. During the past year, more than 9,000 students registered in the School of Continuing Education.

This School provides opportunities for adults to participate in short courses and community service programs offered through the Community-University Study Series each spring, summer and fall. It also offers tutoring, testing, and other academic and advisement services to meet the needs of adult learners. Assistance in career planning is also available.

Currently, criminology courses for credit are offered at a number of locations in Western Pennsylvania through the Criminology Extension Program, in cooperation with other institutions of higher education. Additional extension programs in other subject areas (business, safety science, social sciences, fine arts, etc.) are being developed as the School expands its offerings.

The School encompasses a variety of centers to meet specific needs. The CrimeStudy Center develops community-oriented activities with a major emphasis on pre-professional and in-service criminal justice training. Special conferences and seminars are also designed by the Center on a state, regional, and national scale. The Adult Education Center provides in-service educational opportunities and instructional resources for adult and continuing educators and staff development programs for personnel who work with senior citizens in Western Pennsylvania. In addition, all the programs within the School are vehicles for grant

development, grant administration, management consultation, research, and information exchange.

The School of Continuing Education conducts conferences, institutes, and workshops for the University to respond to public needs. On the basis of needs assessment and community interest the School designs continuing education and community service programs for the general public and for special publics, such as women, senior citizens, professional people, labor union members and leaders, businessmen, local governmental and state officials, volunteers, paraprofessionals, and other distinct audiences. An example of this is a developing program, the Continuing Education Program for Business, Industry, and Labor. The School has a deep interest in providing access to IUP credit courses (through the Part-time Studies Program and Extension Programs) to mature adults beyond the normal college age of 18-22 years who wish to continue their education enrolling in regular credit courses offered at the Main Campus, the Branch Campuses, and off-campus locations. The School generates proposal-writing activities for the support of adult or continuing education, community-service, and community development.

The School of Continuing and Non-resident Education offers programs at the Main Campus in Indiana, at the Branch Campuses in Punxsutawney and Kittanning, and in other communities in the IUP service area and thereby contributes to extension of the resources of the University to the people of the State. Both credit and non-credit programs are available. The Continuing Education Unit (CEU) is awarded for non-credit programs that meet established criteria. The School of Continuing and Non-resident Education does not have a permanent faculty of its own. The School attracts resource people as needed from the community, the University, and other educational institutions.

Programs in the School of Continuing Education:

- Adult Advisement/Counseling
- Adult Education Center
- Business, Industry and Labor
- Community-University Studies
- Crime Study Center
- Emergency Medical Services Center
- General Extension/Criminology Highway Safety Center, including Emergency Rescue, Motorcycle Safety and Youth Traffic Safety
- Part-time Studies
- Vocational and Educational Services

The College of Education

Robert Millward, Interim Dean

The departments of the College of Education offer programs leading to the degree of Bachelor of Science, the degree of Bachelor of Science in Education, the degree of Master of Arts, the degree of Master of Education, the degree of Master of Science, and the doctoral programs leading to the degrees of Doctor of Education in Elementary Education, Doctor of Education in Counselor Education and Doctor of Education in School Psychology. Appropriately, most all programs completed in the College of Education lead to certification for public school teaching or supervision in the Commonwealth of Pennsylvania.

The programs in teacher preparation at IUP enable the teacher to become responsible for the planning, organization and evaluation of an instructional program within the framework of a school setting. The teacher brings to this setting a broad background of general studies, an acceptable degree of mastery in a specialized field, and an understanding of the processes of human growth and learning. In this role the teacher creates, manages and maintains an educational environment appropriate to the needs of the students to be served. The teacher uses social, physical, cognitive and psychological data available on the individual student to plan, execute and evaluate the instructional program. The teacher assumes a high degree of personal and professional responsibility in developing a philosophy of education in the development and management of a plan for professional growth.

The program of teacher preparation will provide an opportunity to gain expertise in the following generic competencies:

1. An understanding of the theoretical and practical aspects of human growth and development.
2. Knowledge of and experience with effective learning techniques.
3. Utilization of learning resources and evaluation of teaching and learning effectively.
4. Effective classroom management techniques and recognition and response to differing behavioral patterns.
5. An understanding of the historical and philosophical bases of American education and a belief that professional development is a life long process.

SUMMARY OF PROGRAMS OFFERED

Elementary Education	Bachelor of Science in Education Master of Education Doctor of Education
Secondary Education	
*English	Bachelor of Science in Education
Communication	*Master of Education
*Biology	
*Chemistry	
*Earth and Space Science	
General Science	
*Mathematics	
*Physics	
*Physics-Mathematics	
*Comprehensive Social Studies	
French	
German	
*Spanish	
*Art Education	For details see College of Fine Arts
*Business Education	For details see College of Business
*Home Economics Education	For details see College of Home Economics
*Music Education	
Health and Physical Education	For details see College of Fine Arts For details see College of Health Sciences
Special Education	
Education of Exceptional Child	Bachelor of Science in Education Master of Education Master of Science
Hearing Impaired	Bachelor of Science in Education
Rehabilitation Education	Bachelor of Science
Speech Pathology and Audiology	Bachelor of Science in Education Master of Education Master of Science
Communications Media	Bachelor of Science
Vocational Education	Bachelor of Science in Education
Graduate Programs (see Graduate Bulletin)	
Adult/Community Education	Master of Arts
Counselor Education	Master of Education, Doctor of Education
Educational Psychology	Master of Education
Instructional Media Specialist	Master of Education
Reading Specialist	Master of Education
Student Personnel Services	Master of Arts
Certification (see Graduate Bulletin)	
Guidance Supervisor	Instructional Media Specialist
Reading Specialist	Elementary Secondary Principals
Reading Supervisor	Special Education Supervisor
School Psychologist	

DEGREE REQUIREMENTS

All degree candidates in the College of Education (except for three special programs) must complete satisfactorily a minimum of 124 semester hours in three categories: General Education, a specialized major field, and professional education:

General Education - 52-55 semester hours, described under requirements for Graduation.

Specialized major field - requirements listed under Department offerings.

Professional Education - 30 semester hours, as follows:

EP 302	Educational Psychology	3 s.h.
EP 377	Educ. Tests and Measurements	3 s.h.
FE 302	History and Philosophy of Education	3 s.h.
CM 301	Instructional Media	3 s.h.
ED 242	Pre-Student Teaching Experience I	1 s.h.
ED 342	Pre-Student Teaching Experience II	1 s.h.
ED 442	School Law	1 s.h.
Methods Course - (Teaching of ———, see under major department offerings)		3 s.h.
One semester student teaching		12 s.h.

SOPHOMORE SCREENING FOR JUNIOR STANDING

College of Education majors are screened at the close of the sophomore year for Junior Standing approval. The student must have earned a minimum of 57 semester hours, achieved a 2.0 cumulative quality point average, successfully completed English I and English II and received speech clearance and department approval.

STUDENT TEACHING

Student teaching is designed to be a learning experience. The student teacher is a student learning to teach under the supervision of a full time cooperating teacher in an off campus center. A University Supervisor is also assigned to work with individual student teachers and cooperating teachers.

PROFESSIONAL EDUCATION COURSE DESCRIPTIONS

ED 100 READING AND STUDY SKILLS FOR THE UNIVERSITY STUDENT 3 s.h.
Designed to provide skills essential to college-level reading and study. Emphasis on fundamentals of reading comprehension, vocabulary development and study skills necessary for academic achievement with individualization as appropriate.

ED 242 PRESTUDENT TEACHING CLINICAL EXPERIENCE I 1 s.h.
Observation/participation in a basic education classroom beginning not later than the sophomore year.

ED 321 STUDENT TEACHING 6 s.h.
Experience in teaching at the elementary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 342 PRESTUDENT TEACHING CLINICAL EXPERIENCE II 1 s.h.
Prerequisite: ED 242
Students work toward the development of specific competencies that relate to individual major fields of teaching.

ED 421 STUDENT TEACHING 6 s.h.
Experience in teaching at the elementary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 423 PROFESSIONAL PRACTICUM, INCLUDING SCHOOL LAW 3 s.h.
Series of conferences and related activities to prepare students for actual teaching experiences. Parallels student teaching experience in junior and senior years. (Elementary education majors only.)

ED 431 TEACHING IN HOME ECONOMICS 6 s.h.
Experience in teaching home economics at the secondary level.

- ED 441 STUDENT TEACHING 6-12 s.h.
Experience in teaching at the elementary or secondary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.
- ED. 442 SCHOOL LAW 1 s.h.
Required of all teacher certification students. Includes overview of legal principles that apply to special areas of education. Must be taken prior to student teaching.
- ED 451 TEACHING SCIENCE IN THE SECONDARY SCHOOL 3 s.h.
Background to help science majors meet the problems of teaching science. Various inquiry approaches useful in meeting objectives of a contemporary science class are taught and exemplified. (2 hours lecture, 2 hours lab)
- ED 452 TEACHING OF ENGLISH AND COMMUNICATION IN THE SECONDARY SCHOOL 3 s.h.
Prerequisite: EN 380
This course is a prerequisite to student teaching in English. Introduces student to current professional practices in the teaching of English and communications in high school.
- ED 453 TEACHING OF FOREIGN LANGUAGES IN THE SECONDARY SCHOOL 3 s.h.
Prerequisite: Successful completion of 351-352 and 055-056 in the student's major language; passage of a language proficiency examination or permission of the instructor.
Methods and material for secondary school teaching, current theories and techniques and classroom demonstrations are given. (Course taught in Fall semester only).
- ED 455 TEACHING OF SOCIAL SCIENCE IN SECONDARY SCHOOLS 3 s.h.
Study of modern methods and techniques for teaching Social Science and of current curricular in Social Science.
- ED 456 TEACHING MATH IN THE SECONDARY SCHOOLS 3 s.h.
Study of modern methods and techniques for teaching mathematics and current curricula.
- ED 457 TEACHING PHYSICS IN THE SECONDARY SCHOOL 3 s.h.
Provides foundation for a prospective secondary school physics teacher in the area of current professional practices, curriculum and methods.
- ED 481 SPECIAL TOPICS 3 s.h.
Prerequisite: By permission only Provides opportunity for students to investigate in depth an area of education under professional supervision.
- ED 495 INTERNATIONAL STUDY TOUR IN EDUCATION 3 s.h.
Study of various peoples through their cultural settings and educational systems; on-site visitation to selected schools and other social agencies and institutions; seminars with school officials and directed readings.
- ED 496 INDEPENDENT STUDY 3 s.h.
Prerequisite: Approval of instructor and department
Advanced work in an area of the departmental curriculum.

THE UNIVERSITY SCHOOL

WARNER E. TOBIN, CHAIRPERSON/DIRECTOR; BATTAGLINI, GERLACH, JOHNSON, LINGENFELTER, MARLIN, MARTIN, ROBINSON AND WALT-HOUR.

The University School provides for a program of instruction from kindergarten through sixth grade, thus affording opportunities for professional laboratory experiences and research activities. Professional laboratory experiences are planned and scheduled with the Director of Professional Laboratory Experiences. Research activities are scheduled with the Director of the University School.

THE UNIVERSITY CLINICS

Two clinics under the supervision of the College of Education offer diagnostic testing and remedial service and instruction in the following areas:

READING CLINIC - diagnosis and remedial instruction for reading and spelling disabilities and instruction for the improvement of present skills.

SPEECH AND HEARING CLINIC - diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy.

Regularly enrolled students at the University may avail themselves of these services without charge.

In addition, a **CHILD STUDY CENTER** provides psychological testing for any pre-school and school-aged child within the area served by the University.

COMMONWEALTH REQUIREMENTS FOR TEACHER CERTIFICATION

(except Vocational Instructional Certification. See section on Vocational Education)

Certification standards for Commonwealth public school teachers are established by the Department of Education and the State Board of Education. The chairperson of the department in which the student is majoring must verify to the office of the Dean of College of Education that all qualifications are met. The dean of the College is authorized to determine final approval for certification.

Applicants for certification are required by State Law to be of good mental and physical health, not in the habit of using either narcotic drugs in any form or intoxicating beverages to excess.

The Instructional I certificate is issued to the beginning teacher upon graduation from the College of Education. With the addition of 24 semester hours of collegiate and/or in-service work and successful teaching experience, students may acquire the Instructional II certificate, leading to permanent certification to teach in the Commonwealth of Pennsylvania.

GRADUATE PROGRAMS

Information descriptive of M.Ed., Ed.D. and Teaching Internship programs may be found in the current issue of the Graduate School Bulletin.

VOCATIONAL EDUCATION

The program of studies leading to a Bachelor of Science in Education with a specialization in Vocational Education enables vocational teachers to extend their education and develop additional teaching competencies beyond level II certification. A plan of studies will be tailored to each individual student's background and professional needs.

The Bachelor of Science in Education (Vocational Education major) requires the student to complete 124 semester hours in the following distribution:

Vocational Teacher Preparation

VO 100 PREPARATION OF THE VOCATIONAL
PROFESSIONAL I

VO 400 PREPARATION OF THE VOCATIONAL
PROFESSIONAL II

30 s.h.

Vocational Technical Preparation	24 s.h.
VO 450 TECHNICAL PREPARATION OF THE VOCATIONAL PROFESSIONAL	
Professional Education	6 s.h.
EP 302 EDUCATIONAL PSYCHOLOGY	
FE 302 HISTORY AND PHILOSOPHY OF EDUCATION	
General Education	52 s.h.
Courses are described under Requirements for Graduation	
Electives	12 s.h.
May be selected from competencies listed under VO 401 or VO 402 or from other courses which lead to a person's career objectives. Total 124 s.h.	

COURSE DESCRIPTIONS

VO 100 PREPARATION OF THE VOCATIONAL PROFESSIONAL I 15 s.h.
 Personalized, self-paced vocational teacher preparation. The vocational student/intern develops, demonstrates and documents competence in selected pedagogical competencies. Individualized instruction is supplemented with monthly seminars. Self-evaluation is encouraged in the program utilizing videotape equipment and the feedback from a team of professional teacher educators.

VO 400 PREPARATION OF THE VOCATIONAL PROFESSIONAL II 15 s.h.
 Prerequisite: Successful completion of VO 100
 Personalized, self-paced vocational teacher preparation. The vocational student/intern develops, demonstrates and documents competence in selected teaching skills in the areas of program planning, program development, program evaluation, and managing and evaluating instruction in a vocational school setting. Self-evaluation is encouraged in the program utilizing videotape equipment and the feedback from a team of professional teacher educators.

VO 401 SPECIAL TOPICS IN VOCATIONAL TECHNICAL PREPARATION 3-12 s.h.
 Prerequisite: Vocational Center Director permission
 Provides opportunities for vocational students/interns to develop additional technical skills in areas related to their occupational competence under professional supervision. Topics are determined through individual counseling, through priority needs identified by advisory committees and through evaluation of technical competence by departmental teaching staff.

VO 402 SPECIAL TOPICS IN VOCATIONAL PEDAGOGICAL PREPARATION 3-15 s.h.
 Prerequisite: Vocational Center Director permission
 Provides opportunities for vocational students/interns to develop additional teaching skills under professional supervision. Topics are determined through identification of priority areas in vocational education using national and state surveys.

VO 450 TECHNICAL PREPARATION OF THE VOCATIONAL PROFESSIONAL 24 s.h.
 Competency assessment of prior occupational experience through national standardized written and performance examinations.

ADULT/COMMUNITY EDUCATION KOSS, MAHLER

EP 320 INTRODUCTION TO COMMUNITY EDUCATION 3 s.h.
 An historic, current and prognostic overview of public education, other than the traditional K-12. Course content will include organization, administration and program and staff development.

COMMUNICATIONS MEDIA DEPARTMENT

WILLIAM McCAVITT, CHAIRPERSON; DUDT, HANDLER, JULIETTE, LAMBERSKI, LIEDMAN, LIPSKY, MURRAY, YOUNG.

The Department offers a Bachelor of Science in Communications Media, a Minor in Media, and serves pre-service teachers and other students who are required to complete the basic course in Instructional Media, CM 301.

CURRICULA

Bachelor of Science

Students completing this degree should qualify for positions in business, industry, government, medical communications and education in the areas of product development, electronic media, and training and development. This degree program offers the student a broad-based experience in non-print media. The student is given an opportunity, through outside electives and an internship program, to design a curriculum that best suits his/her career interests and which may include courses in other appropriate departments.

Core Program

Requirements for all Communications Media majors, beyond the University's General Education requirements are as follows:

CM 101	Survey of Communication Media	3 s.h.
CM 271	Photographic Fundamentals	3 s.h.
	OR Foundations of Broadcasting	3 s.h.
CM 303	Design and Writing for Media Production	3 s.h.
CM 390	Field Experience	1-3 s.h.
	or	
CM 490	Internship	3-12 s.h.
CM 440	Communications Graphics	3 s.h.
CO 200	Introduction to Computers	3 s.h.

Minor in Media

A Minor in Media consists of a minimum of 18 semester hours including at least one course from each of these four blocks:

- A. General Communications
CM 101, 240, 301, 303, 440
- B. Photography
CM 271, 409, 443, 470, 472, 473
- C. Filmmaking
CM 444, 445, 447
- D. Radio and Television
CM 404, 448, 449, 450, 451, 452

COURSE DESCRIPTIONS

CM 101 SURVEY OF COMMUNICATIONS MEDIA 3 s.h.
Required of Communications Media Majors.

Introduction to the evolution, status and future of communications media. Students explore: intrapersonal communication through self-assessment, values clarification and feedback; interpersonal communication through interviews, observations, case studies and gaming; and mass communications through the examination of the processes and the technology utilized to disseminate and manage information. Career paths, field applications, professional associations and the primary literature are investigated.

- CM 271 PHOTOGRAPHIC FUNDAMENTALS** 3 s.h.
Prerequisite: CM 101 or permission
Working with black-and-white materials, the student learns to operate a camera, develop film, make contact prints and enlargements, and mount prints for display. Ancillary topics are introduced such as filtration, print spotting, flash and the use of accessory lenses. Student is required to have a 35mm camera, preferably a single-lens reflex, with fully manual focusing and exposure capability.
- CM 301 INSTRUCTIONAL MEDIA** 3 s.h.
Prerequisites: PC 101, EP 302, and Junior Standing.
Professional course required of all students in Education. Preservice teachers gain competencies in selecting, using and evaluating audio-visual machines and materials. Performance-based activities in instructional design, materials production, machines operation and related learning resource activities relevant to prospective teaching experiences stressed.
- CM 303 DESIGN AND WRITING FOR MEDIA PRODUCTION** 3 s.h.
Required of Communications Media Majors.
Introduction to the design of media materials and script writing. Style and techniques of writing will be analyzed. Classroom emphasis is on writing, critiques and revision of designs and scripts. Scripts for audio still projection, motion picture and television productions will be written.
- CM 390 FIELD EXPERIENCE(S) IN COMMUNICATIONS MEDIA** 1-3 s.h.
Communications Media Majors Only
Individually designed projects or related practicums sponsored by a department faculty member. Experiences concentrate on practical application and pursuit of competencies. Experiences reflect the academic goals of the department and service the needs and interests of the faculty sponsor. Students may take one or more s.h. per semester (40 hours or more of commitment—1 s.h.) and multiple experiences are possible with a maximum of 3 s.h. permitted towards a degree program.
- CM 404 FOUNDATIONS OF BROADCASTING** 3 s.h.
Prerequisite: CM 101
Examination of the historical, legal and economic aspects of broadcasting. Impact of broadcasting on society will be explained as well as the impact of the new technology on our existing broadcasting systems.
- CM 405 RADIO PRODUCTION TECHNIQUES** 3 s.h.
Prerequisites: CM 101, 404
Instruction in the various techniques and applications of sound production and programming for radio. Emphasis on planning, scripting and producing broadcast quality radio programs as well as commercial type announcements and station promotional devices.
- CM 409 MULTI-IMAGE PRODUCTION** 3 s.h.
Prerequisites: CM 271, 303, 440, 449
An advanced production course employing instructional development techniques to emphasize the unique features of multiple image messages primarily through 2x2 slides. Scripting, storyboarding, computer programming and audio visual production techniques are used in the course project.
- CM 440 COMMUNICATIONS GRAPHICS** 3 s.h.
Prerequisites: CM 101
Provides basic experiences in planning and producing commonly used television studio, industrial display and classroom graphics which are applicable in educational, industrial and medical training programs. Experiences include technical layout and lettering; color; mounting and laminating; copying and reproduction techniques utilizing photography and xerography; photo silk screening and photo sketching.
- CM 443 SLIDE AND FILMSTRIP PRODUCTION** 3 s.h.
Prerequisites: CM 271, 303, 440, 449

Beginning course emphasizing techniques of design and production of single image slide or filmstrip presentations. Covers selection of materials and equipment, photography composition, message design and production methods in the course project.

CM 444 BASIC MOTION PICTURE PRODUCTION 3 s.h.

Prerequisites: CM 101, 303

Emphasizes effective use of Super 8mm motion picture cameras and editing tools to make useful locally produced films. No previous experience is necessary.

CM 445 ADVANCED MOTION PICTURE PRODUCTION 3 s.h.

Prerequisite: CM 444

Emphasizes motion picture production planning. Such techniques as directing, advanced picture and sound editing, and use of cinematography, tilting, animation and special effects photography investigated.

CM 447 ANIMATION 3 s.h.

Prerequisite: CM 444

Introduces animation techniques and offers practical experience in planning and producing animated sequences. Work with filmograph, cut-out, puppet and full cel animation. Practice in designing, drawing, tracing, inking and painting cels, preparation of blackboards, use of cel boards, animation camera and stand; preparation of story boards and cue sheets; integration of visual and sound.

CM 448 WRITING FOR RADIO AND TV 3 s.h.

Prerequisite: CM 101

Provides the procedures to be followed when preparing a script for both radio and television. Students will be required to write scripts for both radio and television and for various program and commercial types. Emphasis on the creative aspects of writing for the visual and audio broadcast media.

CM 449 BASIC AUDIO RECORDING TECHNIQUES 3 s.h.

Prerequisites: CM 101, 403

Theory and practice of recording sound, developing an understanding of language of sound recording as well as ability to make sound recordings. Exposure to recording for various media including radio, music, motion pictures, television, multi-image, and slide and tape production. Material also appropriate for teachers who wish to make use of tape recorder in the classroom. Students will gain hands-on experience through labs and projects to be completed outside of class. Students will be expected to provide an audio tape recorder.

CM 450 ADVANCED AUDIO RECORDING TECHNIQUES 3 s.h.

Prerequisite: CM 449

Sound recording utilizing advanced techniques and concentrating on specific applications. Student participates in an intensive lab experience utilizing the most advanced equipment available. Emphasis on application, editing, signal processing and multi-track recording. Student is expected to produce a sound recording for a specific use of professional quality.

CM 451 TELEVISION PRODUCTION 3 s.h.

Develops basic skills in television production and direction. Consideration of operating problems of a television studio, as well as functions; limitations, and capabilities of television equipment and facilities. Stress placed on educational application of television production.

CM 452 ADVANCED TELEVISION PRODUCTION 3 s.h.

Prerequisite: CM 451

Provides an in-depth experience in the technical aspects of television production. Students will produce and direct programs of broadcast quality.

CM 470 LIGHTING TECHNIQUES FOR THE VISUAL MEDIA 3 s.h.

Investigates and compares the special techniques involved in lighting sets and portraits in motion pictures, television and still photography. Emphasizes practical 'hands-on' experi-

ence in the studio. Student must provide an acceptable, hand light meter and other minor associated equipment. Three hours lecture/studio work per week. Limit 20 students.

CM 472 PHOTOGRAPHY II: THE PRINT 3 s.h.

Prerequisite: CM 271

Students will develop camera and print-making skills to the degree that they can produce salon-quality photographic prints. Students will understand the photographic processes utilized in producing a high quality negative and print to the extent that they can manipulate those processes to communicate an intended message with their photographs. Emphasis on camera and print control as well as composition and negative and print manipulation.

CM 473 CREATIVE DARKROOM TECHNIQUES 3 s.h.

Prerequisite: CM 472

Students pursue photographic competencies to a high level of proficiency. Specific topics may vary as photographic technology changes, but typical assignments include high contrast photography through the use of graphic arts materials, multiple exposures in the camera and in projection printing, making and using paper negatives, and hand coloring of photos.

CM 480 INDEPENDENT STUDY 1-3 s.h.

Prerequisite: Communications Media Major Only

Students may, with the sponsorship of a department faculty member and consensus of the department, elect an advanced course of study which reflects the academic goals of the department. Exemplary project is intended to extend or combine field knowledge not readily available through other course offerings. Students may take one or more semester hours (40 hours or more of commitment—1 s.h.) and multiple projects are possible; a maximum of 3 s.h. are premitted towards a degree program.

CM 490 INTERNSHIP 6-12 s.h.

Prerequisite: Communication Media Majors Only, Junior or Senior Status.

Supervised professional work experience in communications media. Sites reflect the academic goals of the department and are approved and administered by a department coordinator. Location, duties, length of internship and hours are individually tailored to student career goals. Sites represent wide application of process and technology of communications in business, education, allied health, or other agencies. Students may take three or more s.h. per semester (40 hours or more of commitment—1 s.h.) and multiple experiences are possible; a maximum of 3 s.h. of internship and/or field experiences are permitted towards a degree program.

CM 499 INDEPENDENT STUDY 1-3 s.h.

Prerequisite: Prior approval of the instructor and department

Advanced study in any of four major areas - photography, filmmaking, broadcast and production.

COUNSELOR EDUCATION DEPARTMENT

JAMES C. WILSON, CHAIRPERSON: CULP, PESCI, WASHBURN, WORZBYT.

The courses listed below are available, as electives and as offered, to undergraduate students in Education, in-service teachers, and other school personnel seeking a broad understanding of helping roles in a school program of guidance services. These courses are not designed for those who would aspire to become school counselors. For more information on counselor education programs see the current Graduate School Bulletin.

COURSE DESCRIPTIONS

CE 400 TEACHER ORIENTATION TO GUIDANCE SERVICES 3 s.h.

An elective for upper level undergraduate students in Education and aims to provide a broad understanding of the role of the classroom teacher in a school guidance program.

CE 250 DEVELOPING INTERPERSONAL RELATIONSHIP SKILLS 1 s.h.
Teaches interpersonal relationship skills: listening, communicating, group dynamics, decision making, leadership, assertiveness, time use management, problem solving and conflict resolution. Open to all undergraduates.

CE 252 GUIDANCE IN SCHOOL SETTINGS 3 s.h.
A survey course in guidance designed as an elective for in- service teachers and school personnel other than counselors.

CE 253 COUNSELING IN SCHOOL SETTINGS 3 s.h.
An elective course designed to provide in-service teachers and school personnel, other than counselors, a basic understanding of the knowledge, information and skills appropriate to counseling with individuals and groups.

EDUCATIONAL PSYCHOLOGY DEPARTMENT

JOHN QUIRK, CHAIRPERSON: ANGELONI, DeFABO, HELMRICH, HOELLEIN, LEVENTRY, YANUZZI.

The department services undergraduate and graduate students. Undergraduate students may declare a Minor in Educational Psychology by making application to the department chairperson. Eighteen semester hours from the courses described below are required for the minor.

The department also offers the M.Ed. with emphasis in Educational Psychology, School Psychology, and Research. There is also a post-master's certification and a Doctor of Education in School Psychology. Refer to the current Graduate School catalog for details.

COURSE DESCRIPTIONS

Professional Education Courses

EP 302 EDUCATIONAL PSYCHOLOGY 3 s.h.
Prerequisite: PC 101

(Required of all Education majors - it is recommended that this course be taken immediately prior to the student teaching experience.)

Designed to promote better understanding of principles of psychology governing human behavior, with particular emphasis on their relation to learner, learning process and learning situation in an educational environment.

EP 303 THE PSYCHOLOGY OF EFFECTIVE PROFESSIONAL PRESENTATIONS 3 s.h.
Designed to give students awareness and skills in the areas of professional presentations. Concerned with dress, diction and decorum. Emphasis on effective speaking and professional dress, with particular care to the interview. Proper behavior for social and public engagements is also covered.

EP 304 CAREER PLANNING AND DEVELOPMENT 1 s.h.
Designed for juniors and seniors seeking internship, employment and graduate school admission. Emphasis on personal goals design with integration of preparation and aspiration. Resume. letters of application, search techniques and interview skills are developed.

EP 371 PSYCHOLOGY OF TEACHING SEX EDUCATION 3 s.h.
Explores the methods of teaching sex education to elementary, intermediate and secondary levels; the sexual development of the child through adolescence and adulthood; the role of organized religion in sexuality.

EP 377 EDUCATIONAL TESTS AND MEASUREMENTS 3 s.h.
 Prerequisite: PC 101
 (Recommended that this course be taken immediately prior to student teaching experience.)
 Designed to acquaint students with major methods and techniques of evaluation used to assess and report growth, development and academic achievement of individuals in an educational environment. Includes interpretation of standardized test information and basic research techniques.

General Electives for Instructional II Certification

EP 372 PSYCHOLOGY OF CHILDHOOD EDUCATION 3 s.h.
 Prerequisite: EP 302
 Emphasizes relationship which physical, social, emotional and intellectual development have on theory and practice of childhood education.

EP 373 PSYCHOLOGY OF ADOLESCENT EDUCATION 3 s.h.
 Prerequisite: EP 302
 Study of significant characteristics, behavior, and educational and social problems of adolescents.

EP 376 BEHAVIOR PROBLEMS 3 s.h.
 Prerequisite: EP 302
 Examination of emotional and social aspects of behavior problems encountered in classroom situations and potential remedial techniques.

EP 378 LEARNING 3 s.h.
 Prerequisite: EP 302
 Explores learning theories and educational application in the classroom.

EP 380 PUPIL ADJUSTMENT 3 s.h.
 Prerequisite: EP 302
 Considers human adjustment and mental health in relation to causative factors and explores dynamics of personal and interpersonal relationships.

EP 383 EDUCATION OF THE DISADVANTAGED STUDENT 3 s.h.
 Prerequisite: EP 302
 Acquisition of necessary understandings of physiological, psychological and social implications relevant to working with and teaching disadvantaged student.

EP 384 FIELD EXPERIENCE 3 s.h.
 Prerequisite: EP 302
 Provides student with tutorial experience in the public schools with professional supervision.

EP 385 HUMANIZING THE CLASSROOM 3 s.h.
 An experimental course concerned with human-relations-skills training with particular emphasis on group process, non-verbal communication, listening and responding skills. The focus of this course is primarily on the translation of these skills into effecting productive classroom environments in educational settings.

EP 387 CHILDREN AND THE LAW 3 s.h.
 A course designed to promote a better understanding of our legal system as it affects children within the family and in specific settings including schools, juvenile courts, state institutions, and community agencies.

EP 388 INTERPERSONAL EFFECTIVENESS AND COMMUNICATION SKILLS 3 s.h.
 This is a course devoted to increasing professional effectiveness and improving communication skills within educational, business, and industrial settings. Course content includes analysis of nonverbal behaviors, active listening, rational self-analysis and assertion skills.

EP 481 SPECIAL TOPICS IN EDUCATIONAL PSYCHOLOGY 3 s.h.
 Prerequisite: Department Chairperson permission.
 Provides opportunity for students to investigate in depth an area of Educational Psychology under professional supervision.

EP 499 INDEPENDENT STUDY 1-3 s.h.

ELEMENTARY EDUCATION DEPARTMENT

EMILY DeCICCO, CHAIRPERSON; BARTHA, DAVIS, DORSEY, ELLIOTT, JALONGO, KING, KUHN, McFEELY, MILLWARD, MOTT, REILLY, RIZZO, STUART, E. VOLD, WILLIAMS.

Requirements for a degree in Elementary Education include: The University's General Education requirements, 26 semester hours in Professional Education and 37 semester hours in Elementary Education. Students can also major in Early Childhood Education. A minor is available in Computer Science.

Effective Fall 1983: A 2.5 QPA is required in the major area of study in order to student teach.

COURSE DESCRIPTIONS

Required Courses in Elementary Education

EL 211 MUSIC FOR THE ELEMENTARY GRADES 2 s.h.
 Geared for elementary education students. Includes basic ideas for understanding, development, and confidence for future classroom teachers and their pupils in areas of music education.

EL 213 ART FOR THE ELEMENTARY GRADES 2 s.h.
 The creative use of art materials and an understanding of development of capacities of children through art.

EL 215 CHILD DEVELOPMENT 3 s.h.
 Survey of human development, from conception to adolescence, in terms of basic scientific data. Development, growth, and behavior studied and their implications for home, school and community considered.

EL 221 CHILDREN'S LITERATURE 3 s.h.
 Acquisition of a wide acquaintance with children's literature, old and new. Poetry selections, annotated stories and bibliographies will be assembled. Ways and means to develop, stimulate and guide children's reading of literature presented. Principles and techniques of successful storytelling studied and practiced.

EL 222 TEACHING OF READING I 3 s.h.
 Systematic coverage of teaching of reading, including methods, techniques and materials. First of a two course sequence.

EL 312 TEACHING OF ELEMENTARY SCIENCE 3 s.h.
 Emphasis placed upon science as it relates to child and curriculum, planning for teaching science and recent innovations in science teaching. Course offered on the block only.

EL 313 TEACHING MATHEMATICS IN THE ELEMENTARY SCHOOL 3 s.h.
 Prerequisites: MA 150 and MA 151.
 Recent developments in curriculum and methods of instruction of contemporary elementary school mathematics programs. Students will become acquainted with books, materials and other resources helpful to prospective teachers. Includes observations of master teachers.

EL 314 TEACHING OF HEALTH AND PHYSICAL EDUCATION 2 s.h.
Games, stunts, rhythms, relays, tumbling, dances and skills suitable for elementary school child. Teaching of health in elementary school is emphasized, including methods, materials and lesson planning.

EL 322 TEACHING OF READING II 3 s.h.
Second course of a two-course sequence. Systematic coverage of teaching of reading, including method.

EL 411 TEACHING OF SOCIAL STUDIES 3 s.h.
Overview of social studies in elementary school. Includes study of objectives, trends, areas of content, patterns and principles of organization and techniques of teaching. Variety of learning experiences and materials used and evaluated.

EL 413 TEACHING LANGUAGE ARTS 3 s.h.
Techniques for teaching oral and written communication, spelling, handwriting, vocabulary development, listening and linguistics for Elementary Education students. Evaluates recent trends and research.

ED 423 PROFESSIONAL PRACTICUM, INCLUDING SCHOOL LAW 3 s.h.
Series of conferences and related activities to prepare students for actual teaching experiences. Parallels student teaching experience in junior and senior year.

EL 461 ORGANIZATION OF THE ELEMENTARY SCHOOL AND ITS CURRICULUM 3 s.h.
Study of organization of elementary school from standpoint of curriculum design and development. Role of teacher as it relates to evaluation, improvement, and development of elementary school curriculum. Designed to be taught in conjunction with student teaching semester.

ED 242 CLINICAL EXPERIENCE I 1 s.h.
The primary purpose of this first pre-student teaching experience is to gain an overall view of the classroom, pupils and teachers. Students are encouraged to become actively involved in a classroom to the level of their ability.

ED 342 CLINICAL EXPERIENCE II 1 s.h.
The purpose of the second experience is to develop teaching skills and abilities by involving the student in a variety of teaching experiences under the close supervision of a cooperating teacher.

Elective Courses in Elementary Education

EL 212 TEACHING OF MUSIC IN THE ELEMENTARY GRADES 3 s.h.
Prerequisite: EL 211.

Continuation of skills and understandings as developed in EL 211, with emphasis on methods and materials for upper grades. Additional opportunities for growth in music reading and part singing are provided. Correlation of music with other areas.

EL 214 TEACHING ART IN THE ELEMENTARY GRADES 3 s.h.
Prerequisite: EL 213.

In-depth experiences and two- or three-dimensional materials relative to art and crafts for elementary school child.

EL 330 PROBLEMS IN ELEMENTARY EDUCATION 3 s.h.
Prerequisite: ED 302.

For in-service teachers and those working toward permanent certification. Formulation of solutions to problems of organization and instruction in elementary school; in-depth study of teacher-pupil-parent interrelationships.

EL 351 CREATIVE ACTIVITIES IN THE ELEMENTARY SCHOOL 3 s.h.
Provides student with a wide range of creative experiences in fields of art, crafts, music,

rhythmics, dramatics and games in elementary school. Stress is placed upon need to help children in developing their capacities for creative expression in these areas.

EL 353 PRE-SCHOOL EDUCATION 3 s.h.
Principles and practices of guiding learning experiences of kindergarten student. Special attention given to observations, kindergarten program and its curriculum, material and methods of instruction.

EL 355 GUIDANCE IN THE ELEMENTARY SCHOOL 3 s.h.
Study and discussion center about child himself - his characteristics, needs, problems, material and relationship with others; and around techniques and procedures for identifying, studying and giving help to children.

EL 422 DIAGNOSTIC AND REMEDIAL READING 3 s.h.
Causes of reading disability; methods of diagnosis; procedures and materials for remedial work, group and individual.

EL 452 SOCIAL STUDIES IN THE PRIMARY GRADES 3 s.h.
Prerequisite: EL 411.
Examination of content, objectives and resource materials for social studies in kindergarten through third grade. Research problems examined and representative units developed.

EL 462 INNOVATIONS IN ELEMENTARY EDUCATION 3 s.h.
Study of innovations which influence and direct educational objectives of modern elementary school and its organization. Educational innovations dealing with curriculum, school organization and materials of instruction. Designed for those who have completed student teaching or are postgraduates.

EL 463 WORKSHOP IN ELEMENTARY TEACHING 3 s.h.
Prerequisite: At least one student teaching experience.
Designed for in-service teachers and those who are preparing to work with elementary school children, including elementary education majors who have had at least one student teaching experience. Course provides for investigation of subject matter, materials, methods and procedures used in modern elementary classroom. Emphasis placed upon observation and participation in programs currently being demonstrated in the University School.

ED 408 READING IN THE CONTENT AREAS 3 s.h.
Problems related to teaching students reading and study skills specifically needed in each of the subject areas at the elementary level. Content teachers learn how to develop student's competence in these skills as part of their regular classroom instruction.

ED 410 THE TEACHING OF READING IN THE SECONDARY SCHOOL 3 s.h.
Specific guidelines and techniques for developing reading skills in each of the content areas as well as guidelines for the organization of secondary reading programs.

Early Childhood Education Certification Program

The Early Childhood Education Certification Program prepares students to select from among a variety of techniques and strategies those which appropriately expand children's cognitive, social, emotional and physical development. Through lectures, research and on-site experiences with young children, students are able to expand their own knowledge of and attitudes toward education of young children N-3rd grade.

Required Courses

EE 220 LANGUAGE AND LITERATURE 3 s.h.
Provides students with background on developmental chronology of communication skills in the young child and presents curricular approaches to facilitating linguistic competence. Theories of language acquisition, relationship between speech and cognition, techniques for assessing samples of children's speech and literature appropriate for the preschool/primary

child will be examined. Integrated approach to language arts that correlates listening, speaking, writing and reading will be stressed. Students will apply these concepts during a supervised practicum experience.

EE 310 INTEGRATED CURRICULUM I 3 s.h.
Examines the sequence of cognitive development in children and the implications for instructional programs. Stages of cognitive understanding will be applied to the basic components of numerical concepts and classroom strategies. Classroom management strategies that can be utilized in varied environments will be stressed.

EE 311 INTEGRATED CURRICULUM II 3 s.h.
Enables students to realize the importance and relevance of content area subjects as related to the early childhood years. Planning for teaching with specific emphasis on methods and materials for social and environmental living is introduced. Integration of music and art areas is emphasized. Values systems and self-esteem are integral to social living.

EE 312 AESTHETIC EXPERIENCES FOR YOUNG CHILDREN 3 s.h.
An interdisciplinary approach to different forms of creative expression in young child Art, music and movement will be analyzed as aesthetic elements in a comprehensive early childhood curriculum. Development of creative potential in both teachers and children will be promoted as a means of enhancing the artistic experiences. Students will expand their use of the arts to enhance the self-esteem and self-worth of the students as they apply their specialized knowledge and skills in directed teaching activities with small groups of children.

EE 315 PLAY AS COGNITIVE AND AFFECTIVE DEVELOPMENT 3 s.h.
Provides early childhood educators with the knowledge and skills necessary to promote and guide children's play behavior as the child's basic learning mechanism. Emphasis on definitions theories and stages of play within the context of social, emotional, physical and intellectual growth for children aged 0-8 years. Students will observe children at play, design specific learning activities that utilize a play/games format and direct educational experiences during the supervised field component.

EE 451 TEACHING PRIMARY READING 3 s.h.
This is a methods course designed to assist students in developing the reading abilities of young children. It deals with instructional issues related to teaching reading. It introduces students to varying reading and pre-reading processes which are effective with young children. It also emphasizes diagnostic and assessment strategies for teaching reading.

EL 215 CHILD DEVELOPMENT

EL 353 PRE-SCHOOL EDUCATION

EX 300 EDUCATION OF THE EXCEPTIONAL CHILD IN REGULAR CLASSROOM

ED 442 PROFESSIONAL PRACTICUM, INCLUDING SCHOOL LAW

CM 301 INSTRUCTIONAL MEDIA

EP 377 EDUCATIONAL TESTS AND MEASUREMENTS

FE 302 HISTORY AND PHILOSOPHY OF EDUCATION

HE 426 TECHNIQUES OF PARENT EDUCATION

MA 450 MATHEMATICS FOR EARLY CHILDHOOD

Graduate Programs

Programs leading to the M.Ed. and Ed.D degrees are described in the current issue of the Graduate School Bulletin. Internships and assistantships are available.

FOUNDATIONS OF EDUCATION DEPARTMENT

DAVID E. ROTIGEL CHAIRPERSON: MERRYMAN, PENTA, THIBADEAU.

COURSE DESCRIPTIONS**Professional Education Courses**

FE 302 HISTORY AND PHILOSOPHY OF EDUCATION 3 s.h.
Provides an introduction to some of the major traditional and contemporary philosophic concepts which have played a role in the formation of educational policies and practices. Emphasis on relationship between educational theory and practice in such areas as: the role of the school in society, curricular content, teaching and learning methodology, educational goals and professionalism.

FE 433 SCHOOL LAW 1 s.h.
Introduction to legal framework within which the school operates. Includes study of both federal and Pennsylvania law which influences the conduct of the school.

Electives (Open to Juniors and Seniors)

FE 414 COMPARATIVE FOUNDATIONS OF EDUCATION (DUAL LEVEL) 3 s.h.
Analysis, evaluation, and especially comparison of educational purposes, curriculum and methods in some western European nations, some developing nations in Africa, Asia and Latin America, and some communist nations including U.S.S.R. and P.R.C. The educational theories and practices in the United States will be compared with those in other lands. Designed to develop insight into new ideas and practices in American schools.

FE 415 CURRICULUM DEVELOPMENT (Dual Level) 3 s.h.
Analysis of philosophical, sociological and psychological basis for creation of curricular patterns, K-14. Includes utilization of technological devices, critical examination of basic concepts underlying determination of objectives, selection and organization of subject matter and of learning experiences in general. Current curriculum research will be analyzed, as will existing instructional materials and programs. Study of development of public school administration; current organizational patterns for public education at the local, county, state and national levels; and the impact of administration upon the total educational program.

FE 456 ISSUES AND TRENDS IN EDUCATION (DUAL LEVEL) 3 s.h.
Critical analysis of issues and trends in education with emphasis on philosophical and social dimensions of topics covered. Attention to work of some major contemporary critics of education

FE 495 INTERNATIONAL EDUCATION STUDIES PROGRAM (Dual Level) 3 s.h.
Affords educators and students opportunity to investigate school systems in cultural settings other than their own. Particular attention to such issues as curriculum, teaching and learning process, teacher education, and the changing cultural patterns and value system impacting upon education. Travel-seminar with educators, teachers, students and parents in a foreign country. On-site visitation to selected schools and social and cultural institutions.

Urban Education Sequence

FE 440 ORIENTATION TO TEACHING IN URBAN CENTERS 3 s.h.

Provides students an understanding of learners and their unique learning needs and conditions. Emphasis on understanding the origin of attitudes and values and how these affect the relationships which exist between students and teachers. Special attention to practical application of theoretical information to problems of urban education. Field trips and guest speakers will be emphasized.

FE 441 FIELD EXPERIENCES IN URBAN CENTERS 6 s.h.

Prerequisite: FE 440.

Provides specialized experience for students desiring to teach in inner-city schools. Aspects to be emphasized include physical characteristics of community, background and aspirations of children and youth and specialized teacher competencies; classroom management, planning, instructional materials, teaching strategies and evaluations. Records of comprehensive experiences in urban areas will be considered in making field experience assignments. Schools selected for student experience will be located in Pittsburgh.

FE 442 INTERPRETING URBAN/FIELD EXPERIENCES 3 s.h.

Prerequisites: FE 440 and FE 441.

Evaluation of learning and behavior problems encountered during field experience in urban schools. Flexible approach stressed to encourage wide range of investigation and exploration of psychological and sociological problems as they affect education. Supervision and guidance for investigating specific problems provided by specialists from psychology, sociology and education who will function as resource personnel providing direction enabling students to combine experiences gained by teaching in urban schools with recent and pertinent theoretical information. Graduate courses offered by this Department include Comparative, Historical, Philosophical and Social Foundations of Education; Curriculum Development; Professional Negotiations in Education; and International Education Studies Program. For specific information concerning these courses, see the current edition of the Graduate School Catalog.

SPECIAL EDUCATION AND CLINICAL SERVICES

EUGENE F. SCANLON, CHAIRPERSON: M. BAHN, W. BAHN, BATCH, BENCH, BORMANN, CHAPMAN, CRONK, FELIX, FIDDLER, FLAMM, MEASE, MORRIS, MUNRO, NEWELL, REBER, SHANE, TURTON, VICKERS, YAGEL.

This department offers the degree of Bachelor of Science in Education in any one of four options. Each of the four options follows a prescribed sequence of courses. Students may elect to major in any one of the following fields:

- A. Education of Exceptional
- B. Speech Pathology and Audiology
- C. Rehabilitation Education
- D. Education of Hearing Impaired

The following grade policy effects students in the programs: Education of Exceptional, Speech and Hearing, Rehabilitation, and Education of Hearing Impaired. 1. No more than one 'D' grade, and no 'F' grades in major courses will be accepted toward graduation and certification, except for the following courses where a student must earn a 'C' grade or higher:

- a. SH 122 - Phonetics
- b. Clinics I and II
- c. Student Teaching
- d. Field Training
- e. Methods and Curricular Planning for Mildly and Moderately Handicapped

- f. Language for Hearing Impaired
- g. RH 322 - Case History and Interpretation

2. A student may appeal this policy to a program appeal committee.

A. EDUCATION OF EXCEPTIONAL PERSONS

Completion of the sequence of study in this option leads to Pennsylvania Department of Education comprehensive certification as a teacher of the mentally and/or physically handicapped. Students will be prepared to teach mentally retarded, physically handicapped, emotionally disturbed socially maladjusted learning disabled and neurologically impaired. This program also provides an opportunity for students to seek career opportunities in the areas of welfare, mental health, and with private agencies. Student teaching experiences are provided with the mentally retarded and one of the other handicaps. The program also provides a foundation for pursuing additional work at the graduate level.

In addition to fulfilling the General Education requirements established by the University and the Professional Education requirements set by the College of Education, students are obligated to complete 42 additional semester hours in the specialized field and its related areas, as follows:

Required Basic Courses

EX 120	Introduction to Exceptional Persons	3 s.h.
EX 220	Typical and Atypical Growth and Development	3 s.h.
EX 341	Educating Socially and Emotionally Maladjusted	3 s.h.
EX 343	Content Subject Areas for Mentally and/or Physically Handicapped	3 s.h.
EX 353	Reading and Other Language Arts for Mentally and/or Physically Handicapped	3 s.h.
EX 370	Assessment of the Mentally and/or Physically Handicapped	3 s.h.
EX 430	Physical Disabilities and Psychological Handicaps	3 s.h.
EX 450	Methods and Curriculum Planning for the Mildly and Moderately Handicapped	3 s.h.
EX 454	The Brain Injured and the Learning Disabled	3 s.h.
EX 457	Severe/Profound Retardation and Multiple Disabilities	3 s.h.

Required Related Courses

EX 240	Teaching Math to the Mentally and Physically handicapped	3 s.h.
EX 251	Methods of Teaching Reading	3 s.h.
SH 254	Classroom Management of Language Disorders	3 s.h.
AT 330	Art for Mentally and Physically Handicapped	3 s.h.
OR		
MU 211	Music for Exceptional	3 s.h.

Electives

Recommended electives to be determined by need and interest.

COURSE DESCRIPTIONS

EX 120 INTRODUCTION TO THE EXCEPTIONAL 3 s.h.
 Prerequisite: For Department Majors and Official Incoming Transfers Only
 Surveys characteristics, needs, problems and behavior patterns of person who deviate

sufficiently from 'normal' to be considered exceptional. Consideration to those who fall intellectually both above and below average, those who are handicapped visually, acoustically, behaviorally, orthopedically, neurologically, or in respect to speech patterns.

EX 220 TYPICAL AND ATYPICAL GROWTH AND DEVELOPMENT 3 s.h.

Prerequisites: EX 120, PC 101

Presents foundations of human growth from conception, including basic embryogenesis, up to but not including adolescence. Considers the biological, cultural, educational, and parenting influences that shape the child, as well as selective examples of normal and deviant physical and intellectual development.

EX 240 TEACHING MATH FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 s.h.

Prerequisites: MA 151 and EX 120

Emphasizes recent developments in elementary curriculum and to instructional techniques for developing concepts, implications or recent resource developments and materials helpful to the prospective special education teacher. Emphasis placed on methods of helping children learn mathematical concepts through physical activity and on ways to adapt regular classroom materials to meet needs and abilities of slow and disabled learners.

EX 251 METHODS OF TEACHING READING 3 s.h.

Prerequisite: Sophomore Rank or above

Presents basic concepts of developmental reading instruction and systematic coverage of methods of teaching reading from readiness stages through eighth grade. Diagnostic-precriptive techniques are included.

EX 280 DIRECTED ACTIVITIES I 1 s.h.

Prerequisites: EX 120 and Departmental Permission

Provides for opportunities to observe mentally and/or physically handicapped persons in a variety of settings. Through passive observations students have opportunities to confirm their interest in the field of special education. Offered only to freshmen, first semester sophomores and to qualified transfer students.

EX 300 EDUCATION OF THE EXCEPTIONAL IN THE REGULAR CLASSROOM 3 s.h.

For non-special education majors only.

Surveys traits, needs, problems and behavior patterns of the exceptional person and indicates methods and considerations for the regular classroom teacher while encountering the exceptional person in his/her classroom. Legal rights of the exceptional are stressed and contributions of the disabled to society are presented. Implications regarding parenting of exceptional children and youth are included.

EX 341 THE SOCIALLY AND EMOTIONALLY MALADJUSTED 3 s.h.

Prerequisite: Departmental Permission

Provides for an understanding of the characteristics and educational programming for the socially and/or emotionally maladjusted. Consideration to relationship between social and emotionally maladjusted and other areas of exceptionality.

EX 343 CONTENT AREA SUBJECTS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 s.h.

Prerequisite: EX 120

Presents methods for teaching science and social studies to the mentally and/or physically handicapped. Scope and sequence of content, as well as evaluative techniques for each content area, are studied. Integration of other content areas and skill areas is stressed. Stresses teaching in both resource room and less restrictive environments.

EX 353 READING AND OTHER LANGUAGE ARTS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 s.h.

Prerequisites: EX 120, 251 and SH 254

Review of typical and atypical characteristics of the handicapped in relationship to the language arts. Deals with preparation and execution of units of instruction in language arts

for mentally and/or physically handicapped persons. Diagnostic and prescriptive approaches are included; integration of language arts with a highlight on reading is stressed.

EX 370 ASSESSMENT OF THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 s.h.

Prerequisite: EX 120 and EP 377

Emphasis on appropriate use of assessments. Procedures for employing standardized tests and informal evaluative procedures within the realm of competency of the special educator. Applications based on results of all types of assessment complying with current legislation. Applications to the Individual Education Program (IEP) are taught.

EX 380 DIRECTED ACTIVITIES II 1 s.h.

Prerequisites: Departmental Permission and EX 280

Offered to qualified junior and senior majors. Enrollees actively participate, under strict agency supervision, with exceptional persons in classroom, clinic, institutional and/or other special settings. Each semester hour of credit includes both participation and written assignments. With departmental approval, course may be repeated for credit.

EX 410 SENIOR SEMINAR IN SPECIAL EDUCATION 3 s.h.

Prerequisite: Enrollment by Invitation Only

Gives students who have demonstrated outstanding potential for contributing to the field, opportunities to explore specific areas in greater depth.

EX 430 PHYSICAL DISABILITIES AND PSYCHOLOGICAL HANDICAPS 3 s.h.

Prerequisites: EX 120 and 220

Provides for study in-depth of the most prevalent physical disabilities and how some of the persons afflicted successfully cope with them while others who are not successful turn their disabilities into psychological handicaps. Adaptation of materials, equipment and facilities are discussed. Rational for placements in special schools, classes and enrollments in regular classes are included.

EX 450 METHODS AND CURRICULAR PLANNING FOR MILDLY AND MODERATELY HANDICAPPED 3 s.h.

Prerequisite: Departmental Permission

Provides for in-depth examination of methods, strategies and curricula with which special educators are faced. Special projects of a practical nature are included to provide enrollees experiences with planning, application, analysis, synthesis and evaluation.

EX 454 THE BRAIN INJURED AND THE LEARNING DISABLED 3 s.h.

Prerequisite: Departmental Permission

Provides guidelines and methods of teaching and working with specific learning disabilities in educational settings. Emphasizes methods of providing stimulation of basic skill development in areas of motor, perceptual, cognitive, language and social skills.

EX 457 SEVERE AND PROFOUND RETARDATION AND MULTIPLE DISABILITIES 3 s.h.

Prerequisite: Department Permission

Provides guidelines and methods of teaching and working with the severely disabled in educational settings. Emphasizes methods of providing stimulation of basic skill development in areas of motor, perceptual, cognitive, language and social skills.

EX 464 PRESCHOOL EDUCATION OF THE HANDICAPPED 3 s.h.

Department Permission

Provides the student with basic concept of education of all preschool handicapped youngsters and serves as a course for exceptional education majors specifically interested in early childhood education and intervention programs. Required for elementary majors in the early childhood program, is an elective for other interested students.

EX 480 SELECTED PROBLEMS 1-3 s.h.

Prerequisite: Departmental Permission

Interested students may use this course for the pursuit of knowledge regarding specific concerns of the exceptional which are not ordinarily considered in such detail during regular

classroom instruction. Students wishing to enroll are expected to submit a written proposal regarding their desire for study at the time permission for enrollment is sought. With permission, the course may be repeated for credit.

EX 490 ETHICAL AND PROFESSIONAL BEHAVIOR 1 s.h.

Prerequisite: Departmental Permission

Emphasis on ethical and professional behavior both as a student teacher and a professional employee. Direct managerial preparation for professional laboratory experiences is included. Possibilities for and methods of initiating and profiting from post-baccalaureate study are indicated.

Required Courses in Related Areas

SH 254 CLASSROOM MANAGEMENT OF LANGUAGE DISORDERS 3 s.h.
(See course description under Speech Pathology and Audiology)

AT 330 ARTS AND CRAFTS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 s.h.
(See course description under offerings of Department of Art)
OR

MU 335 MUSIC FOR THE EXCEPTIONAL STUDENT 3 s.h.
(See course description under offerings of Department of Music)

ED 242 PRESTUDENT TEACHING CLINICAL EXPERIENCE I 1 s.h.

ED 342 PRESTUDENT TEACHING CLINICAL EXPERIENCE II 1 s.h.

PLEASE SEE HANDBOOK OF REQUIREMENTS IN DEPARTMENT

B. SPEECH PATHOLOGY AND AUDIOLOGY

Completion of the sequence of courses in Speech Pathology and Audiology prepares a person for an Instructional I Teaching Certificate in Speech Correction from the Pennsylvania Department of Education. The undergraduate program also serves as a pre-professional program for those students who wish to pursue a graduate degree and the Certificate of Clinical Competence from the American Speech-Language-Hearing Association. The undergraduate degree and the Level I Certificate permit the student to work in school environments, including local districts, non-public programs and intermediate units.

Other work environments such as hospitals, community clinics, public health programs and rehabilitation settings tend to require the Certificate of Clinical Competence from the American Speech-Language-Hearing Association. Students are encouraged to consider pursuing a master's degree upon graduation.

The University Speech and Hearing Clinic serves as the laboratory for the undergraduate clinical practicum required as a prerequisite for student teaching. Prior to the registration for the clinical practicum course (SH 320), the student must complete the following hours of observation through enrollment in ED 242:

- A. 30 hours of observation in Speech-Language Pathology
 1. 25 hours must be with a speech clinician who holds the Certificate of Clinical Competence in Speech.
 2. The majority of the hours must be in school settings; however, some of the hours may be in non-school environments.
- B. 25 hours of classroom observation
 1. Ten hours in regular education classrooms, K-12
 2. Ten hours in special education classrooms
 3. Five hours in community facilities such as preschools, sheltered workshops, etc. Services in this category should be of a non-educational, non-speech pathology type.

Upon completion of the observation (ED 242) and practicum (SH 320) requirements, the student is placed in a school environment for the one semester student teaching experience.

In addition to fulfilling the General Education requirements established by the University and the Professional Education requirements set by the College of Education, students are obligated to complete 42 semester hours in the major field and related areas. An option allows enrollment in MA 217 for the required mathematics course or, if the student elects another mathematics course, to substitute MA 217 for EP 377. The student who enrolls in MA 217 to fulfill the General Education requirement must register for MA 417 or EP 377.

Required Basic Courses

SH 111	Fundamentals of Speech and Hearing	3 s.h.
SH 122	Phonetics	3 s.h.
SH 222	Introduction to Audiology	3 s.h.
SH 234	Language Development	3 s.h.
SH 242	Introduction to Speech Science	3 s.h.
SH 251	Anatomy and Physiology of the Speech and Hearing Mechanism	3 s.h.
SH 306	Articulation and Language Disorders	3 s.h.
SH 308	Stuttering and Voice Disorders	3 s.h.
SH 311	Aural Rehabilitation	3 s.h.
SH 312	Organization and Administration of Speech and Hearing Programs (also counts as Methods Course in Professional Education Require- ments)	3 s.h.
SH 314	Assessment of Speech and Language Disord- ers	3 s.h.
SH 320	Speech Clinic	3 s.h.

Required Courses in Related Areas

EX 220	Typical and Atypical Growth and Development	3 s.h.
EX 362	Psych of Reading in Language Processing	3 s.h.

Recommended Electives (one required)

EL 215	Child Development	3 s.h.
	OR	
EX 220	Typical and Atypical Growth and Development	3 s.h.
PC 354	Developmental Psychology	3 s.h.
PC 355	Child Psychology	3 s.h.
EN 333	Trends in Linguistics	3 s.h.

COURSE DESCRIPTIONS

Required Basic Courses in Speech Pathology and Audiology

SH 111 FUNDAMENTALS OF SPEECH AND HEARING 3 s.h.
(Prerequisite for all other required courses in the division except Phonetics.)
Introduction to study of physiological, acoustical and scientific processes involved in production and reception of speech. The genetic development of speech sounds, and factors that hinder or facilitate speech and language acquisition.

SH 122 PHONETICS 3 s.h.
Detailed study of phonemes of American-English speech from a physical and acoustical point of view. Development of proficiency in use of international Phonetic Alphabet for transcription and translation of speech sounds.

- SH 222 INTRODUCTION TO AUDIOLOGY 3 s.h.
The study of auditory function, anatomy of auditory mechanism, psychophysics of sound, types and causes of hearing loss, measurement of hearing, and educational considerations for hearing handicapped child.
- SH 234 LANGUAGE DEVELOPMENT 3 s.h.
Study of development of an interpersonal communication system; language as a system of symbols for communication; the structure of the English language, including phonology, syntax and semantics with emphasis on the generative evolvment of sentences. Highlighting the neurological, social and psychological bases of language development.
- SH 242 INTRODUCTION TO SPEECH SCIENCE 3 s.h.
Study of communication process with emphasis on physical characteristics of sound production, transmission and perception of the sound, and the evolvment and use of symbols for meaningful communication. The scientific principles of normal oral communication stressed, and language learning recognized as basis for oral communication.
- SH 251 ANATOMY AND PHYSIOLOGY OF THE SPEECH AND HEARING MECHANISM 3 s.h.
Consideration of genetic development, structure, and function of organs of speech and hearing. Anatomical systems involved in respiration, phonation, articulation and hearing, and relationships between systems in production and reception of speech.
- SH 306 ARTICULATION AND LANGUAGE DISORDERS 3 s.h.
Prerequisites: SH 111, 242, 251, 234.
Exploration of the processes related to developmental articulation and language disorders from birth through adolescence. Instruction in the principles underlying modification of these disorders. Preparation of management programs and observation in the Speech and Hearing Clinic required.
- SH 308 STUTTERING AND VOICE DISORDERS 3 s.h.
Prerequisites: SH 111, 242, 251, 234.
Introduction to the developmental, psychogenic and organic bases for stuttering and voice disorders. Instruction in principles underlying treatment of these disorders with emphasis on anatomical deviations and laryngeal dysfunction. Preparation of management plans and observation in Speech and Hearing Clinic required.
- SH 311 AURAL REHABILITATION 3 s.h.
Prerequisite: SH 222
Consideration of effects of varied degrees of hearing loss sustained by individuals at different stages of development and study of total education and rehabilitative procedures for hard-of-hearing child or adult.
- SH 312 ORGANIZATION AND ADMINISTRATION OF SPEECH AND HEARING PROGRAMS 3 s.h.
Prerequisite: SH 111
(Meets requirement for Professional Education Course) Establishment and maintenance of speech and hearing programs within various administrative organizations, particularly in the public schools. Techniques of client identification, scheduling, record keeping, appropriate referral, material and equipment selection, teacher and parental counseling, and the development of coordinated professional and inter-disciplinary procedures.
- SH 314 ASSESMENT OF SPEECH AND LANGUAGE DISORDERS 3 s.h.
Prerequisites: SH 111, 242, 251, 234
Introduction to formal and informal procedures for evaluating speech and language disorders; selection of tests and techniques; reliability and validity of procedures, interviewing techniques appropriate to case history. Preparation of evaluation and case-history reports; preparation of management programs.

SH 320 SPEECH CLINIC 1-3 s.h.
 Prerequisite: All major courses except SH 312
 Experience in working with individuals or groups of persons who exhibit speech or hearing problems. Lesson planning, writing of reports and case histories of a detailed nature.

Required Courses in Related Areas

EX 220 INTRODUCTION TO EXCEPTIONAL CHILDREN 3 s.h.
 (See course description under Education of Exceptional Children)

EX 362 PSYCHOLOGY OF READING IN LANGUAGE PROCESSING 3 s.h.
 Objectives, background knowledge, and understandings of developmental reading process, an over-view of elementary program, pre-adolescent and adolescent and their needs in reading, finding and providing for instructional needs, and special problems.

Recommended Electives

EX 215 CHILD DEVELOPMENT 3 s.h.
 (See course description under Elementary Education)

OR

EX 220 TYPICAL AND ATYPICAL GROWTH AND DEVELOPMENT 3 s.h.
 (See course description under Education of Exceptional)

PC 300 THE PSYCHOLOGY OF ADJUSTMENT 3 s.h.
 (See course description under Psychology Department)
 Prerequisites: EH 114, SH 234

EN 331 TRENDS IN LINGUISTICS 3 s.h.
 (See course description under English Department)

Dual Level Courses (open to upper level majors with permission of instructor)

SH 412 CLEFT PALATE 3 s.h.
 Study of over-all problems associated with phenomenon of cleft lip and palate with special emphasis in areas of speech, hearing and language. Included in scope will be human embryology, with specific emphasis on oral facial development; physical remediation, including both surgical and prosthetic repair; effects of clefts on structure and function of speech and hearing mechanism; role of speech correctionist on cleft palate team; evaluation and current remedial procedures for speech, hearing and language problems.

Courses for Non-Majors

SH 254 CLASSROOM MANAGEMENT OF LANGUAGE DISORDERS 3 s.h.
 Study of aspects of speech, language and hearing problems pertaining to classroom situation. Types of speech and hearing disorders, conducting speech and language improvement lessons, classroom aids for the speech- and hearing-defective child, and school and community resources for these children. (Required for majors in Special Education: Mentally Retarded, and suggested for Elementary Education majors.)

SH 354 AUDIOMETRY FOR PUBLIC SCHOOL NURSES 3 s.h.
 Intensive review of physiology of hearing; etiologies and classifications of hearing loss; use of audiometric testing equipment in schools; interpretation of audiogram; and role of nurse in public health hearing programs. Student may substitute SH 222 with permission of adviser.

C. REHABILITATION EDUCATION

Completion of this program leads to the Bachelor of Science in Education with a specialization in rehabilitation. The program is designed for students seeking career opportunities with health and welfare agencies and institutions, and also provides a foundation for pursuing additional work at the graduate level.

In addition to filling the General Education requirements established by the University and the Professional Education requirements set by the College of Education, students are obligated to complete approximately 40 additional semester hours in the specialized field and its related area, excluding Field Training and Practicum, as follows:

Required Basic Courses

RH 200	Introduction to Rehabilitation	3 s.h.
RH 220	Neurological Basis of Disability	3 s.h.
RH 311	Rehabilitation of the Blind and of the Deaf	3 s.h.
RH 312	Psychological Basis of Disability	3 s.h.
RH 321	Principles and Methods of Rehabilitation	3 s.h.
RH 322	Rehabilitation Case Study and Interpretation	3 s.h.
RH 360	Rehabilitation Counseling: Strategies	3 s.h.
RH 411	Rehabilitation of the Post-Surgical Patient	3 s.h.
RH 412	Occupational Aspects of Rehabilitation	3 s.h.
RH 421/441	Field Training in Rehabilitation	12 s.h.
RH 422	Rehabilitation Practicum	2 s.h.
RH 484	Directed Rehabilitation Activities	1 s.h.

Required Related Courses

EX 120	Introduction to Exceptional Persons	3 s.h.
EX 370	Assessment of Mentally/Physically Handicapped	3 s.h.
PC 357	Abnormal Psychology	3 s.h.
BI 151	Human Physiology	3 s.h.
SW 358	Introduction to Social Work	3 s.h.
MA 217	Probability and Statistics	3 s.h.

COURSE DESCRIPTIONS

Required Basic Courses in Rehabilitation

RH 200 INTRODUCTION TO REHABILITATION 3 s.h.

A foundation for subsequent courses in the rehabilitation sequence. It is also available as a prerequisite or basic course for students interested in the rehabilitation of individuals in our society. Content includes the philosophy, history, major concepts and current problems and issues.

RH 220 NEUROLOGICAL BASIS OF DISABILITY 3 s.h.

Prerequisites: BI 151, EN 120, RH 200

Study of brain and spinal cord with emphasis on cortical and sub-cortical mechanisms instrumental in normal motion, coordination and bodily sensation, exclusive of vision and hearing. Discussion and demonstration of conditions of cerebral palsy, polio, traumatic paraplegias, cerebro-vascular accident, Parkinson's disease, multiple sclerosis, and rehabilitative procedures.

RH 311 REHABILITATION OF THE BLIND AND THE DEAF 3 s.h.

Prerequisites: RH 220, PC 101

Structure and function of visual and auditory systems with emphasis on the importance of seeing to mobility in environment and on hearing to the development of human communica-

tion. Discussion of causes of visual and auditory pathologies, braille, mobility training, speech reading and amplification, and other procedures of rehabilitation.

RH 312 PSYCHOLOGICAL BASIS OF DISABILITY 3 s.h.

Study of emotional and social responses which govern behavior and relationships of handicapped individuals and rehabilitation workers alike, with emphasis on role of disability in formation of concept of human worth.

RH 321 PRINCIPLES AND METHODS OF REHABILITATION 3 s.h.

Prerequisites: RH 220, RH 311, RH 312

Delineates the roles of members of professional disciplines of medicine, psychology, prosthetics, orthodontics, audiology, speech pathology, physical and occupational therapy in restoration of the handicapped; use of diagnostic information; significance and interpretation of medical examination; role of rehabilitation counselor in the agency.

RH 322 REHABILITATION CASE STUDY AND INTERPRETATION 3 s.h.

Prerequisites: RH 220, RH 311, RH 312, or Permission of Instructor

Purpose and techniques of case history taking; meaning and evaluation of diagnostic information; psychological evaluation in terms of mental ability, personality, attitudes and dexterity skills; role of disabled individual's family in planning of services, referrals and report writing.

RH 360 REHABILITATION COUNSELING: STRATEGIES 3 s.h.

Prerequisites: Permission, Rehabilitation majors only

Designed to help students develop competencies in using various counseling techniques with handicapped persons. Various theories of counseling will be explored relative to the rehabilitation setting. It will provide basic counseling skills to upperclass Rehabilitation majors prior to field training.

RH 411 REHABILITATION OF THE POST-SURGICAL PATIENT 3 s.h.

Prerequisite: RH 220

Influence of prospective surgery on human emotion and outlook; the effect of alteration or removal of body parts on personality and physical skills. Study of mastectomy, colostomy, laryngectomy, limb amputation, reconstruction of facial disfigurement, cardiovascular disease and residual capabilities.

RH 412 OCCUPATIONAL ASPECTS OF REHABILITATION 3 s.h.

Prerequisites: RH 222, RH 311, or permission of instructor

The realism of world of work and relationship of gainful employment to human autonomy and decision-making. Types of jobs, levels of required skills, potential capabilities of the handicapped relative to specific job responsibilities, methods of assessing potential job success and sheltered workshops.

RH 421/441 FIELD TRAINING IN REHABILITATION 12 s.h.

Prerequisites: RH 322, RH 411, RH 412

Emphasizes development of the student rehabilitation coordinator by working with disabled clients in a public or private agency. Writing and analysis of case reports, counseling of clients, understanding of agency responsibilities and limitations, referral, follow-up and final evaluation of client's ability to function with various degrees of autonomy.

RH 422 REHABILITATION PRACTICUM 2 s.h.

Taken concurrently with RH 421 and RH 441 Discussion of current topics of interest in the field, such as state and federal legislation, new prosthetic advances, proposals of the National Rehabilitation Association, or recent techniques in working with specific disabilities.

RH 460 ADVANCED REHABILITATION COUNSELING 3 s.h.

Prerequisite: RH 360

Selected counseling techniques studied and practiced under supervision. Application will be utilized in roles that will approximate the kind of clients encountered in field training.

RH 484 DIRECTED REHABILITATION ACTIVITIES

1 s.h.

Prerequisites: Permission, Rehabilitation majors only

Pre-field training experience working with handicapped clients in local facilities. Concrete experience will help the students integrate classroom instruction with field experiences.

Required Courses in Related Areas

EX 120 INTRODUCTION TO EXCEPTIONAL PERSONS

EX 370 ASSESSMENT OF OF THE MENTALLY AND/OR PHYSICALLY HANDICAPPED
(See course descriptions under Education of Exceptional Children)PC 357 ABNORMAL PSYCHOLOGY
(See course description under Psychology Dept.)BI 151 HUMAN PHYSIOLOGY
(See course description under Biology Dept.)SW 338 INTRODUCTION TO SOCIAL WORK
(See course description in Sociology Dept.)MA 217 PROBABILITY AND STATISTICS
(See course description in Math Dept.)**Recommended Electives**

Certain related courses will be recommended for individual students dependent upon interest and needs.

Courses for Non-majors

Students in other departments not intending to major in Special Education but who wish to improve their understanding of exceptionality may elect certain courses in Mental Retardation, Speech Pathology and Audiology, and Rehabilitation. By departmental permission.

D. EDUCATION OF HEARING IMPAIRED

Completion of the sequence of courses in Education of Hearing Impaired leads to a Bachelor of Science Degree in Education and Pennsylvania Department of Education certification as a teacher of the hearing impaired. Students are provided with the basic skills to teach in special classes for hard-of-hearing or deaf individuals.

Students enrolled in this sequence of study are prepared to assume positions as itinerant hearing therapists and classroom teachers for individuals ranging from preschoolers to adults. Work settings may include public schools, continuing education programs and home training situations.

Observation, clinical experience and practicum are required prior to placement in school environment for the student teaching experience. The student will complete the following 50 hours of observation through enrollment in ED 242.

- A. 20 hours of observation of itinerant and self-contained classrooms for the hearing impaired.
- B. 10 hours of observation in regular education classroom.
- C. 15 hours of observation in special education classrooms.
- D. 5 hours of observation in a non-educational setting.

The student will complete 25 hours of individual clinical experience through enrollment in ED 342 and 50 hours of school-based practicum through enrollment in EH 330.

In addition to fulfilling the General Education requirements established by the University and the Professional Education requirements set by the College of Education, students are obligated to complete 46 semester hours in the specialized field and its related areas. An option allows for enrollment in MA 217 for EP 377.

Required Basic Courses

EH 114	Introduction to Hearing Impaired	3 s.h.
EH 343	Total Communication	2 s.h.
EH 307	Speech for the Hearing Impaired	3 s.h.
EH 308	Language for the Hearing Impaired	3 s.h.
EH 330	Hearing Practicum	2 s.h.
EH 360	General Methodology for Education of the Hearing Impaired (also counts as Methods Course in Professional Education Requirements)	3 s.h.
EH 365	Parent-Preschool for the Hearing Impaired	3 s.h.

Required Courses in Related Areas

SH 222	Introduction to Audiology	3 s.h.
SH 234	Language Development	3 s.h.
SH 242	Introduction to Speech Science	3 s.h.
SH 311	Aural Rehabilitation	3 s.h.
EX 120	Introduction to Exceptional Persons	3 s.h.
	OR	
EX 300	Education of the Exceptional in the Regular Classroom	3 s.h.
EX 220	Typical and Atypical Growth and Development	3 s.h.
	OR	
EL 215	Child Development	3 s.h.
EL 222	Teaching of Reading	3 s.h.
MA 151	Mathematics for Elementary Teachers	3 s.h.

Recommended Electives

Certain related courses will be recommended for individual students dependent upon interest and needs.

COURSE DESCRIPTIONS

Required Basic Courses in Education of Hearing Impaired

EH 114 INTRODUCTION TO HEARING IMPAIRED 3 s.h.

Prerequisites: Adviser permission, EH majors only

Deals with different approaches used in teaching the hearing impaired - manual language, oral language and total communication. The historical background of each approach would be presented with its strengths and weaknesses. Criteria for the use of each approach established in light of degree of loss exhibited by the client, the age of onset, and the social and psychological implications.

EH 243 TOTAL COMMUNICATION 3 s.h.

Prerequisite: EH 114

Teaches the student to finger spell and to develop basic skill in use of a manual language (signing) so that it could be integrated simultaneously with speech to provide a means of total communication for the individual with significant communication problems. Rationale for total communication approach would be emphasized with special consideration to reasons for appropriateness of approach. Methods of teaching the 'sign language' to hearing impaired and other exceptional individuals would also be included with emphasis on signing according to acceptable syntactical English structure.

- EH 307 SPEECH FOR THE HEARING IMPAIRED 3 s.h.
Prerequisites: EH 114, SH 242
Techniques for developing, diagnosing, analyzing and correcting the speech and voice problems of hearing impaired individuals. Lecture, demonstration and special projects.
- EH 308 LANGUAGE FOR THE HEARING IMPAIRED 3 s.h.
Prerequisites: EH 114, SH 234
Development and remediation of language of the hearing impaired. Language sampling and diagnostics, sentence patterning and analytic vs. natural teaching methods. Structuring a communicative environment.
- EH 330 HEARING PRACTICUM 2 s.h.
Prerequisite: EH 360
Provides students with actual contact with hearing impaired individuals. Observations will be set up in appropriate school programs for the hearing impaired, on hearing itinerant programs, or in clinical settings where hearing impaired individuals are receiving therapy or are being tested. Techniques of observing and evaluating behavior would be presented initially to prepare the student to profit maximally from the observation experiences. Written reports of the observations would be submitted and discussed, and each student encouraged to gain experience in as many different settings as available.
- EH 360 GENERAL METHODOLOGY FOR EDUCATION OF HEARING IMPAIRED 3 s.h.
Prerequisites: EH 114, 243, 307, 308
Provides a systematic coverage of basic procedures for teaching content matter. Included would be methods of instruction of contemporary elementary school mathematics; science as it relates to the child and the curriculum; content, objectives, and resource materials for social studies; creative experiences, in the field of art, rhythmic, and physical education and health.
- EH 365 PARENT-PRESCHOOL PROGRAMS FOR THE HEARING IMPAIRED 3 s.h.
Prerequisites: EH 114, EX 200, SH 234, EH 308, EH 307
Developing home/clinic programs for parents and hearing impaired infants (0-3 years). Teaching speech, language, speechreading, use of residual hearing at preschool level.

Required Courses in Related Areas

- SH 222 INTRODUCTION TO AUDIOLOGY 3 s.h.
- SH 234 LANGUAGE DEVELOPMENT 3 s.h.
- SH 242 INTRODUCTION TO SPEECH SCIENCE 3 s.h.
- SH 311 AURAL REHABILITATION 3 s.h.
(See course descriptions under Speech Pathology and Audiology)
- Please see course descriptions under Education of Exceptional Children for the following courses:
- EX 120 Introduction to Exceptional Persons 3 s.h.
- EX 220 Typical and Atypical Growth and Development 3 s.h.
- EX 300 Education of the Exceptional Child in the Regular Classroom 3 s.h.

Please see course descriptions under Elementary Education for the following courses:

EL 215 Child Development 3 s.h.

EL 222 Teaching of Reading 3 s.h.

MA 151 Mathematics for Elementary Teachers 3 s.h.



College of Fine Arts

J. Christopher Benz, Dean

The College of Fine Arts has professional programs in art, music and theater, and awards the Bachelor of Arts and Bachelor of Fine Arts degrees. Programs leading to certification to teach are offered in cooperation with the College of Education, and lead to the Bachelor of Science in Education degree.

A general fine arts major program is available for those students desiring to take course work in art, dance, interior design, media, music, and theater. This program is offered in conjunction with the Colleges of Education, Health Sciences and Home Economics. For additional information on this Bachelor of Arts program, contact the Dean of the College of Fine Arts.

There are four objectives for the College of Fine Arts: 1) to provide special academic programs for majors in the arts, 2) service courses are provided for other departmental majors, 3) to offer all University students general courses in the arts and 4) to make cultural programs in the arts available to the University, the surrounding community and the local region.

A three-credit course, Introduction to Art, Music and Theater (FA 100) is offered as an overview of the visual and performing arts. An internship course (FA 485) is also available for 3-12 credits.

There are no additional school requirements for graduation beyond the departmental and University requirements listed in other sections of this catalog.

DEPARTMENT OF ART

JOANNE P. LOVETTE, CHAIRPERSON: ALI, BALSIGER, BEN-ZVI, BURWELL, CLAY, DeFURIO, DONGILLA, DROPCHO, HAMILTON, HEDMAN, INNES, JOHNSON, RUSSELL, SEELHORST, J. SLENKER, R. SLENKER, VISLOSKY, WEILAND, WERT.

Acceptance by the Department of Art as a major requires the submission of a portfolio and approval of the portfolio committee. Detailed information will be sent to the applicant upon request.

The Department of Art provides both general and special courses in art, directed toward the development of the student's creative and expressive abilities. Degrees offered are the Bachelor of Arts in either Art History or Art Studio, the Bachelor of Fine Arts in Art Studio, and the Bachelor of Science in Art Education. The degree in Art Education provides certification for teaching art from grades K-12 in the schools of Pennsylvania.

The Department of Art offers a cooperative program with the Art Institute of Pittsburgh. Students interested in commercial art, with departmental approval, may earn credit toward their major at the Art Institute. A cooperative program in metals is available at the Bowman Technical School, Lancaster, Pennsylvania.

All art majors are obligated to fulfill the University requirements for General Education. The Department of Art expects that art majors will maintain a 2.5 average in major courses and this will be a prerequisite to student teaching.

A minor in art is available, consisting of at least 15 semester hours in art courses approved by the chairperson of the Department of Art.

CURRICULUM

B.A. Art History		B.F.A. Art Studio		B.A. Art Studio	
Art Core	21	Art Core	30	Art Core	21
Art History	30	Art Studio	30	Art Studio	24
General Ed.	52	General Ed.	50	General Ed.	52
Electives	21	Electives	12	Electives	27
	124		124		124

B.S. Art Education	
Art Core	30
Art Studio	9
Art Education	12
Education	23
Electives	6
General Ed.	52
	132

Core Program

All art majors are required by the Department to complete 24-30 semester hours of core courses including:

AR 100	Arts of the Twentieth Century	3 s.h.
AR 111	Drawing	3 s.h.
AR 112	Fundamentals of Drawing and Design	3 s.h.
AR 113	Design	3 s.h.
AR 211	Painting	3 s.h.

AR 215	Sculpture	3 s.h.
AH 413	Senior Seminar	3 s.h.

Students in the art education or art studio programs must elect three additional courses from the following:

AR 213	Woodworking	3 s.h.
AR 214	Ceramics	3 s.h.
AR 216	Basic Metals	3 s.h.
AR 217	Printmaking	3 s.h.
AR 218	Graphic Design	3 s.h.
AR 219	Fabrics	3 s.h.

In addition to the core courses, students in the art history program are required to take the following:

AH 115	Ancient and Medieval Art	3 s.h.
AH 116	Renaissance and Baroque Art	3 s.h.
AH 411	Modern Art	3 s.h.
AH 419	Museology	3 s.h.
AH 422	Art in America	3 s.h.
AH 409	Baroque and Rococo	3 s.h.
AH 416	Northern Renaissance	3 s.h.
AH 407	Medieval	3 s.h.

Art history students may choose electives from the following:

AH 219	Historical Painting Techniques	3 s.h.
AH 406	Ancient Migratory Art	3 s.h.
AH 412	Classical Art	3 s.h.
AH 418	Practicum in Slide Room Procedures	1 s.h.
AH 424	Art of the East	3 s.h.
AH 426	Pre-Columbian Art	3 s.h.
AR 482	Independent Study	1-12 s.h.

COURSE DESCRIPTIONS

Art Education Courses

AT 315 SEMINAR IN ART EDUCATION 3 s.h.

A seminar to introduce the art education major to the principles and practices of teaching visual arts K through 12. Field experiences, pre-student teaching activities, introduction to literature, history and philosophies of art education emphasized. (Prerequisite to student teaching) (3 hours lecture)

AT 316 ART EDUCATION MATERIALS AND PRACTICUM 3 s.h.

An art education studio which will be an investigation and exploration of typical art materials, including sources and resources of supplies, equipment, resource personnel, and visual-media for a full range of multi-media and visual experiences. The studio endeavors will be followed by a practicum utilizing the above sources in teaching situations with children, youth and adults. (Prerequisite to student teaching) (1 hour lecture, 2 hours lab)

AT 317 ART EDUCATION METHODOLOGY AT THE ELEMENTARY LEVEL 3 s.h.

Examines children's artistic development, art programs, planning, motivation and evaluation. Weekly teaching experience is an integral part of the course. (Prerequisite to student teaching) (1 hour lecture, 2 hours lab)

AT 318 ART EDUCATION METHODOLOGY AT THE SECONDARY LEVEL 3 s.h.

Relationship of art education to total secondary curriculum is studied to determine goals of junior-senior high school art. The adolescent creative products are analyzed to help the prospective art teacher to identify with problems of students. (Prerequisite to student teaching) (1 hour lecture, 2 hours lab)

AT 330 ART FOR THE MENTALLY AND PHYSICALLY HANDICAPPED 3 s.h.
 The materials and processes of arts and crafts are studied for opportunities they offer in the training, therapy and education of students who are mentally retarded or crippled, or need special help for any reason. (1 hour lecture, 2 hours lab)

Art History Courses

AH 101 INTRODUCTION TO ART 3 s.h.
 Designed to introduce the student to the significance of art as related to contemporary living and our historical heritage.

AH 115 ANCIENT AND MEDIEVAL ART 3 s.h.
 Study of art from Prehistoric times to the Middle Ages. Man's artistic development is seen in relation to political, social, economic and religious events. (3 hours lecture)

AH 116 RENAISSANCE AND BAROQUE ART 3 s.h.
 Study of art from the Renaissance to the Baroque in light of the historical events which affect man's artistic impulses and development. (3 hours lecture)

AH 219 HISTORICAL PAINTING TECHNIQUES 3 s.h.
 The art major is encouraged to experience a series of historical painting techniques that have been used by artists of the past. Experiences will include exploration in such painting media as fresco, egg tempera and oil. (1 hour lecture, 3 hours lab)

AH 406/506 ANCIENT MIGRATORY ART 3 s.h.
 A survey of art from various ancient cultures which reflect contacts known and theoretic. Such cultures as the Celtic, Chinese, Indus Valley, Mesopotamian, African, Oceanic, American Indian, Pre-Columbian and Egyptian are covered. (3 hours lecture)

AH 407/507 MEDIEVAL ART 3 s.h.
 Art and architecture of Europe during the Middle Ages, beginning with early Christian and Byzantine and concluding with the Gothic period. (3 hours lecture)

AH 408/508 ITALIAN RENAISSANCE ART 3 s.h.
 Italian art from 1400's through 1650 and Mannerist movement. Special attention paid to great masters of the period. (3 hours lecture)

AH 409/509 BAROQUE AND ROCOCO ART 3 s.h.
 A general survey of art from 1575-1775, will include architecture, sculpture, painting and other arts. (3 hours lecture)

AH 411 MODERN ART 3 s.h.
 A survey of the revolutionary movements which began about 1850 and concluding with trends in contemporary arts. (3 hours lecture)

AH 412 CLASSICAL ART 3 s.h.
 Historical survey of the architecture, painting, sculpture and minor arts of the classical period of Greece and Rome, including the Minoan, Mycenaean and Etruscan cultures. (3 hours lecture)

AH 413 SENIOR SEMINAR 3 s.h.
 Intended to help students develop adequate vocabularies and methods to be used in discussion and criticism of works of art. (3 hours lecture)

AH 416 NORTHERN RENAISSANCE ART 3 s.h.
 Explores phenomena of art north of the Alps from 1400 to 1600, especially as it appears in the Lowlands, as well as side explorations into art of France, Germany, Austria and the court at Prague. (3 hours lecture)

AH 418 PRACTICUM IN SLIDE ROOM PROCEDURES 1 s.h.
A practicum course devoted to study of slide room practices and techniques: includes organization, cataloguing, filing, mounting and labeling of slides. (2 hours lab)

AH 419 MUSEOLOGY 1-6 s.h.
The student will work in the University Museum under the supervision of the director. Museum techniques and practices in an 'on- the-job' training situation will be stressed.

AH 422/522 ART IN AMERICA 3 s.h.
Surveys American art and its relation to the development of American ideas and ideals. (3 hours lecture)

AH 424/524 ART OF THE EAST 3 s.h.
The development of art in China, India and Japan from its Neolithic origins to the traditions of later historical times. (3 hours lecture)

AH 426/526 PRE-COLUMBIAN ART 3 s.h.
A survey of artistic traditions of the Pacific Ocean, Pre-Columbian of Meso-America and South America and North American cultures. (3 hours lecture)

ART STUDIO COURSES

All studio courses are listed as Beginning or Advanced. Those students who take advanced courses do so for a minimum of three (3) semester hours and may accumulate up to a maximum of eighteen (18) semester hours in the same course. BFA students must complete 18 semester hours in one advanced studio and 12 semester hours in another.

AR 100 ARTS OF THE TWENTIETH CENTURY 3 s.h.
Designed to expand student response to visual, aural and kinetic art forms of this century with special emphasis on recent decades. The course includes lecture, studio and field experiences. (1 hour lecture, 3 hours lab)

AR 111 DRAWING 3 s.h.
A foundation course in drawing, including a study of the structure of drawing and composition with a variety of media and subject matter. (6 hours lab)

AR 112 FUNDAMENTALS OF DRAWING AND DESIGN 3 s.h.
A course which seeks to integrate basic principles and fundamentals of drawing and design. (6 hours lab)

AR 113 DESIGN 3 s.h.
Basic elements and principles of design and color are studied. A course in design in three dimensions. (6 hours lab)

AR 120 PRINCIPLES OF DESIGN 2 s.h.
Principles of design and color are studied and applied to a crafted object. Major emphasis on aesthetic quality inherent in designing with materials. (4 hours lab)

AR 211 PAINTING 3 s.h.
An introductory course in painting in which a variety of materials, techniques and approaches are explored. (6 hours lab)

AR 213 WOODWORKING: FUNCTION AND FORM 3 s.h.
Involves the study of woodworking and furniture design as it relates to the individual designer-artist. Students will experience a formal background in both woodworking technique and the application of design. (6 hours lab)

- AR 214 CERAMICS 3 s.h.
A general introduction to the techniques and aesthetics of clay. The student will work both at the wheel and with hand building methods. (6 hours lab)
- AR 215 SCULPTURE 3 s.h.
Introductory course in sculpture with emphasis on study of form as well as visualizing in the third dimension. (6 hours lab)
- AR 216 BASIC METALS 3 s.h.
Introduction to metal work with emphasis upon creation of functional and non-functional art objects. Approached from viewpoint of beginner learning basic processes of metal fabrication (6 hours lab)
- AR 217 PRINTMAKING 3 s.h.
Introduction to basic techniques of production of fine prints including, work in relief, intaglio, lithograph and serigraph processes. (6 hours lab)
- AR 218 GRAPHIC DESIGN 3 s.h.
Students explore various techniques and their application to such commercial art projects as, package design, trademark and other design problems. Lettering is stressed, both instant type and hand lettering. (6 hours lab)
- AR 219 FABRICS 3 s.h.
Provides student with introductory working knowledge in design and execution of projects in non 4/harness loom weaving, macrame, stitchery and related fabric areas. Other fabric techniques available for students to explore as desired. (6 hours lab)
- AR 321 ADVANCED DRAWING 3 s.h.
Prerequisites: AR 111 & 112 Designed to meet the needs of the student who has some background in the field. Problems of composition, two and three dimensional relationships, and surface are on an individual basis. (6 hours lab)
- AR 451 ADVANCED WOODWORKING: FUNCTION AND FORM 3 s.h.
Prerequisite: AR 213
Offers advanced training and skills involving the study of contemporary furniture design and woodworking. Emphasis on a technical and aesthetic point of view. (6 hours lab)
- AR 452 ADVANCED CERAMICS 3 s.h.
Prerequisite: AR 214
Continued exploration of the field of ceramic production, along with kiln firing and glaze formulation. (6 hours lab)
- AR 453 ADVANCED SCULPTURE 3 s.h.
Prerequisite: AR 215
Gives student opportunity to pursue independent study in sculpture. Materials and processes will be individually chosen and the work related to broadening concepts. (6 hours lab)
- AR 454 ADVANCED PAINTING 3 s.h.
Prerequisite: AR 211
Individual experimentation and exploration by the painter, investigation of the various technical approaches. (6 hours lab)
- AR 455 ADVANCED GRAPHIC DESIGN 3 s.h.
Prerequisite: AR 218
Stresses advanced techniques in layout and illustration. The student explores ideas, such as creation of trademarks and how products are designed. Layouts are analyzed as to their quality. Package design is studied. (6 hours lab)

AR 457 ADVANCED PRINTMAKING	3 s.h.
Prerequisite: AR 217	
Student elects to study one of printmaking processes in greater depth and works toward development of own techniques, working processes and ideas. (6 hours lab)	
AR 459 ADVANCED FABRICS	3 s.h.
Prerequisite: AR 219 Provides student with a working knowledge in design and execution of projects in weaving macrame, and related areas. Other fabric techniques will be available for the students to explore as desired. (6 hours lab)	
AR 460 ADVANCED METALS	3 s.h.
Prerequisite: AR 216	
Design and processes associated with art of metal are given greater concentration. The developing artist is encouraged to investigate in depth, one or more of the metal arts as an extension of the basic course. (6 hours lab)	
AR 481 SPECIAL TOPICS	1-3 s.h.
AR 482 INDEPENDENT STUDY	1-12 s.h.
AR 485 INTERNSHIP	3-12 s.h.

Service Course

EL 213 ART FOR ELEMENTARY GRADES	2 s.h.
Basic course in creative use of art materials and an understanding of development of capacities of children through art. (1 hour lecture, 2 hours lab)	

DEPARTMENT OF MUSIC

CALVIN E. WEBER, CHAIRPERSON: ADAMS, BECKER, BIRD, BORST, CASAVANT, CHA, DeCESARE, DiCICCO, DIETZ, FRY, GODT, INTILI, JOHNSON, KAUFFMAN, KNAB, LLOYD, LUCHSINGER, MALITSKY, MORRIS, OLMSTEAD, PERKINS, PERLONGO, SARTORI, SCANDRETT, STAPLES, TETI, THORELL, TRIMARCHI, VOUKLIZAS, WILDEBOOR.

The Department of Music has a three-fold mission: (1) Professional preparation of music educators and performers, (2) general education for the University, and (3) programs of music for the community. Degrees offered include the Bachelor of Arts, Bachelor of Fine Arts and Bachelor of Science in Music Education.

Admission to the Music Department requires satisfactory completion of an audition in addition to the University general requirements. Detailed information will be sent to the applicant upon request.

A student wishing to minor in music must elect a minimum of 15 semester hours in music courses as approved by the Department Chairperson.

CURRICULUM

The program leading to the Bachelor of Arts in music has been designed to give the student a general experience in music. The student seeking this degree has the choice of four concentrations: Music History/Literature, Music Theory/Composition, Performance and Jazz Studies.

The program leading to the Bachelor of Fine Arts in Music (equivalent to the Bachelor of Music Degree) is a special program with a major in one of 21 areas of performance. The

student in this program prepares to pursue a career as a professional performing musician. The program leading to the Bachelor of Science in Education with a music major leads to certification to teach in the schools of Pennsylvania.

Core Program (29 s.h.)

Requirements for all music majors except students in jazz studies, are: MU 115, 116, 215, 216 Theory I through IV 12 s.h.; MU 111, 112, 211, 212 Theory Skills I through IV 8 s.h.; MU 301, 302, 303 Music History I through III 9 s.h.

Requirements for Jazz Studies majors are: MU 115, 116 Theory I & II 6 s.h.; MU 111, 112 Theory Skills I & II 4 s.h.; MU 222, 223 Jazz Theory I & II 6 s.h.; MU 213, 214 Jazz Theory Skills I & II 4 s.h.; MU 201, 202 Jazz History I & II 6 s.h.; MU 303 Music History III 3 s.h.

Special Requirements

1. Each student must declare a primary performing medium. Those who elect voice as their primary instrument normally elect piano as a secondary instrument; those who elect piano as their primary instrument normally elect voice as their secondary instrument. Performance juries are held at the end of each semester. Students are expected to complete the requirements for their performing area and level. Piano proficiency is required in all degree programs.
2. Ensemble participation of five hours a week is required each semester.
3. Students must register for MU 475 (Music Lab) and attend (1) all Department and Area recitals, and (2) ten campus recitals and concerts each semester.

B.A. IN MUSIC

In addition to the Core Program, requirements for the Bachelor of Arts in Music (other than Jazz Studies) include 22 additional semester hours in music, of which 16 semester hours must be in the concentration selected, as follows:

Music Theory/Composition,	16 s.h.
OR Performance,	16 s.h.
OR	
Music History/Literature	16 s.h.
Music Electives	6 s.h.

In addition to the Core Program, requirements for the Bachelor of Arts in Music (Jazz Studies) include 30 additional semester hours in music as follows:

Applied Music	16 s.h.
MU 224, 225 Jazz Improvisation I & II	6 s.h.
MU 318, 319 Jazz Orchestration I & II	6 s.h.
MU 311 Fundamentals of Conducting	2 s.h.

B.F.A. IN MUSIC

In addition to the Core Program, requirements for the Bachelor of Fine Arts in Music, which is a degree in performance, are 44 more semester hours in the following:

Applied Music (major performance medium)	32 s.h.
MU 217, 218 - Keyboard Harmony I and II (piano and organ students)	2 s.h.
Upper Division Music Electives	10 s.h.
Junior and senior recitals required in the primary instrument	

B.S. IN MUSIC EDUCATION

Requirements for the Bachelor of Science in Music Education are as follows:

Music Education	36 s.h.
Class Brass I	1
Class Percussion I 1 Class Strings I	1
Class Woodwinds I	1
Class (or private) piano I and II	2 or 4
Class Voice I and II	2
Fundamentals of Conducting	2
Applied Instruction (major instrument)	14
Elementary, Secondary Methods	6
Music Electives	4 or 6
*Choral Conducting Class	Strings II
*Instrumental Conducting	Class Woodwinds II
French Diction	Music Education Electives
German Diction	Music History Electives
Italian Diction	Music Theory Electives
Class Brass II	Additional Applied Instruction
Class Percussion II	Ensembles

*Students must elect one of these courses.

Students pursuing the Bachelor of Science in Education must also fulfill the 23 semester hour Professional Education requirement. See section in College of Education for a listing of these courses.

COURSE DESCRIPTIONS

Service Courses

EL 211 MUSIC FOR THE ELEMENTARY GRADES 2 s.h.

Geared for elementary education students. Includes basic ideas for understanding, development, and confidence for future classroom teachers and their pupils in areas of music education.

MU 101 INTRODUCTION TO MUSIC 3 s.h.

Course presumes no technical background, but does utilize the varied musical experiences of each individual to help extend interest as far as possible. Attendance at various concerts of college organizations, cultural life events and visiting artist concerts are required to augment listening experiences of students.

MU 102 MUSIC FOR THE NON-MAJOR 3 s.h.

Prerequisite: MU 101 or permission of instructor.

A sequel to MU 101. Course content will vary to cover a wide range of musical interests.

MU 103 PERSPECTIVES IN JAZZ 3 s.h.

Designed to give an overview of the development and contributions of jazz in the American culture and provide a background for a more intensive and detailed study of jazz for the Jazz Studies major.

MUSIC THEORY COMPOSITION

MU 110 FUNDAMENTALS OF THEORY 3 s.h.

Rudiments of musical materials; harmonic, melodic, rhythmic and basic formal procedures of the common practice period including pitch reading, interval construction, scales and modes.

- MU 111 THEORY SKILLS I** 2 s.h.
Develops aural skills through dictation and interpretation of written music by sight-singing. Taken in conjunction with Theory I.
- MU 112 THEORY SKILLS II** 2 s.h.
Continuing development of aural skills and introduction of keyboard skills. Taken in conjunction with Theory II.
- MU 211 THEORY SKILLS III** 2 s.h.
Further development of aural and keyboard skills. Taken in conjunction with Theory III.
- MU 212 THEORY SKILLS IV** 2 s.h.
Culmination of development in aural and keyboard skills. Taken in conjunction with Theory IV.
- MU 213 JAZZ THEORY SKILLS I** 2 s.h.
Training in aural, vocal and keyboard skills as they relate to the elements of jazz and improvisation. A high degree of emphasis is placed on ear training and its use in the transcription of live and recorded musical examples and on keyboard skills and its utilization in the development of an harmonic vocabulary.
- MU 214 JAZZ THEORY SKILLS II** 2 s.h.
A continuation of work begun in Jazz Theory Skills I with emphasis on more advanced aural, vocal and keyboard skills as they relate to jazz and improvisation.
- MU 115 THEORY I** 3 s.h.
- MU 116 THEORY II** 3 s.h.
- MU 215 THEORY III** 3 s.h.
(Three consecutive semesters.)
Study of compositional devices of 18th and 19th centuries. Emphasis upon melodic, harmonic, rhythmic and formal structures with occasional reference to contrapuntal implications.
- MU 216 THEORY IV** 3 s.h.
Prerequisites: MU 115, 116, 215.
Study of compositional devices of latter half of 19th century and first half of 20th century.
- MU 217 KEYBOARD HARMONY I** 1 s.h.
Prerequisite: Nominal facility at keyboard.
Designed to develop keyboard skills so student may realize and produce in sound basic harmonic progressions.
- MU 218 KEYBOARD HARMONY II** 1 s.h.
Prerequisite: MU 217.
Continuation of Keyboard Harmony I, involving chromatic harmony and more complex progressions.
- MU 222 JAZZ THEORY I** 3 s.h.
The study of the elements of music, melody, harmony, rhythm and form, as they are found in jazz improvisation. Includes an introduction to the fundamentals of jazz improvisation through aural and written analysis, composition and performance.
- MU 223 JAZZ THEORY II** 3 s.h.
A continuation of the work begun in Jazz Theory I with emphasis on extending the harmonic, melodic and rhythmic vocabulary. Includes analysis of differing trends in jazz, imitation of a variety of styles, and the cultivation of an individualized approach to jazz analysis, composition and improvisation.

- MU 224 JAZZ IMPROVISATION TECHNIQUES I** 3 s.h.
A study of the basic materials and practices for improvising or extemporaneous playing.
- MU 225 JAZZ IMPROVISATION TECHNIQUES II** 3 s.h.
A continuation of the basic materials and practices for improvising or extemporaneous playing. Makes use of more complicated and involved harmonic progressions utilizing extended choral harmonies.
- MU 304 FORM AND ANALYSIS I** 2 s.h.
Prerequisite: MU 216.
Thorough study of smaller forms of music.
- MU 305 FORM AND ANALYSIS II** 2 s.h.
Prerequisite: MU 304.
Thorough study of larger forms of music.
- MU 306 COUNTERPOINT I** 2 s.h.
Prerequisite: MU 216.
After study and analysis of style of 16th Century contrapuntal writing, student will do original writing using techniques and devices of period. As time permits, same approach will be made to explore style of 17th and 18th Century composers.
- MU 307 COUNTERPOINT II** 2 s.h.
Prerequisite: MU 306.
Continuation of study, analysis and restricted writing of 17th and 18th Century composers. Consideration given to free contrapuntal techniques used by later composers.
- MU 308 FUGUE AND CANON** 2 s.h.
Prerequisite: MU 306.
Application of contrapuntal techniques within these two specific forms through analysis, assigned exercises and creative writing.
- MU 309 ORCHESTRATION I** 2 s.h.
Prerequisite: MU 216.
All instruments of orchestra are studied from viewpoint of their contribution to total sound of ensemble. Ranges and timbres are considered, as well as actual arranging of selected music.
- MU 310 ORCHESTRATION II** 2 s.h.
Prerequisite: MU 309.
A continuation of Orchestration I.
- MU 315 THEORY V** 3 s.h.
Prerequisite: MU 216.
Many of harmonic idioms of past half century are considered, such as: comparative analysis of dissonance; polytonality, polyrhythms; atonalism and 12-tone system; and microtonalism. Original writing in these styles required.
- MU 318 JAZZ ORCHESTRATION AND COMPOSITION I** 3 s.h.
Work in composition and arranging for instrumental ensembles from trio up to a standard jazz ensemble including reeds, brass and rhythm section. Study proceeds from harmonization of a given melody, to a study of voicing and the realization through composition for various instrumental combinations. Included is a thorough study of instruments and particularly their use in jazz as expressive vehicles for improvisation.
- MU 319 JAZZ ORCHESTRATION AND COMPOSITION II** 3 s.h.
Continuation of work in MU 318. Study expands to include strings, full orchestra, band and choirs, and their utilization in jazz. More emphasis on original work in composition and arranging.

MU 411 COMPOSITION I	2 s.h.
Prerequisite: MU 216.	
Instruction is individualized. Compositional devices studied through analysis of works by major composers. Students will write several original compositions utilizing smaller forms.	
MU 412 COMPOSITION II	2 s.h.
Prerequisite: MU 411.	
Continuation of Composition I.	
MU 413 COMPOSITION III	2 s.h.
Prerequisite: MU 412.	
Students will write several original compositions utilizing larger forms.	
MU 414 COMPOSITION IV	2 s.h.
Prerequisite: MU 413	
Continuation of Composition III. Outstanding works will be programmed by University performing ensembles.	
MU 475 MUSIC LAB	0 s.h.
All music majors must attend 10 recitals per semester.	

Music History and Literature

MU 201 JAZZ HISTORY I	3 s.h.
An in-depth study of the principal movements, schools, performers and peripheral aspects of American jazz from its origins to the 'Swing Era' of the early 1940s.	
MU 202 JAZZ HISTORY II	3 s.h.
A continuation of the study of the principal movements, schools, performers and peripheral aspects of American jazz from the Jazz Revolution - BeBop to Free Jazz of the 1970s.	
MU 301 MUSIC HISTORY I	3 s.h.
Intensive study of the history and style of Baroque and Classic music. Considerable analytic listening is required.	
MU 302 MUSIC HISTORY II	3 s.h.
Intensive study of the history and style of Romantic and 20th Century music to 1950. Considerable analytic listening is required.	
MU 303 MUSIC HISTORY III	3 s.h.
Intensive study of the history and style of Medieval and Renaissance music. Considerable analytic listening is required.	
MU 320 MUSIC OF THE ANCIENT WORLD	3 s.h.
Concentrated study of music from Ancient Greek up to Middle Ages.	
MU 321 MUSIC OF THE MIDDLE AGES	3 s.h.
Starting with the Jongleurs, Troubadors and Trouveres of Early Middle Ages, course deals with literature of music through English and Burgundian Schools at close of the Middle Ages.	
MU 322 RENAISSANCE MUSIC	3 s.h.
Beginning with Ockeghem and ending with Palestrina and his contemporaries, music literature of this age is carefully and thoroughly studied.	
MU 323 THE BAROQUE ERA	3 s.h.
Prerequisites: MU 301, 302.	
Extends from Monteverdi through Bach and Handel, and considers vocal and instrumental forms, styles and practices of era.	

- MU 324 EIGHTEENTH CENTURY MUSIC 3 s.h.
Prerequisites: MU 301, 302.
Although Mozart and Haydn comprise greater portion of 18th Century music, Rococo Period involves D. Scarlatti and C.P.E. Bach as well.
- MU 325 THE EARLY ROMANTIC PERIOD 3 s.h.
Prerequisites: MU 301, 302.
Beethoven, Schubert, Rossini, Weber, Mendelssohn, Berlioz, Schumann and Chopin are major composers to be studied in Early Romantic Period.
- MU 326 THE LATE ROMANTIC PERIOD 3 s.h.
Prerequisites: MU 301, 302.
Wagner, Verdi, Glinka, Bruckner, Meyerbeer, Liszt, Gounod, Brahms, Offenbach, Smetana, J. Strauss, Grieg, Bizet, Moussorgsky, Saint-Saens, Tchaikowsky, Massenet, Franck, Borodin, Rimski-Korsakoff, Wolf, R. Strauss, Mahler, Faure, Puccini, Dvorak, Mac Dowell and Elgar are major composers of this study.
- MU 351 ITALIAN/ENGLISH DICTION 2 s.h.
- MU 353 FRENCH DICTION 2 s.h.
- MU 354 GERMAN DICTION 2 s.h.
- MU 420 CONTEMPORARY MUSIC 3 s.h.
Prerequisites: MU 301, 302.
Beginning with Debussy, Ravel and other impressionists, touching on Schoenberg, Stravinsky, Webern, Honneger, Milhaud, et. al. Contemporary Music ends with today and tomorrow. Various trends, styles and techniques are noted: judgments are attempted on more experimental forms; limited predictions of trends are ventured.
- MU 421 AMERICAN MUSIC 3 s.h.
Prerequisites: MU 301, 302.
A study of history and literature of music in America from 1600 to present day.

Music Education

- MU 311 FUNDAMENTALS OF CONDUCTING 2 s.h.
Emphasis placed on fundamental physical skills of conducting process; various beat patterns are mastered, and elementary score reading and interpretation considered.
- MU 312 CHORAL CONDUCTING 2 s.h.
Prerequisite: MU 311.
Provides opportunity for student to apply basic conducting techniques to choral music. Each student conducts the class in standard choral works. Includes survey of suitable literature, organizational problems, voice testing, rehearsal techniques, program building, interpretation and diction.
- MU 313 INSTRUMENTAL CONDUCTING 2 s.h.
Prerequisite: MU 311.
Provides student opportunity to apply basic conducting skills to various instrumental ensembles. Includes survey of suitable literature, organizational problems, audition procedures, rehearsal techniques, program building and interpretation.
- MU 331 ELEMENTARY METHODS 3 s.h.
Includes analytical study of texts, recordings, equipment, instruments and other materials suitable to musical development of elementary pupils; proper treatment of child voice; selection, use and teaching of rote songs; rhythmic activities and development; music reading; part singing; planning and organization; guided observations; and evaluation techniques.

- MU 332 GUITAR AND RECREATIONAL INSTRUMENTS FOR TODAY'S CLASSROOM** 2 s.h.
Designed for classroom teachers and music specialists to utilize several social instruments in the school setting. Major emphasis on learning to play the guitar to accompany singing. Other fretted instruments, recorder, autoharp and Orff instruments are included.
- MU 333 SECONDARY METHODS** 3 s.h.
Includes General Music Class, choral organizations, changing voice, techniques of instruction, including team teaching and programmed learning, high school theory courses, high school music literature courses, scheduling, administrative problems, curriculum development, evaluation of materials and equipment, evaluative techniques and guided observation.
- MU 334 INSTRUMENTAL METHODS** 2 s.h.
Treats understandings, techniques, equipment and materials necessary to develop an effective instrumental music program in public schools. Demonstrations and laboratory work designed to give student competencies needed to meet successfully various teaching situations in instrumental music from grades through high school. Guided observations required.
- MU 335 MUSIC FOR THE EXCEPTIONAL STUDENT** 3 s.h.
Develops music education skills, techniques and materials for the emotionally, mentally, physically or neurologically handicapped student and the gifted. Designed for students in music education, special education and elementary education.
- MU 401 CHORAL SCORE READING** 2 s.h.
Prerequisites: MU 216, 313.
- MU 402 INSTRUMENTAL SCORE READING** 2 s.h.
Prerequisites: MU 216, 313.
- MU 405 PIANO PEDAGOGY** 2 s.h.
Prerequisites: Junior Standing in Piano, and a piano major or minor. Survey of current and significant past developments in teaching of piano, both privately and in small and large classes. The various piano methods are analyzed, compared, criticized and adapted to each individual's use.
- MU 406 VOICE PEDAGOGY** 2 s.h.
Prerequisites: A voice major or minor, and permission of the instructor.
Survey of current and past development in teaching of voice, both privately and in small and large classes. The various vocal methods are analyzed, compared, criticized, and adapted to each individual's use.
- MU 407 MASTER CLASS IN ORGAN** 2 s.h.
Prerequisites: For organ majors only, with instructor's permission.
From time to time the organ instructor will accept from four to eight organ majors for this course. Every student observes every other student's instruction, and various techniques of teaching organ are demonstrated.
- MU 408 MARCHING BAND TECHNIQUES** 2 s.h.
Considers building a band show; alignment of ranks and files; development of a standard pace of 5 to 5 and 8 to 5; selection of music; instrumentation; techniques of developing morale; and fundamentals of uniform design.
- MU 481 SPECIAL TOPICS IN MUSIC** 3 s.h.
May provide an in-depth study of a narrowly defined area of the discipline. Subject matter will change with repeated offering of the course. May be repeated for credit.
- MU 482 INDEPENDENT STUDY** 1-6 s.h.
Opportunity to pursue special interests beyond the scope of regular class offerings. Permission of instructor and approval of department chairperson are required.

MU 485 INTERNSHIP IN MUSIC 1-6 s.h.
Designed for music majors who wish to receive practical experience working with people in music or in areas related to music.

ED 421 STUDENT TEACHING 6 s.h.
Experience in teaching music at the elementary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 441 STUDENT TEACHING 6 s.h.
Experience in teaching music at the secondary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 442 PROFESSIONAL PRACTICUM 2 s.h.
An experience which parallels the student teaching and which includes such activities as professional readings, discussions, observations and the accumulation and organization of teaching materials, along with the study of Pennsylvania School Law.

Class Instruction

The following courses are designed to acquaint the student with basic skills in each particular area.

MU 151	Class Voice I	1 s.h.
MU 152	Class Voice II	1 s.h.
MU 153	Class Piano I	1 s.h.
MU 154	Class Piano II	1 s.h.
MU 155	Class Strings I	1 s.h.
MU 156	Class Strings II	1 s.h.
MU 157	Class Percussion I	1 s.h.
MU 158	Class Percussion II	1 s.h.
MU 159	Class Brass I	1 s.h.
MU 160	Class Brass II	1 s.h.
MU 161	Class Woodwinds I	1 s.h.
MU 162	Class Woodwinds II	1 s.h.
MU 163	Class Guitar I	1 s.h.

APPLIED MUSIC

Private Instruction

AM 101, 151, 201, 251, 301, 351, 401, 451	Piano I -VIII
AM 102, 152, 202, 252, 302, 352, 402, 452	Organ I -VIII
AM 103, 153, 203, 253, 303, 353, 403, 453	Harpiscord I -VIII
AM 104, 154, 204, 254, 304, 354, 404, 454	Harp I -VIII
AM 105, 155, 205, 255, 305, 355, 405, 455	Voice I -VIII
AM 106, 156, 206, 256, 306, 356, 406, 456	Violin I -VIII
AM 107, 157, 207, 257, 307, 357, 407, 457	Viola I -VIII
AM 108, 158, 208, 258, 308, 358, 408, 458	Cello I -VIII
AM 109, 159, 209, 259, 309, 359, 409, 459	String Bass I -VIII
AM 110, 160, 210, 260, 310, 360, 410, 460	Flute I -VIII
AM 111, 161, 211, 261, 311, 361, 411, 461	Clarinet I -VIII
AM 112, 162, 212, 262, 312, 362, 412, 462	Oboe I -VIII
AM 113, 163, 213, 263, 313, 363, 413, 463	Bassoon I -VIII
AM 114, 164, 214, 264, 314, 364, 414, 464	Saxophone I -VIII
AM 115, 165, 215, 265, 315, 365, 415, 465	Trumpet I -VIII
AM 116, 166, 216, 266, 316, 366, 416, 466	French Horn I -VIII
AM 117, 167, 217, 267, 317, 367, 417, 467	Trombone I -VIII
AM 118, 168, 218, 268, 318, 368, 418, 468	Baritone Horn I -VIII
AM 119, 169, 219, 269, 319, 369, 419, 469	Tuba I -VIII
AM 120, 170, 220, 270, 320, 370, 420, 470	Percussion I -VIII
AM 121, 171, 221, 271, 321, 371, 421, 471	Guitar I -VIII

Ensembles

Each ensemble is elected for one semester hour.

MU 120 Brass Ensemble	MU 129 University Symphony Orchestra
MU 121 Chamber Singers	MU 130 String Ensemble
MU 122 University Chorale	MU 131 University Wind Ensemble
MU 123 Symphony Band	MU 132 Women's Chorus
MU 124 Glee Club	MU 133 Woodwind Ensemble
MU 125 Marching Band	MU 134 University Chorus
MU 126 Music Theater	MU 135 Jazz Ensemble
MU 127 Percussion Ensemble	MU 136 Mellowmen
MU 128 University Chamber Orchestra	

DEPARTMENT OF THEATER

A. LYNN LOCKROW, CHAIRPERSON: BLACKLEDGE, BOWES, DUTKIEWICZ, EISEN, SIMPSON.

The Department of Theater has as its mission to provide for students of the University the opportunity for the study of theater arts as a part of a liberal and humanistic education. To fulfill this mission the department offers courses in the history and theory of drama, performance, and technical theater/design at both introductory and advanced levels.

The department offers production opportunities as a practical extension of the academic program during the regular academic year and summers, and through off campus internships with professional theater companies

The Theater Department offers a Bachelor of Arts and a Bachelor of Fine Arts degree as well as a minor in theater. Students may include theater courses as an option in the General Fine Arts degree offered through the College of Fine Arts. Those wishing to teach theater in the secondary schools may enroll in communications education with a concentration in theater which leads to a Bachelor of Science in Education and certification.

The Bachelor of Arts in Theater provides for the study of theater within a broad liberal education. B.A. students must complete a core program of 36 semester hours of theater courses. Students then will have 36 semester hours of free electives which they may fashion into a program tailored to their individual needs and interests. The Bachelor of Fine Arts in Theater provides intensive study in theater arts leading to advanced professional training or entry level professional employment. In addition to a core of 36 semester hours in basic theater courses, the B.F.A. student elects a 27 semester hour concentration in one of two areas: a) performance or b) technical theater/design. Students may apply for admission to the B.F.A. program in their fourth semester and will be expected to provide portfolio or audition.

A minor in theater consists of 15 semester hours and courses approved by the chairperson of the Department of Theater

COURSE DESCRIPTIONS

TH 101 INTRODUCTION TO THEATER 3 s.h.
An exploration of various theater arts, examining major periods of theater history, selected works of dramatic literature, and essential theater arts of acting, directing, design and technical theater. The goal is to make more understanding and appreciative audiences of students enrolled.

TH 110 FUNDAMENTALS OF THEATER 3 s.h.
An introductory level course for theater majors and other serious students of theater, examining the principle theater arts, including acting, directing, designing, lighting, costuming, makeup and other aspects of stagecraft and production.

- TH 120 STAGECRAFT** 3 s.h.
Students not only study but gain practical work experience in all aspects of backstage technical arts and crafts, including lighting, set construction, painting, etc.
- TH 122 COSTUME WORKSHOP** 3 s.h.
Instruction and practical experience in the process of building costumes for the stage. Activities include fitting, cutting, sewing, dyeing and painting. There is also instruction in the maintenance of wardrobe, costume stock, materials and properties.
- TH 130 PERFORMANCE I** 3 s.h.
First course of the performance sequence. Basic introduction to vocal and physical training of the actor, stage vocabulary and improvisation. (3 hours lecture, 2 hours lab)
- TH 201 THEATER HISTORY I** 3 s.h.
Prerequisite: TH 101 or TH 110
Comprehensive survey of theory and history of theater and dramatic literature from prehistoric times through the classical Greek and Roman eras.
- TH 202 THEATER HISTORY II** 3 s.h.
Prerequisite: TH 101 or TH 110
Comprehensive survey of theory and history of theater and dramatic literature from the Middle Ages through the French, Italian, English and Spanish Renaissance.
- TH 203 THEATER HISTORY III** 3 s.h.
Prerequisite: TH 101 or TH 110
Comprehensive survey of theory and history of theater and dramatic literature from the English Restoration and Continental 17th Century through 1850.
- TH 204 THEATER HISTORY IV** 3 s.h.
Prerequisite: TH 101 or TH 110
Comprehensive survey of theory and history of theater and dramatic literature from 1900 through the modern era to the present.
- TH 220 SCENE DESIGN** 3 s.h.
Prerequisite: TH 120
Introduction to 'action-documentation' approach to scene design and to conventional techniques of graphic communication (i.e.,: orthographic, isometric and perspective projection) used by the professional designer.
- TH 221 STAGE LIGHTING** 3 s.h.
Prerequisite: TH 120
Covers lighting instruments, color media, control boards, physical laws of electricity and optics, graphical techniques (i.e.,: light plot, instrument schedule, hook-up chart, Q sheet) and conventional techniques used in lighting dramatic productions in a proscenium theater.
- TH 222 COSTUME DESIGN** 3 s.h.
Covers design and execution of stage costumes with emphasis to show how mood and illusion can be created through proper selection of style, color and texture, supplemented by an overview of stage costuming.
- TH 223 MAKE-UP FOR THE STAGE** 3 s.h.
Deals with practical application of straight and character make-up, and may include instruction in creating beards, wigs, prosthetics and masks.
- TH 230 PERFORMANCE II** 3 s.h.
Prerequisite: TH 130
Second course in the performance sequence. Exploration, characterization and development through physical action. (3 hours lecture, 2 hours lab)

- TH 310 THEATER CRITICISM 3 s.h.
A study of the theory and criticism and of the discrete functions of critic and reviewer. Students see live performances and practice writing both reviews and criticism.
- TH 330 PERFORMANCE III 3 s.h.
Prerequisite: TH 230
Building a character. Deals with primary elements of the Stanislavsky system of character development to include text analysis, motivation, inner and outer action, scene dynamics and improvisational techniques. Class includes scene work to develop the actor's craft within these areas. (3 hours lecture, 2 hours lab)
- TH 340 PERFORMANCE IV 3 s.h.
Prerequisite: TH 330
Advanced acting course concentrating on such particular elements of craft as role scoring, characterization, staging in character and ensemble playing. Emphasis on dramatic period styles, age and characterization through scene work.
- TH 399 INTERNSHIP 3 s.h.
- TH 481 SPECIAL TOPICS 1-6 s.h.
- TH 482 INDEPENDENT STUDY 1-6 s.h.
Prerequisite: by permission
Independent study in theater may be either purely academic or may be a practical production project, supported by a written document giving evidence of significant scholarly investigation or original, creative effort. May be repeated for a maximum of 6 credits.
- TH 483 ACTING STUDIO 3 s.h.
Prerequisite: TH 330
Repeatable studio course offering scene practice with faculty direction, coaching and criticism. Specific type of scene work varies from semester to semester. (3 lecture hours, 2 lab hours) May be repeated.
- TH 484 DIRECTING STUDIO 3 s.h.
Prerequisite: TH 330
Opportunity for students to direct scene work, one-act plays or larger projects, according to individual levels of experience, preparation and readiness. Practical application of principles of directing to specific problems in directing. Student projects performed in public, open-class recitals. (3 lecture hours, 2 lab hours) May be repeated.
- TH 485 STUDIO THEATER 3 s.h.
Prerequisite: Permission
Performance-oriented course with class members working intensively on the creation of a full-length theater production as an ensemble. Includes, in addition to actors, directors, designers and technical staff. Leads to a public performance. May be repeated once.
- TH 486 PRACTICUM IN PRODUCTION 1-6 s.h.
Prerequisite: by permission
An opportunity with academic credit for students to make significant contributions to campus productions augmenting theater course work in the areas of assistant directing or directing, stage management, technical direction, sound design, lighting, costuming, scene design, properties and set decoration, scene building and painting and make-up design. May be repeated.
- TH 487 SCENOGRAPHIC PROBLEMS 3 s.h.
Prerequisites: TH 220, TH 221 and TH 222
Advanced level classes dealing with scenic, costume and lighting design. Content will cover research technique, extension of initial artistic media used in lighting design classes, designing in all three areas for alternate production facilities and situations. Class is repeatable up to two times. (3 lecture hours, 2 lab hours)

TH 488 SUMMER THEATER WORKSHOP

3-9 s.h.

A theater practicum offering experience in all major aspects of production by combining class work with participation in Theater- by-the-Grove, IUP's repertory theater.

TH 489 TECHNICAL THEATER PROBLEMS

3 s.h.

Prerequisite: Permission of instructor.

Open to all students desiring instruction in a variety of technical theater areas not presently covered in other courses. Topics to include: sound design, stage management, set props, media make-up, technical drawing/mixed media and scene painting. (3 lecture hours) May be repeated.



The Graduate School

Lee Bowker, Dean
David Lynch, Associate Dean

The Graduate School at IUP offers programs leading to the Doctor of Education and Doctor of Philosophy degrees in the areas of counselor education, elementary education and English. One Ph.D. program is specially designed to enrich the teaching of English in the nation's community colleges. Master of Arts, Master of Science, Master of Business Administration or Master of Education degrees are available in adult education, art, art education, art therapy, biology, business, business administration, chemistry, counseling services, criminology, early childhood education, educational psychology, education of the emotionally disturbed, education of the mentally retarded, elementary education, elementary school guidance, English, geography, geoscience, history, home economics education, instructional media, labor relations, mathematics, music, music education, physics, political science, professional growth, psychology, reading specialist studies, secondary school guidance, sociology, Spanish, special education- exceptionalty, special learning disabilities, speech correction, speech pathology, sports sciences and student personnel services. The Graduate School also offers specialization or certification programs in elementary psychology (a post-master's program) and supervisor of guidance services, as well as a reading specialist program.

Students not interested in pursuing a degree may also enroll in individual graduate courses.

An admissions packet is available from the Graduate Office. Requests should be sent to the Dean of The Graduate School. Brochures and other information describing individual programs are available from most department chairpersons.



The College of Health Sciences

Herman L. Sledzik, Acting Dean

The College of Health Sciences provides an opportunity to educate personnel needed in various health disciplines. The College offers professional curricula leading to appropriate baccalaureate degrees for men and women in health and physical education, respiratory therapy, medical technology, nursing; and safety management. IUP is affiliated with approved schools and hospitals for specialized training in these programs of allied health and nursing.

At present, the College of Health Sciences includes four departments:

1. Allied Health Professions
2. Health and Physical Education
3. Nursing
4. Safety Sciences

ALLIED HEALTH PROFESSIONS DEPARTMENT
HAROLD E. WINGARD, CHAIRPERSON

RESPIRATORY THERAPY

Respiratory Therapists assist physicians in the care of patients who have respiratory system problems or illness that relates to breathing. Their assistance includes administering gaseous drugs and executing therapeutic procedures. Included are the operation and maintenance of specialized equipment.

The program leads to the degree of Bachelor of Science in Respiratory Therapy. Presented jointly by Indiana University of Pennsylvania and The Western Pennsylvania Hospi-

tal in Pittsburgh, the program offers intensive theoretical and applied knowledge to produce highly-skilled graduates who are prepared to enter the profession as therapists or instructors.

Two academic years of University studies, followed by two academic years of hospital studies and clinical practice constitute the program. Incoming students must maintain a QPA of 2.25 in Natural Sciences and Mathematics to qualify for admission into the clinical years in Respiratory Therapy. While at the University, students are required to complete the following courses or approved substitutes, which give a total of 62 credits:

Biology

BI	105	Cell Biology	4 s.h.
BI	150	Human Anatomy	3 s.h.
BI	151	Human Physiology	4 s.h.
BI	241	General Microbiology	3 s.h.

Chemistry

CH	101-102	College Chemistry I & II	8 s.h.
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Health and Physical Education

*HP		Two activity courses	2 s.h.
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Humanities

AH	101	Introduction to Art	3 s.h.
		or	
TH	101	Introduction to Theater	3 s.h.
		or	
MU	101	Introduction to Music	3 s.h.
EN	101,102	& 201 English I, II, & III	10 s.h.
		Approved Elective	3 s.h.

*Or ROTC Option

Social Sciences

Approved Electives			12 s.h.
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Other

MA	110	Elementary Functions	3 s.h.
PY	151	Medical Physics Lecture	3 s.h.
PY	151	Medical Physics Lab	1 s.h.

Departmental Elective			3 s.h.
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In addition to clinical practice each semester during the junior and senior years and research projects during the senior year, students, while at the hospital, study the following subjects:

RT 326 RESPIRATORY THERAPY CLINICAL PRACTICE I 3 s.h.
First exposure to patient care. Introduction and practice of basic Respiratory Therapy treatment modalities receive emphasis.

RT 327 PHARMACOLOGY 3 s.h.
Introduction to pharmacology and therapeutics. Emphasis placed on the drugs used in respiratory care. Drug classification, action, usage, dosage and availability will be discussed.

RT 328 INTRODUCTION TO RESPIRATORY THERAPY 4 s.h.
Topics include medical terminology and an overview of cellular structure and function. Emphasis is placed on neurophysiology, respiratory anatomy and physiology.

- RT 329 RESPIRATORY THERAPY INSTRUMENTATION 4 s.h.
Introduction to basic respiratory therapy equipment and related procedures. Special emphasis will be placed upon the rationale and techniques of oxygen administration.
- RT 330 CARDIOPULMONARY RESUSCITATION 2 s.h.
Comprehensive analysis of the principles and practices of numerous methods of resuscitation.
- RT 333 RESPIRATORY THERAPY CLINICAL PRACTICE II 6 s.h.
Treatment procedures introduced in Clinical I are continued with greater emphasis on independence. Speciality rotations are added to broaden exposure to respiratory therapy and critical care.
- RT 334 RESPIRATORY THERAPY INSTRUMENTATION AND APPLICATION 4 s.h.
Provides students with a comprehensive knowledge of mechanical ventilation. The care of critically ill and physiologic consequences of mechanical ventilation will be discussed.
- RT 335 NURSING ARTS 3 s.h.
An overview of the history of respiratory therapy and nursing. Topics include medical records, infection control, sterilization and psychosocial aspects of illness.
- RT 336 CARDIOPULMONARY EVALUATION AND CLINICAL CORRELATION 4 s.h.
Disease states of the pulmonary and related systems are investigated in progression from etiology through treatment and prognosis.
- RT 426 RESPIRATORY THERAPY CLINICAL PRACTICE III 6 s.h.
Respiratory Therapy treatment procedures are continued with emphasis on improving proficiency and refining skills. Students will make rounds with physicians.
- RT 427 APPLIED PULMONARY PHYSIOLOGY 4 s.h.
Various aspects of pulmonary physiology will be discussed and applied to acid-base and blood gas analysis and interpretation.
- RT 429 DESIGN AND FUNCTION OF A RESPIRATORY THERAPY PROGRAM 2 S.H.
Basic management principles as they apply to the hospital setting and in particular respiratory therapy departments and schools will be discussed.
- RT 433 RESPIRATORY THERAPY CLINICAL PRACTICE IV 7 s.h.
Rotations on treatment and intensive respiratory therapy are continued. Advanced rotations are included.
- RT 434 PEDIATRICS AND SELECTED TOPICS 3 s.h.
Basic terminology, anatomy and pathophysiology of obstetric, fetal, neonatal and pediatric patients will be presented.
- RT 436 RESPIRATORY THERAPY TEACHING 2 s.h.
An introduction to respiratory education
- RT 481-1 SPECIAL TOPICS;
ESSENTIALS OF ECG INTERPRETATION 2 s.h.
Aquaint students with cardiac electrocardiographic diagnostic and therapeutic techniques.
- RT 481-2 SPECIAL TOPICS:
PULMONARY FUNCTIONS/CARDIOPULMONARY REHABILITATION 2 s.h.
- RT 481-3 SPECIAL TOPICS: METHODS IN CRITICAL CARE 1 s.h.
Critical care diagnostic and therapeutic modalities pertinent to respiratory care discussed.

RT 481-4 SPECAIL TOPICS:
 ADVANCED PEDIATRIC RESPIRATORY THERAPHY

1 s.h.

Sixty-two credits are awarded for hospital studies.

MEDICAL TECHNOLOGY

Medical Technologists are highly-skilled members of the medical care team. They perform a wide range of tests and studies, whose results aid physicians in diagnosis and treatment. The program of studies presented jointly by Indiana University and accredited hospitals prepares students to enter the profession. The program also prepares students for graduate and professional schools.

Upon completion of the four-year program, the degree of Bachelor of Science in Medical Technology is granted. Students will also have a minor in Chemistry and Biology. The first three years are devoted to University studies. The University-wide General Education obligations may be varied by election of three semester hours in Humanities and 12 hours in Social Science.

Required are at least 16 semester hours in Biology, 24 semester hours in Chemistry, a course in Mathematics, and two semesters of Physics, as follows:

Mathematics

MA 110	Elementary Functions or higher level substitute	3 s.h.
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Chemistry

CH 111-112	General Chemistry I and II	8 s.h.
CH 231-232	Organic Chemistry I and II	8 s.h.
CH 323	Analytical Methods	4 s.h.
CH 351	Biochemistry	4 s.h.

Biology

BI 105	Cell Biology	4 s.h.
BI 120	Animal Biology	5 s.h.
BI 361	Microbiology	3 s.h.
BI 364	Immunology	3 s.h.
Biology Electives		3-6 s.h.

Physics

PY 111-112	Physics I and II, including laboratory	8 s.h.
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NOTE: Biology courses frequently elected:

BI 476	Parasitology	3 s.h.
BI 360	Medical Mycology	3 s.h.
BI 352	Comparative Animal Physiology	3 s.h.
BI 445	Microtechnique	3 s.h.
BI 263	Genetics	3 s.h.
BI 151	Human Physiology (strongly recommended as a free elective)	

Following the three academic years of University work, each student devotes 12 months to studies at an accredited hospital School of Medical Technology to which she/he gains admission on a competitive basis.* IUP maintains short- and long-term affiliations with selected hospital schools.

The Department provides student counseling and maintains liaison with hospital schools. However, since not all students are equally successful in academic studies and since the hospital schools select and admit the students to their programs using various criteria, IUP cannot guarantee admission to hospital school studies (also known as the clinical year).

Thirty-two semester hours are earned at the hospital School of Medical Technology. In addition to integrated clinical practice, the following subjects are typically studied:

Hematology and Coagulation
 Radio-Isotopes

Clinical Microbiology
 Parasitology

Clinical Chemistry
 Immunoematology
 Urinalysis
 Mycology

Immunology and Serology
 Virology
 Clinical Immunology

Completion of college and clinical education is followed by a national certification examination. Successful passage of the examination certifies that the student is a professionally qualified laboratory technologist.

*The hospital program is accredited by the Committee on Allied Health Education and the American Medical Association through the National Accrediting Agency for Clinical Laboratory Sciences.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

D. SHELBY BRIGHTWELL, CHAIRPERSON: AIERSTOCK, ANTHONY, BARTHELEMY, BECK, BLACKSMITH, CELTNIKS, CLARK, CORTAZZO, DAKAK, DAVIS, DICKIE, ELTZ, GODLASKY, GROVE, HORNFECK, JOHNSON, KAYLOR, KORAB, LEPLEY, LISCINSKY, LOMMOCK, MILEFF, MILL, MONTGOMERY, MOORE, NEAL, PODBIELSKI, SLEDZIK, SLONIGER, SUTTON, THOMPSON, TUCKER, WINGARD.

The Department of Health and Physical Education provides the following services: (1) instruction in health and physical education as part of the University's General Education requirement; (2) an undergraduate major in health and physical education that leads to the Bachelor of Science degree in Education with potential certification to teach in the Commonwealth of Pennsylvania; (3) Bachelor of Science degree in Physical Education and Sport; and (4) Endorsement program in Driver-Education-- safe living.

CURRICULA

Required Program - General Education

University students not in the ROTC program are required to complete two semester hours of physical education and two semester hours in HP 101, Personal and Community Health. Any two courses offered for General Education physical education credit may be elected to fulfill the physical education requirement. (Veterans are given four semester hours toward the above requirement. Verification of service must be established.) All such courses are coeducational.

B.S. in Education (Health and Physical Education)

Requirements for the degree of Bachelor of Science in Education with a major in Health and Physical Education include the University's General Education requirement, Professional Education requirements, and the Health and Physical Education core requirement (36 semester hours). Upon completion of the degree program, the student is qualified for an Instructional I Certificate in Health and Physical Education, issued by the Pennsylvania Department of Education in Harrisburg, Pennsylvania. This certificate is valid for teaching health and physical education in grades K through 12 for three years in the public schools of Pennsylvania. Major students may utilize free electives to specialize in the areas of adaptives, aquatics, athletic coaching, dance, elementary physical education or health.

Candidates for the degree program in Health and Physical Education must demonstrate acceptable cognitive and psychomotor qualifications, as well as desirable character and personality traits. The professional program seeks to foster those qualities of individual character and competence that are inherent in personal and professional maturity. These competencies are evaluated at the end of the sophomore year. The student is either granted

Advanced Standing in the Department or restricted in scheduling advanced courses for not less than one probationary semester. Continuation in the major program is based upon attainment of department Advanced Standing.

GENERAL EDUCATION - See catalog under General Education

PROFESSIONAL THEORY - Major students in Health and Physical Education must earn 26 semester hours in the following courses: HP 142; HP 221; HP 246; HP 325; HP 344; HP 345; HP 426; HP 441; HP 442.

PROFESSIONAL TECHNIQUES - Students are required 10 semester hours from among the following courses: HP 200-208; HP 263; HP 300-307. (Two laboratory hours and one lecture hour per week) One-half (.5) semester hour courses meet for one-half of the semester only.

PROFESSIONAL EDUCATION - The following are required: EP 302; FE 302; HP 242, HP 318, HP 321, HP 341, ED 242, ED 342, ED 421, ED 441, ED 442

COURSE DESCRIPTIONS

Meeting the General Education Requirement

HP 101 PERSONAL AND COMMUNITY HEALTH 2 s.h.
Understanding scientific approach to personal health and development of desirable attitudes and practices in all areas of personal health constitute a major part of the course. Cause, prevention, and control of various diseases are also considered. (2 lecture hrs.)

Co-Educational General Education Activity Courses

Unless otherwise noted, the following courses provide opportunities for the learning of basic fundamentals and techniques of the activities. Specific courses may be offered in the fall, spring, or both semesters. (Two lab hours per week.)

HP 110 BEGINNING SWIMMING	1 s.h.
HP 113 ARCHERY/INTERMEDIATE SWIMMING	1 s.h.
HP 115 BADMINTON-INTERMEDIATE SWIMMING	1 s.h.
HP 116 BADMINTON-VOLLEYBALL	1 s.h.
HP 117 INTERMEDIATE SWIMMING/FITNESS	2 s.h.
HP 118 FITNESS-VOLLEYBALL	1 s.h.
HP 119 GOLF-BOWLING	1 s.h.
HP 120 TENNIS-INTERMEDIATE SWIMMING	1 s.h.
HP 121 INTERMEDIATE SWIMMING-VOLLEYBALL	1 s.h.
HP 122 CONTEMPORARY (MODERN) DANCE I	1 s.h.
HP 123 FOLK AND SQUARE DANCE I	1 s.h.
HP 125 BASIC TAP AND BALLROOM DANCE	1 s.h.
HP 126 RESISTIVE EXERCISES	1 s.h.
HP 127 FENCING	1 s.h.

HP 128 GOLF	1 s.h.
HP 129 BADMINTON/TENNIS	1 s.h.
HP 133 FOLK AND SQUARE DANCE II	1 s.h.
HP 134 BOWLING	1 s.h.
HP 137 GYMNASTICS	1 s.h.
HP 138 RACQUETBALL	1 s.h.
HP 145 TENNIS	1 s.h.
HP 146 CONTEMPORARY DANCE II	1 s.h.
HP 147 TENNIS/FENCING	1 s.h.
HP 161 BASIC ROCK CLIMBING	1 s.h.
HP 163 BACKPACKING	1 s.h.
*HP 261 WATER SAFETY INSTRUCTOR (Prerequisites: departmental consent and lifesaving certification.)	1 s.h.
*HP 262 SCUBA (Prerequisites: fee, departmental consent, HP 265)	1 s.h.
*HP 265 LIFEGUARDING (Prerequisites: departmental consent, and advanced swimmer)	1 s.h.
*HP 266 BASIC SMALL CRAFT (Prerequisite: intermediate swimmer)	1 s.h.
HP 349 DANCE REPERTOIRE I	1 s.h.
HP 350 DANCE REPERTOIRE II	1 s.h.

*These courses are also included in the annual Aquatic School offered each summer. They require the prerequisite courses listed beside them.

Health and Physical Education Major Courses

HP 142 FOUNDATIONS OF HEALTH, PHYSICAL EDUCATION AND RECREATION 3 s.h.
Scientific principles, philosophical considerations, and career opportunities in professions of health, physical education, and recreation and sport sciences. (3 lecture hrs.)

HP 200 FUNDAMENTALS OF PHYSICAL ACTIVITY 1 s.h.
Identification of problem areas in basic neuromuscular activities with subsequent prescriptive programs on an individual basis; presentation of circuit and interval training programs; weight training and isometrics.

HP 201 ARCHERY/BADMINTON/BOWLING 1 s.h.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency in each activity. Methods and materials emphasized.

HP 202 BASEBALL .5 s.h.
Basic skills, position play and team participation in baseball. Baseball theory and strategy.

- HP 203 BASKETBALL .5 s.h.
Team tactics, drill patterns, conditioning programs and teaching/coaching methods.
- HP 204 FIELD HOCKEY .5 s.h.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.
- HP 205 RHYTHMS AND MOVEMENT 1 s.h.
Prerequisite: HP 200
Development of basic movement techniques through rhythmic experiences, knowledge of music notation and terminology, and methods in creative presentation.
- HP 206 SOFTBALL .5 s.h.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.
- HP 207 TENNIS .5 s.h.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.
- HP 208 SOCCER Team tactics, drill patterns, teaching and coaching techniques. 5 s.h.
- HP 221 HUMAN STRUCTURE AND FUNCTION 3 s.h.
Anatomical organization of human body, surveyed in sufficient depth to prepare students for physiology, biomechanics and adaptive physical education. (3 lecture hrs.)
- HP 230 AEROBIC FITNESS 2 s.h.
An opportunity to participate in a variety of aerobic activities; will aid fitness leaders in developing and implementing several types of aerobic programs; will offer current information on aerobics as preventive medicine. (1 lecture, 2 lab hours)
- HP 242 EMERGENCY HEALTH CARE 1 s.h.
American Red Cross Standard, Advanced and instructor's certification, and Multi-media Instructor's certification awarded upon successful completion of this course. (1 lecture, 2 lab hours)
- HP 246 BIOMECHANICS 3 s.h.
Prerequisite: HP 221
Study of the relationship between mechanical and physical principles and human movement. (3 hours lecture)
- HP 263 AQUATICS 1 s.h.
Basic performance techniques in swimming strokes presented with special emphasis on teaching methodology, aquatic sports and games, water safety, skin diving, springboard diving and other aquatic activities.
- HP 264 ADVANCED AQUATICS 1 s.h.
Swimming and rescue skills necessary to complete American Red Cross Senior Lifesaving Course. Emphasis placed upon a broad range of other aquatic experiences and teaching strategies.
- HP 265 LIFEGUARDING 1 s.h.
Prerequisites: departmental consent and advanced swimmer
Designed for professional lifeguards. Includes lifeguarding techniques for pools, fresh and salt water beaches. Red Cross certification (Pittsburgh Division) granted upon satisfactory completion of course requirements. (2 laboratory hours)
- HP 300 FOLK AND SQUARE DANCE .5 s.h.
Prerequisite: HP 205
Skill progressions and analyses, in combination with opportunity to progress individually in

skill competency in each activity. The role of folk and square dance in the physical education programs of all levels considered. Emphasis on methods and materials.

HP 301 MODERN DANCE .5 s.h.

Prerequisite: HP 205

Basic course in dance, introducing student to experiences in development of dance as creative art and an educational medium.

HP 302 GYMNASTICS 1 s.h.

Prerequisite: HP 205

Conditioning exercises, participation in all phases of gymnastics, including tumbling and the coaching of the sport.

HP 303 FOOTBALL .5 s.h.

Fundamentals of position play, patterns of offense and defense, individual skills and team organization in football.

HP 304 GOLF .5 s.h.

Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.

HP 305 TRACK AND FIELD .5 s.h.

Basic movement patterns of running, jumping, and throwing; various training programs of track and field; rules and regulations. The students' abilities and skills are developed in order that they may be better able to teach and/or coach track and field.

HP 306 VOLLEYBALL .5 s.h.

Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.

HP 307 WRESTLING .5 s.h.

Basic skills, moves and holds used in college and high school wrestling.

HP 311 ADVANCED FIELD HOCKEY/VOLLEYBALL 2 s.h.

Prerequisites: HP 204, 306

Advanced techniques and game strategy, with opportunities for individual skill progression. Methods and materials are presented from aspect of coaching responsibilities in these activities. (1 lecture and 2 lab hours)

HP 312 ADVANCED BASKETBALL/SOFTBALL 2 s.h.

Prerequisites: HP 203, 206

Advanced techniques and game strategy, with opportunities for individual skill progression. Methods and materials are presented from aspect of coaching responsibilities in these activities. (1 lecture and 2 lab hours)

HP 314 ADVANCED MODERN DANCE 2 s.h.

Prerequisite: Previous dance course or department acceptance of experience.

Advanced techniques of performance and choreography. Theory and composition form an integral part of course content. (1 lecture and 2 lab hours)

HP 316 VOLLEYBALL OFFICIATING 1 s.h.

Prerequisite: HP 306

Officiating techniques and responsibilities in volleyball. Opportunities for officiating experience and qualification for professional ratings. (1 lecture and 2 lab hours)

HP 317 BASKETBALL OFFICIATING 1 s.h.

Prerequisite: HP 203

Officiating techniques and responsibilities in basketball. Opportunities for officiating experience and qualification for professional ratings. (1 lecture and 2 lab hours)

- HP 318 PRE-PROFESSIONAL EXPERIENCE I 1 s.h.
Students teach as assistants to a faculty member in two different activities, one in physical education (general education) and one in elementary physical education at the University School. Emphasis on unit development, class management, leadership skills and evaluation. (3 hours lab)
- HP 319-1 PRE-PROFESSIONAL EXPERIENCE II 1 s.h.
Prerequisites: HP 318, Advanced standing, Departmental approval Students may request an assisting/teaching/leadership assignment in certain University related areas that may be either instructional or non-instructional in nature. Examples of such professional areas are adaptives, recreation, dance, coaching, aquatics, intramurals, administration, elementary, service or major classes, club activities, assisting in laboratories, or the training room. (3 lab hours)
- HP 319-2 PRE-PROFESSIONAL EXPERIENCE II 2 s.h.
Prerequisites: HP 318, Advanced Standing, Departmental Approval Same as above. (6 laboratory hours).
- HP 319-3 PRE-PROFESSIONAL EXPERIENCE III 3 s.h.
Prerequisites: HP 318, Advanced Standing, Departmental Approval Same as above. (9 lab hours)
- HP 321 METHODS IN ELEMENTARY PHYSICAL EDUCATION 3 s.h.
Study and application of theories of movement, self-testing activities, rhythms, relays, games, gymnastics suitable for elementary school children. Observation, materials and methods of teaching and opportunities for intern teaching provided. (3 lecture hours)
- HP 322 DANCE PRODUCTION 3 s.h.
Prerequisite: HP 122 or HP 301
Advanced course in contemporary dance technique and composition; studio productions with staging, lighting, costuming and make-up as student responsibilities. (3 lecture hours)
- HP 325 SCHOOL HEALTH PROGRAMS 3 s.h.
Organization of school health programs, relationships and utilization of community resources. (3 lecture hours)
- HP 333 PSYCHOLOGY OF COACHING 2 s.h.
The goals of athletics in schools and communities; principles and responsibilities of the coach; current problems. (2 lecture hrs.)
- HP 336 ORGANIZATION AND ADMINISTRATION OF RECREATION 2 s.h.
History, theory and philosophy of recreation; importance of play in modern world, trends in recreation, problems encountered in organizing community school programs and principles of leadership. (2 lecture hrs.)
- HP 341 EVALUATION IN HEALTH AND PHYSICAL EDUCATION 3 s.h.
Evaluation theory, instructional objectives and cognitive test construction; technical and practical considerations in testing, and interpretation of test results. (3 lecture hours)
- HP 343 PHYSIOLOGY OF EXERCISE 3 s.h.
Prerequisite: HP 221
Physiological effects of exercise on humans. Major factors of diet, conditioning, physical fitness, maximum performance level, and fatigue are considered. (3 lecture hours)
- HP 344 ADAPTED PHYSICAL EDUCATION 3 s.h.
Prerequisite: HP 246
Recognition of structural deviations, corrective exercises and physical education programs for a wide range of handicaps. (3 lecture hours)

- HP 345 BASIC SPORTS MEDICINE 2 s.h.
Prerequisite: HP 221
Prevention and care of accidents in sports activities. Significance of medical examination, conditioning exercise and sound health practices discussed. Laboratory work includes taping, bandaging, use of physiotherapy equipment, massage and supervised training room experience. (2 lecture hours)
- HP 349 DANCE REPERTOIRE I 1 s.h.
Prerequisite: Department consent
Designed to permit students to be exposed to wide range of dance repertoire, original choreography and technique. (1 lecture, 2 lab hours)
- HP 350 DANCE REPERTOIRE II 1 s.h.
Prerequisite: HP 349
Designed to permit students to explore dance repertoire, choreography and technique beyond HP 349. (1 lecture and 2 lab hours)
- HP 372 HEALTH AND PHYSICAL EDUCATION FOR SPECIAL POPULATIONS 2 s.h.
Prerequisite: EX 220
Methods and techniques of teaching health and physical education to special populations will be explored. Designed primarily for students majoring in special education, focus will be on handicapping conditions, limitations imposed by such conditions and the responsibility of the special education teacher working in the physical education setting. (2 lecture hours)
- HP 399 INTERNSHIP 3-12 s.h.
Educational opportunity which integrates classroom experience with practical experience in community service agencies, industrial, business or governmental organizations. Junior standing required.
- HP 405 ORGANIZATION AND TECHNIQUES OF OUTDOOR RECREATION 2 s.h.
The growth and significance of camp movement, and understanding of camping techniques and various types of camp programs considered. Attention given to all camp activity areas. Study of outdoor education also. (2 lecture hours)
- HP 408 GUIDED RESEARCH PROBLEM 2 s.h.
Selection and research of a problem pertinent to student interests and those of the professions of Health, Physical Education and Recreation. Classes held on an individual and/or seminar basis. (Independent Study)
- HP 410 EXERCISE PRESCRIPTION 3 s.h.
Prerequisite: HP 343
Designed to teach individuals to write exercise prescriptions based upon a subject's tolerance for physical activity. Special emphasis on risk factors, techniques of evaluation, drugs, injuries, environmental factors, motivation and their role in physical activity assessment. (3 lecture hours)
- HP 412 PHYSICAL ACTIVITY AND STRESS MANAGEMENT 3 s.h.
Acquisition of necessary understandings of anxiety and stress; their nature, place in society and intervention strategies as they relate to physical activity. (3 lecture hours)
- HP 413 PHYSICAL ACTIVITY AND AGING 3 s.h.
Presents major aspects of physical activity, its importance to the older adult and the organization of an activity program. Attention to physiology of physical activity, effects of activity on growth and aging, exercise prescription, flexibility, overweight and obesity, and motivational strategies. (3 lecture hours)
- HP 426 HEALTH SCIENCE INSTRUCTION 3 s.h.
Health curriculum- K-12, Methods and Media of instruction in Health Science. (3 lecture hours)

HP 432 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND INTERSCHOLASTICS 2 s.h.
History, theory, philosophy, and principles of intramural and interscholastic athletic programs. (2 lecture hours)

HP 433 APPLICATION OF THEORY TO MOTOR LEARNING 2 s.h.
Identification of aspects of motor learning and its similarity and difference to cognitive and affective learned behavior. Characteristics of children and adolescents. Special emphasis given to the principles of psychomotor learning. (2 lecture hours)

HP 434 ADVANCED SOCCER WORKSHOP 1 s.h.
Prerequisite: HP 208, or department acceptance of experience.
Principles of attack and defense and their application in group and team play. The study of team play will be carried out, in the main, using small sided games. Those participating will be able to observe, teach, evaluate and be evaluated. (1 lecture and 2 lab hours)

HP 441 PSYCHOSOCIAL IMPLICATIONS FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION 3 s.h.
A study of variables that influence human performance with emphasis on psychological and sociological research. (3 lecture hours)

HP 442 SEMINAR IN HEALTH, PHYSICAL EDUCATION, AND RECREATION 3 s.h.
Theory and philosophy of Health, Physical Education, and Recreation, current issues and problems; innovative and creative programs. (3 lecture hrs.)

HP 447 CARDIO-PULMONARY RESUSCITATION (CPR) INSTRUCTOR 1 s.h.
Prerequisite: Basic CPR certification
Study of methods and skills necessary to certify instructors of cardiopulmonary resuscitation and multimedia first aid. Successful completion of requirements leads to certification by the American Health Association and the American Red Cross. (1 lecture and 1 lab hour)

Driver Education-Safe Living 7-12

CERTIFICATION IN DRIVER EDUCATION

Candidates for the driver education certification must possess, or be a candidate for, a valid Pennsylvania Certificate in any area of certification. A student must currently complete the four courses that are listed below. A student must request the certificate in driver education-safe living 7-12 when they apply for graduation. For students who have already graduated, contact the office of the Dean, College of Education, for correct procedure.

HP 251 ACCIDENT CAUSATION AND PREVENTION 3 s.h.
Establish the relationship between psychology and accident causation programming by examining the different variables in accident causation. Enables the student to better understand human behavior as it relates to the causes of accidents. (3 lecture hours)

HP 252 INTRODUCTION TO THE DRIVING TASK 3 s.h.
Provide an in-depth treatment of operating a motor vehicle competently in all major variations and under most conditions encountered in traffic. A competent operator is one who performs the total driving task knowledgeably, skillfully; demonstrates full understanding and application of identification, prediction, decision and execution process. Students must have at least two years of driving experience. (2 lecture and 2 lab hours)

HP 353 DRIVER EDUCATION PROGRAM MANAGEMENT 3 s.h.
Prerequisites: HP 251, HP 252
Emphasizes the development, organization and management of high school driver education from the standpoint of its historical development to its present programs designed to meet the demands of the highway transportation system. Special emphasis on role of teacher in conducting a quality program that will meet with student, parent, school and community approval. (3 lecture hours)

HP 354 APPLICATION OF DRIVER EDUCATION INSTRUCTIONAL MODES 3 s.h.

Prerequisites: HP 251, HP 252, HP 353

Prepares prospective driver education teachers to plan, teach and evaluate the four modes of driver education (classroom, on-road, simulation and multiple vehicle range). Teaching high school students in supervised laboratory sessions is provided. (2 lecture and 2 lab hours)

Required in Elementary Education

EL 314 METHODS IN ELEMENTARY SCHOOL HEALTH AND PHYSICAL EDUCATION 2 s.h.

Includes games, rhythms, movement education, tumbling, folk and square dancing and other skills suitable for elementary school children. The teaching of health in elementary school is emphasized. Methods, materials and lesson planning are a part of the course. (1 lecture hour and 2 lab hours).

AQUATICS SCHOOL COURSE OFFERINGS

Each summer the Department offers the annual Aquatic School for eight consecutive days. Students must be 17 years of age or older and possess the necessary aquatic prerequisites. A fee will be charged which will include room, three meals a day, use of equipment, accident insurance, transportation to and from the lake and special one-night programs. Certification will be granted by the American Red Cross, National YMCA, Professional Association of Diving Instructors and the American Heart Association upon completion of courses. All courses may be taken for college credit, if the student is eligible and pays the additional tuition fee. For more information, contact the Aquatic Director. *These courses are also offered during the school year.

COURSE DESCRIPTIONS, AQUATICS SCHOOL

*HP 242 EMERGENCY HEALTH CARE 1 s.h.

American Red Cross Standard, Advanced and Instructor's certification and Multi-media instructor's certification awarded upon successful completion of this course. (1 lecture; 2 labs).

*HP 261 WATER SAFETY INSTRUCTOR 1 s.h.

Prerequisites: Departmental consent and lifesaving certification

Emphasizes teaching aspect of skills, techniques and attitudes necessary in all areas of swimming. Students successfully completing course are qualified to hold such positions as water front directors, aquatic directors, and other similar positions. (2 lab hours)

*HP 262 SCUBA DIVING 1 s.h.

Prerequisites: Fee, departmental consent and HP 265

Designed to teach necessary skills and proper use of equipment for underwater swimming. Tanks, regulators, weights and special equipment furnished. Student must purchase a mask, fins and snorkel (approximately \$15.00). Includes theory as well as practical work. (2 lab hours)

*HP 265 LIFEGUARDING 1 s.h.

Prerequisites: Departmental consent and advanced swimmer

Designed for professional lifeguards which includes lifeguarding techniques for pools, fresh and salt water beaches, Red Cross certification (Pittsburgh Division) granted upon satisfactory completion of course requirements. (2 lab hours)

*HP 266 BASIC SMALLCRAFT 1 s.h.

Prerequisite: Intermediate Swimming Ability

Designed to introduce the use of the canoe, paddle board and sailboat. Emphasis is placed on development of boating skills, safety rescue and survival procedures. Red Cross smallcraft certification is granted upon successful completion of the course. (2 lab hours)

- HP 267 BASIC SYNCHRONIZED SWIMMING 1 s.h.
Prerequisite: Intermediate Swimming Ability
Activity course designed to assist students in the development of beginning synchronized swimming skills. YMCA certification is granted upon successful completion of course requirements. (2 laboratory hrs.)
- HP 268 WATER SKIING 1 s.h.
Prerequisite: Intermediate Swimming Ability
Water skiing for beginners. Includes use of equipment, ski techniques and safety. Novice I and Novice II levels of certification of the American Water Ski Association program are available upon successful completion of course requirements. (2 lab hours)
- HP 269 POWER BOATING 1 s.h.
Prerequisite: Intermediate Swimming Ability
Introduction to the safe use of small power craft and related equipment for recreational boating activities such as water skiing, fishing and scuba diving. Includes maintenance, repair, rescue and survival. (2 lab hours)
- HP 270 INSTRUCTOR OF HANDICAPPED SWIMMING 1 s.h.
Prerequisite: HP 261
Concerned with the learning of skills used to teach swimming to exceptional children. All handicaps are considered. This course is important not only in physical education but also for the mentally retarded, rehabilitation, education, for agency personnel, post graduate swimming education, also for YMCA's Boys Clubs, Community Programs, Private Clubs and Industrial Programs. The Red Cross certification Instructor of Swimming for the Handicapped is granted upon successful completion of the course. (2 lab hours)
- HP 271 INSTRUCTOR OF SCUBA DIVING 1 s.h.
Prerequisite: HP 262
Prepares instructors to teach skin and scuba diving. Emphasis is placed on teaching methods, use and mechanics of equipment, safety, diving physics and physiology and advanced diving skills. Instructor of Scuba Diving certificate granted by the Professional Association of Diving Instructors upon successful completion of the course. (2 lab hours)
- HP 272 INSTRUCTOR OF CANOEING 1 s.h.
Prerequisite: HP 266
Concerned with learning of skills pertinent to teaching canoeing to beginners. All aspects of canoeing including paddling, repair of equipment, white water canoeing, safety, survival and teaching techniques are presented. The Red Cross certification, Canoeing Instructor is granted upon successful completion of the course. (2 lab hours)
- HP 273 INSTRUCTOR OF SAILING 1 s.h.
Prerequisite: HP 266
Concerned with learning of skills pertinent to teaching beginning sailing. All aspects of sailing are considered including the elements of sailing, repair of equipment, racing, safety and techniques of teaching. (2 lab hours)
- HP 274 INSTRUCTOR OF INFANTS AND PRESCHOOLERS IN SWIMMING 1 s.h.
Prerequisites: HP 261; Instructor's Consent
Methods course for preparation of swimming instructors in the knowledge and skills of teaching young children to swim. YMCA certifications' Instructor of the Very Young granted upon successful completion of course requirements. (2 lab hours)
- HP 276 COACHING OF SWIMMING 1 s.h.
Prerequisite: HP 261
A lecture-discussion methods course designed to prepare Physical Education majors for coaching of swimming. Emphasis is placed on training methods, officiating, nutrition, scientific principles and meet strategy. (2 lab hours)

HP 277 COACHING OF SYNCHRONIZED SWIMMING 2 s.h.
 Designed to go beyond the activity nature of Basic Synchronized Swimming (HP 267). Students are involved in set design, costumes, selection of music, making props, selecting themes and organizing a program. (1 lecture and 2 lab hours)

HP 279 SWIMMING POOL MAINTENANCE AND CHEMISTRY 2 s.h.
 Prerequisite: HP 264
 A lecture-discussion course designed to teach fundamental water chemistry, filtration, treatment of water problem, winterization of outdoor pools and pool management. Emphasis is placed on water testing and analysis of chemicals and bacteria. (2 lecture hours)

HP 280 AQUATIC FACILITIES MANAGEMENT 2 s.h.
 Prerequisite: HP 264
 An organization and administration course designed to prepare the aquatic professional for management of indoor and outdoor facilities. Includes facility design, safety procedures activity, sport and recreational aspects. (2 lecture hours)

NURSING DEPARTMENT

CARLEEN ZONI, CHAIRPERSON; ALLEN, BELLAK, BLACK, BLAIR, CUNNINGHAM, EDWARDS, HART, HAUBER, HOLT, KRESAK, KUZNESKI, MURRAY, POLANSKY, SADLER, SETTLEMYER, SMATLAK, SPRENKEL, STEELE, THISTLETHWAITE, WALZ

The College of Health Sciences offers a curriculum leading to the Bachelor of Science degree in Nursing. Students are admitted to the nursing major as freshmen. Upon completion of the program, the graduate is prepared to write the examination for Pennsylvania licensure as a registered nurse. The program is fully accredited by the National League for Nursing.

The nursing curriculum has as its primary goal the development of competent professional nurses who are liberally educated, clinically proficient and aware of their social responsibilities as members of the health professions. The program is designed to provide a broad background in general education, coupled with the specialized knowledge and skills required for professional nursing. Additionally, the curriculum prepares the nurse to practice within the professional code of nursing ethics, to function effectively as a member of the health-care team, and to utilize scientific principles in planning and implementing health care. The objectives of the nursing program emphasize learning of concepts of health and illness, disease prevention, health maintenance and rehabilitation and provision of health care in acute care settings and various community settings.

The first three semesters are devoted mainly to general education and science courses considered essential to the nursing major. The first clinical nursing courses begin in the fourth semester. The courses outlined elsewhere in the Bulletin as mandatory in English, Humanities, Social Sciences, Health and Physical Education (or ROTC), are in addition to the following: (If student selects to pursue senior ROTC curriculum courses, 2 social science electives are excused).

Social Science Requirements

SO 151	Principles of Sociology	3 s.h.
PC 101	General Psychology	3 s.h.
PC 354	Developmental Psychology	3 s.h.
PC 357	Normal Psychology	3 s.h.
SS	Electives	6 s.h.

Natural Sciences

CH 101-102	College Chemistry I and II	8 s.h.
BI 105	Cell Biology	4 s.h.
PY 151	Medical Physics	4 s.h.

BI 150	Human Anatomy	3 s.h.
BI 241	General Microbiology	3 s.h.
BI 151	Human Physiology	4 s.h.

Other Requirements

FN 212	Nutrition	3 s.h.
MA 217	Probability and Statistics	3 s.h.

Clinical experiences in patient care are provided in acute care centers and other area health agencies throughout the last five semesters. Men and women are eligible to enroll in the nursing program.

Registered Nurse students are enrolled in the basic baccalaureate program in nursing. They will have a genuine upper division major in Nursing, and will fulfill all degree requirements set by the University and the Nursing Department. The Registered Nurse student may be awarded advanced standing, based on prior work completed at an accredited college or university and on exemption tests in nursing at a given point in the curriculum.

COURSE DESCRIPTIONS

NU 280 NURSING CORE I 3 s.h.
Introduction to the philosophy of baccalaureate education for nursing, the nursing process and the role of the nurse, concepts and principles basic to health and disease and implications for care of patients with problems common to maintenance of health.

NU 285 NURSING I (Lab) 3 s.h.
Nursing theory and skills necessary for nursing intervention, diagnostic techniques, assessment; includes laboratory.

NU 302 NURSING II 3 s.h.
Knowledge of biophysical and psychosocial sciences is stressed. Emphasis is on nursing theory relevant to clients with non- acute or acute alterations in homeostasis. Client-centered nursing problems are presented by students in a weekly seminar, with faculty guidance. (2 hr. lecture; 1 hr. seminar)

NU 303 NURSING IIA (LAB) 5 s.h.
Application of nursing theory using the nursing process, under faculty supervision in health agencies, to clients with non- acute or acute alterations in homeostasis. Clinical practice settings include hospitals and community clinics. (15 hours)

NU 304 NURSING III 3 s.h.
Nursing theory pertinent to nursing care of clients with acute and more complex deviations from health. Seminar emphasizes client-centered nursing, problems and analysis of identified problems. (2 hours lecture, 1 hour seminar)

NU 305 NURSING IIIA (LAB) 5 s.h.
Application of nursing theory using the nursing process under faculty supervision with clients having acute and more complex alterations in homeostasis. Clinical Practice areas include all utilized in NU 303. Student plans, implements and evaluates care for clients of all ages and includes health teaching as part of nursing practice. (15 clock hours)

NU 322 NURSING CORE II 3 s.h.
Principles and concepts pertinent to normal growth and development, family and group dynamics, alterations in homeostasis, pathophysiology, psychopathology, research, professional development and teaching-learning principles related to man, health and nursing.

NU 323 NURSING CORE III 3 s.h.
Continuation of concepts and principles, increasing in depth and severity of alterations in homeostasis. Emphasis is on pathophysiology, psychopathology, disease control, rehabilitation, management principles and health teaching.

- NU 402 NURSING IV** 3 s.h.
Nursing theory pertinent to care of clients with crises and life-threatening alterations in homeostasis is emphasized. Methods of leadership and management and change theory are presented. Client-centered nursing seminars are presented weekly. (2 hour lecture, 1 hour seminar)
- NU 403 NURSING IV-A (LAB)** 5 s.h.
Application of nursing theory in various health care agencies using the nursing process with life-threatening alteration in homeostasis, critical health failures and psychoses. Practice occurs in acute and chronic psychiatric settings, intensive/ coronary care units, and medical-surgical units of the general hospital. Student cares for patients on a one-to-one basis in intensive care units and develops management skills on medical- surgical units, caring for groups of clients. (2 hours lecture, 1 hour seminar)
- NU 404 NURSING V** 3 s.h.
Nursing theory relevant to utilizing the nursing process in leadership roles, self-direction and professional accountability terminating in independent functioning within a health care agency and the community. Seminars emphasize client-centered problems; leadership role conflicts or success, trends in nursing roles and responsibility for self and professional growth. (2 hours lecture, 1 hour seminar)
- NU 405 NURSING V-A (LAB)** 5 s.h.
Application of nursing process utilizing concepts and principles accumulated throughout the education process. Student has the opportunity to elect areas of practice within any health care setting, also practices in clinics, clients' homes, community nursing agencies and health education programs. (15 hours)
- NU 422 NURSING CORE IV** 3 s.h.
Concepts and principles of pathophysiology and psychopathology, to life-threatening alterations in homeostasis, disturbed communications, and crisis theory. Change theory, nursing contribution to change within the health care delivery system, leadership development and the liaison role of the nurse is stressed. Professional responsibility, accountability and professional standards are taught.
- NU 423 NURSING CORE V** 3 s.h.
Concepts and principles of leadership responsibility, professional relationships, delivery of health care in community, state and national systems. Management principles essential to peer review, nursing audit, client advocacy, professional career opportunities and methods to secure employment, labor relations and changes in the health care system are taught.
- NU 430 NURSING RESEARCH** 3 s.h.
Research methodology, development of clinical research investigation. Writing a research paper and becoming a more knowledgeable consumer of research.
- NU 480 WORKSHOP - ONCOLOGICAL NURSING (ELECTIVE)** 1 s.h.
A one-week workshop presenting an in-depth analysis of cancer nursing. Content includes tumor formations, current treatment modalities and problems common to cancer patients and their families. Offered during summer sessions.
- NU 481-1 NURSE-PATIENT COMMUNICATION** 1 s.h.
Prerequisite: Nursing major or department consent
This is an elective course which explores the nurse-patient relationship by studying the interactive process with emphasis on establishing more effective helping relationships. Simulation activities will be used while stressing the importance of communicating therapeutically with clients in a variety of settings. (1 lecture hour)
- NU 481-2 PHYSICAL ASSESSMENT (ELECTIVE)** 1 s.h.
An intensive course in physical assessment skills and health assessment procedures, increasing in complexity from motor to perceptual to cognitive skills. Practice of techniques will be an essential part of learning.

NU 482 INDEPENDENT STUDY (ELECTIVE)

varies 1-3 s.h.

Prerequisites: Senior standing, prior approval of faculty member guiding study. Elective option for students to pursue greater depth of knowledge in a chosen area of nursing.

SAFETY SCIENCES DEPARTMENT

ROBERT McClAY, CHAIRPERSON; CHEKANSKI, CHRISTENSEN, CVEJANOVICH, McCLOSKEY, PACALO, REED, SOULE.

The department offers the degree of Bachelor of Science in Safety Sciences with specialization in occupational safety and health. General industrial safety and mine safety options are offered within this curriculum

B.S. IN SAFETY SCIENCES

The degree in Safety Sciences prepares the student for professional administrative, managerial and supervisory positions in industry, manufacturing, insurance, transportation, utility, government, contract construction, trade service industries and others. There remains an acute need in Pennsylvania and the nation for university-educated occupational safety and health professionals. The curriculum includes a major of 36 semester hours in Safety Sciences and an additional 18 semester hours in related professional courses. A variety of elective courses is available in both the major and professional course fields that enable students to strengthen their primary interest areas.

REQUIRED UNDER GENERAL EDUCATION - In meeting the University's General Education requirement, all Safety Sciences majors must complete:

CH 101 & 102	College Chemistry I & II	8 s.h.
PY 111 & 112	Physics I & II	8 s.h.
MA 121 & 122	Calculus I & II	8 s.h.
MA 217	Probability & Statistics	3 s.h.
BI 151	Human Physiology	4 s.h.
PC 101	General Psychology	3 s.h.
SO 151	Principles of Sociology	3 s.h.
EC 122	Principles of Economics II	3 s.h.

In addition to these courses, six semester hours must be completed among the approved Humanities electives, six semester hours of social sciences electives must be completed, four semester hours of either Health & Physical Education or Military Science must be completed, and three semester hours in Introduction to Art, Music, or Theater must be completed.

PROFESSIONAL COURSE REQUIREMENTS - The following professional courses are required of all Safety Sciences majors:

MG 360	Management & Production Concepts	3 s.h.
CO 200 or FS 241	(Computer Elective)	3 s.h.
EN 322 or EN 220	(Technical Writing Elective)	3 s.h.

An additional 9 semester hours of selected professional electives are required.

BEHAVIORAL ELECTIVE - - All Safety Sciences majors are required to complete one the following three courses:

PC 399	Industrial/Organizational Psychology	3 s.h.
SO 340	Sociology of Industry	3 s.h.
MG 311	Human Behavior in Organizations	3 s.h.

INDUSTRIAL SAFETY OPTION

Thirty-six semester hours must be completed from the following courses:

SA 101	Introduction to Occupational Safety & Health	3 s.h.
SA 111& 211	Industrial Safety Engineering I & II	6 s.h.
SA 301	Health Hazard Identification	3 s.h.
SA 302	Health Hazard Evaluation	3 s.h.
SA 303	Control of Health Hazards	3 s.h.
SA 311	Industrial Fire Protection	3 s.h.
SA 345	System Safety Analysis	3 s.h.
or		
SA 347	Ergonomics	
SA 412	Evaluation of Safety Programs	3 s.h.
SA 450	Internship	6 s.h.

In addition to the 33 semester hours identified above, three semester hour of Safety Sciences electives are required.

MINE SAFETY OPTION

Thirty-six semester hours must be achieved from the following courses:

SA 102	Introduction to Mine Safety	3 s.h.
SA 111 & 211	Industrial Safety Engineering	6 s.h.
SA 231 & 232	Mine Safety Engineering I & II	6 s.h.
SA 301	Health Hazard Identification	3 s.h.
SA 302	Health Hazard Evaluation	3 s.h.
SA 345	Systems Safety Analysis	3 s.h.
or		
SA 347	Ergonomics	
SA 401	Mine Ventilation	3 s.h.
SA 412	Evaluation of Safety Programs	3 s.h.
SA 450	Internship	6 s.h.

COURSE DESCRIPTIONS

SA 101 INTRODUCTION TO OCCUPATIONAL SAFETY AND HEALTH 3 s.h.
Covers theory and history of industrial hazard control, effects of hazards and failures on organizational control and productivity, safety and health legislation, accident causation, organization and administration of safety and health programs, aspects of recognizing, evaluating, and understanding control of safety and health hazards, acquiring hazard data, hazard analytical tools, communication techniques in safety and health management, and the role of interfacing management systems in hazard control.

SA 102 INTRODUCTION TO MINE SAFETY 3 s.h.
Designed to provide the student with an in-depth background of the problems involving mine safety. A historical approach to coal and mineral mining are reviewed; legislative influences such as the Federal Coal Mine Health and Safety Act, the Metal and Nonmetal Mine Health and Safety Act, and the Occupational Safety and Health Act discussed in depth; mining techniques, methods and systems are discussed. Management of mine health and safety programs are presented. Federally mandated training of employees is covered.

SA 111 INDUSTRIAL SAFETY ENGINEERING I 3 s.h.
Prerequisite: SA 101 or SA 102.

Stresses understanding complexity of industrial hazard control problem by thoroughly examining elements of safety and health enumerated in OSHAAct promulgated standards. Emphasis given to plant layout and design, materials handling, machine guarding, walking and working surfaces, hazardous materials and combustible liquids, boilers and unfired pressure vessels.

- SA 211 INDUSTRIAL SAFETY ENGINEERING II** 3 s.h.
Prerequisite: SA 101 or SA 102
Stresses understanding complexity of industrial hazard control problem by thoroughly examining elements of safety and health enumerated in the OSHA promulgated standards. Emphasis to welding and cutting operations, electrical safety, chemical safety, personal protective equipment, industrial sanitation and construction safety.
- SA 231 MINE SAFETY ENGINEERING I** 3 s.h.
Prerequisite: SA 102
Focuses on the various aspects of mining operations such as: slope and shaft development; mine design; ground control; hoisting; man-trips; haulage; mining equipment; mine emergency planning and procedures; mine communications and maintenance.
- SA 232 MINE SAFETY ENGINEERING II** 3 s.h.
Prerequisite: SA 102 Covers surface mining operations such as: slope stability, equipment, ground water and control. Mine related processing operations are discussed. Provides an in-depth study of the various controls of electrical hazards and ignition sources such as: permissible equipment, electrical distribution systems. The use of explosives and blasting practices, handling, storing and transportation. Emphasis on causes of explosion involving dust and gases is discussed.
- SA 301 HEALTH HAZARD IDENTIFICATION** 3 s.h.
Prerequisites: CH 102, PY 111, MA 122, BI 151
Provides understanding of primary health hazards found in industry and their effects on the human body. Students learn to recognize hazards involved with air contaminants, noise, heat radiation, chemicals on the skin and other stresses. Emphasis placed on study of occupational disease, industrial toxicology and use of threshold limit values.
- SA 302 HEALTH HAZARD EVALUATION** 3 s.h.
Prerequisites: SA 301, PY 112, MA 217
A lecture/laboratory course which provides basic understanding of techniques used in measuring and evaluating the magnitude of health hazards in industry. Laboratory sessions provide experience in air sampling, noise measurement, heat measurement, particle size analysis, chemical analysis and evaluation of industrial ventilation systems.
- SA 303 CONTROL OF HEALTH HAZARDS** 3 s.h.
Prerequisites: SA 301, PY 112, MA 217
Study of engineering, administrative and personal protective equipment as methods of reducing or eliminating hazards to the health of industrial workers. Topics covered include: industrial ventilation, noise control, health control, radiation control, personal protective equipment and industrial health program.
- SA 311 INDUSTRIAL FIRE PROTECTION** 3 s.h.
Prerequisites: CH 102, PY 112, SA 211
Introduces fundamental concepts in protection of industrial workers and property from fire and explosion. Fire chemistry, control of ignition sources in industry and properties of combustible materials discussed. Fire detection and extinguishment covered along with building construction for fire prevention, life safety fire codes and related topics.
- SA 345 SYSTEMS SAFETY ANALYSIS** 3 s.h.
Prerequisites: SA 111, SA 211, MA 217
Focuses on the Evaluation of system designs using detailed system analysis techniques. Topics covered include system definition, economics of systems safety, systems safety methodology, ergonomic approaches, mathematics of system analysis, including statistical methods, boolean algebra and reliability. PRELIMINARY HAZARD ANALYSIS, TASK ANALYSIS, FAILURE MODE AND EFFECT ANALYSIS, FAULT TREE ANALYSIS, and exercises in the application of FAULT TREE ANALYSIS to hardware and man/machine systems. Practical analysis work is accomplished in laboratory sessions.

- SA 347 ERGONOMICS** 3 s.h.
 Prerequisites: SA 301, BI 151
 An exploration of the principles which control human performance and its effect upon the Safety and Reliability of Systems. Engineering anthropometry, biomechanics of motion and work posture, work physiology and performance measurement are covered in the context of their application in workplace design. Students will be instructed in methodologies for analysis tasks and human performance requirements. Important human limitations are studied in laboratory sessions.
- SA 370 FLEET SAFETY** 3 s.h.
 Prerequisites: SA 101, Junior Standing
 Includes topics involved with the development and operation of motor fleet safety programs: driver selection and training, accident investigation and record keeping, equipment safety features, preventive maintenance and driver incentive programs.
- SA 380 INSTITUTIONAL SAFETY MANAGEMENT** 3 s.h.
 Prerequisite: Junior Standing
 Historical aspects of safety for both private and public institutions; introduction to trends in liability and institutional safety regulations. Distinctions will be made between employee, visitor and patient hazards and their control.
- SA 401 MINE VENTILATION** 3 s.h.
 Prerequisites: PY 112, SA 102, MA 122 or consent
 Study of mine ventilation principles and practices which provide a basic knowledge in design and operation of mine ventilation systems. The topics of airflow physics, ventilation standards, fan fundamentals, pressure losses, required air flows and overall design are discussed. Specific problems in mine ventilation will be solved.
- SA 412 EVALUATION OF SAFETY PROGRAM EFFECTIVENESS** 3 s.h.
 Prerequisites: MA 217, Junior Standing
 Teaches reasons and importance of evaluating the effect of safety and health innovations on organization performance, devising measuring systems capable of extracting accurate, meaningful data, methods of collecting, codifying, and processing accident- injury information and utilization of data retrieval systems.
- SA 441 ACCIDENT INVESTIGATION** 3 s.h.
 Prerequisite: SA 101, Junior Standing or consent
 Focuses on various aspects of accident investigation such as recent theories associated with accident causes, investigative techniques, data acquisition, structure of investigative reports, management responsibilities and remedial actions. Particular emphasis on determining sequence of events to develop management actions which will prevent recurrence of accidents.
- SA 445 PRODUCT SAFETY** 3 s.h.
 Prerequisites: MA 217, Senior Standing or consent
 Traces flow of applicable legislation dealing with consumerism and product safety. Corporate liability for product safety emphasized through case studies. Student familiarized with evolving role of Consumer Product Safety Commission. Corporate management of product development and safety detailed with emphasis on systems safety analysis, standards and product testing.
- SA 450 INTERNSHIP** 6 s.h.
 Prerequisite: Senior Standing, all required courses in major
 All Safety Management majors are expected to take this course. It is conducted away from the University at various industrial enterprises. Students are required to provide their own transportation. Intended to allow the student to apply hazard assessment and safety management practices to actual industrial situations while at same time being exposed to complexities of industrial environment. The student will spend 12 hours per week at an industrial location and 2 hours of classroom instruction weekly where field assignments will be designated, problems will be discussed and progress will be evaluated.

SA 461 AIR POLLUTION

3 s.h.

Prerequisites: SA 301 or consent

Focuses on various major aspects of the air pollution problem. Includes: sources of pollution, evaluation and engineering of pollutants, government regulations, atmospheric chemistry and dispersion, and human and non-human effects. Particular emphasis on information that is practical for the safety management, industrial health or environmental health professional.

SA 462 RADIOLOGICAL HEALTH

3 s.h.

Prerequisites: SA 301 or consent

Study of problems associated with ionizing radiation in human environment. Emphasis given to biological effects, radiation measurement, dose computational techniques, exposure control, and local and federal regulations. Study and use of various radiological instruments included.

SA 481 SPECIAL TOPICS IN SAFETY SCIENCES

3 s.h.

Prerequisite: Permission of instructor.

An elective offering in which the specific topic may vary from one term to the next.

The College of Home Economics

Kathleen Jones, Dean

The College of Home Economics prepares professionals who are competent to assume a variety of roles in assisting individuals and families to seek solutions to problems and concerns related to personal and family life. Programs in the College of Home Economics focus on relationships, services, goals and resources which help people function within their environment. Graduates help families and individuals deal with different and changing life-styles as well as local, national and world conditions that have an impact on their lives.

The College of Home Economics emphasizes human development and family relations, resource management and consumer economics, food and nutrition, clothing and textiles, housing, interior design, and home equipment. Graduates have an interdisciplinary perspective of the aesthetic, economic, physical, psychological and social needs of family members. They bring specialized competencies to business and industry, public affairs, homes and communities.

The objectives of the College of Home Economics at IUP are: to guide students in the development of knowledge and skills necessary for various professions, to provide students with a foundation for further learning, and to foster individual self-development in a context of concern for community. Students are encouraged to recognize and accept society's need for educated citizens who can make a continuing contribution to family and community in a changing world. Attention is given to the development of personal and professional attributes, attitudes, and values, and to an understanding of and respect for the values and needs of others in this society and in other cultures.

The College offers elective courses available to both traditional and non-traditional students which may be taken to enhance a major program or for self-fulfillment. A minor consisting of 15 to 21 semester hours in a subject-matter area of home economics can be arranged for students enrolled in other Colleges of the University.

The College of Home Economics is accredited by the Council for Professional Development of the American Home Economics Association. The accredited professional programs offered by the College of Home Economics are: nutrition education, dietetics, food service management, home economics education, child development/family relations, fashion merchandising, consumer affairs, interior design/housing and community services.

The College is composed of three departments: Consumer Services, Food and Nutrition and Home Economics Education.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

Students enrolled in the College of Home Economics must meet the University requirements in General Education.

CH 101-102	College Chemistry I and II (meet the lab requirements)	8 s.h.
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In meeting the Social Science requirements, all students in the College must take PC 101, General Psychology. The various programs require some specific courses which may be used as meeting some General Education requirements.

COLLEGE OF HOME ECONOMICS REQUIREMENTS

In addition to the University requirements, each student is required to pass one course offered by the departments in the College he/she is not enrolled in at the time of graduation. Accepted courses are:

Home Economics Education

HE 218	Child Development	3 s.h.
HE 224	Marriage and Family Relations	3 s.h.

Food and Nutrition Department

FN 111	Foods I	3 s.h.
FN 212	Nutrition	3 s.h.
FN 451	Man and Food	3 s.h.

Consumer Services

CS 101	Personal and Family Management	3 s.h.
CS 213	Home Equipment/Consumer Electronics	3 s.h.
CS 315	Consumer Economics and Family Finance	3 s.h.

CONSUMER SERVICES DEPARTMENT

DONNA L. STREIFTHAU, CHAIRPERSON: CRAMER, KESNER, LYNN, SCHMITT, SHARMA, SWINKER, VIGGIANO, WALKER, WOOD.

The Consumer Services Department offers students an academic program leading to the Bachelor of Science degree with professional emphases in Fashion Merchandising, Interior Design/Housing, Consumer Affairs, and Community Services. These majors prepare men and women for positions emphasizing consumer concerns in business and the community. The majors also provide preparation for students who wish to pursue graduate study in the areas of clothing, textiles, consumer economics, housing, equipment, interior design, and community service.

The department offers courses in the subject matter areas of clothing, textiles, fashion merchandising, housing, interior design, home equipment, consumer and family economics, and personal and family management. The faculty are interested in the growth of students and work closely with them to individualize programs to meet the students' career goals.

Students are encouraged to develop their individual potential through the application of knowledge gained in the classroom to job situations and departmental, campus and community activities. Students may elect an internship which provides the opportunity to apply academic knowledge to an on-the-job situation. Students may elect a study tour to gain an understanding of business procedures and/or consumer problems in various areas of the world. Faculty advisers work closely with students in planning and integrating the academic program with enriching experiences outside the classroom.

A Visiting Student Program with the Fashion Institute of Technology (F.I.T.) in New York City is available to qualified Consumer Services students. Students who are approved by IUP and accepted by F.I.T. are able to receive both a bachelor's degree (IUP) and an associate degree (F.I.T.). The student's junior year is spent at F.I.T. pursuing concentrated course work in one of the following areas: advertising and communications, fashion design, management engineering technology, textile design, textile technology, or jewelry design.

Department Requirements

In addition to meeting the University and College requirements, all students in the Department must take the following:

CS 121	Introduction to Consumer Services	1 s.h.
CS 213	Home Equipment/Consumer Electronics	3 s.h.
CS 314	Textiles	3 s.h.
CS 315	Consumer Economics and Family Finance	3 s.h.
CS 421	Senior Seminar	2 s.h.

FASHION MERCHANDISING MAJOR

The Fashion Merchandising major prepares men and women for promotion and management positions in the field of retail merchandising related to apparel and home furnishings. Graduates are prepared for employment by business organizations producing or selling clothing, textiles, home furnishings, equipment or other consumer products. In addition to University, College and Department requirements, the following courses are required:

CS 112	Fundamentals of Clothing Construction	3 s.h.
	or	
CS 212	Advanced Clothing Construction	3 s.h.
CS 216	Clothing and Man	
CS 217	Interior Design	3 s.h.
CS 303	Visual Merchandising	3 s.h.
CS 318	Fashion Merchandising	3 s.h.
CS 456	Historic Costume	3 s.h.
AR 120	Principles of Design	2 s.h.
	OR	
AR 113	Design	3 s.h.
JN 120	Journalistic Writing	

Outside Concentration: A minimum of 18 s.h. is required from the following (or business substitutes approved by the department):

AD 101	Business Organization & Management	3 s.h.
	or	
MG 360	Management and Production Concepts	3 s.h.
AD 235	Intro to Business Law	
AD 321	Business & Interpersonal Communications	3 s.h.
AD 336	Law of Business Organizations	3 s.h.
AD 337	Consumer Law	3 s.h.
*AG 201	Accounting Principles I	3 s.h.
AG 202	Accounting Principles II	3 s.h.
AG 301	Intermediate Accounting I	3 s.h.
AG 302	Intermediate Accounting II	3 s.h.
DE 332	Retail Management	3 s.h.
DE 333	Principles of Selling	3 s.h.

EC 122	Principles of Economics II	3 s.h.
FS 215	Business Statistics	3 s.h.
FS 310	Finance I	3 s.h.
FS 241	Intro to Business Information Systems	3 s.h.
FS 292	Business Data Processing	3 s.h.
FS 351	Business Information Systems	3 s.h.
MG 300	Human Resource Management	3 s.h.
MG 410	Decision Making in Business	3 s.h.
MK 320	Principles of Marketing	3 s.h.
MK 321	Consumer Behavior	3 s.h.
MK 420	Marketing Management	3 s.h.
MK 421	Marketing Research	3 s.h.
MK 422	Seminar in Marketing Problems	3 s.h.
MK 430	International Marketing	3 s.h.
MK 433	Advertising	3 s.h.

Additional Requirements: EC 101 or 121 is required. EC 121 is recommended for those anticipating taking EC 122 in the supporting concentration. EC 101 or 121 may be taken as a Social Science elective under General Education requirements.

Electives: Courses supporting educational goals may include internships, study tours, directed studies to total 124 s.h. minimum for graduation.

*Required

COMMUNITY SERVICES MAJOR

Courses from all subject matter areas of home economics are included in this option. Electives may be concentrated in particular home economics areas. A concentration of courses is elected in a field of study outside home economics, such as sociology or psychology. Graduates may be employed by the Extension Service or by various governmental and social agencies.

In addition to University, and Department requirements, the following courses are required:

CS 101	Personal and Family Management	3 s.h.
CS 112	Fundamentals of Clothing Construction	
	OR	3 s.h.
CS 212	Advanced Clothing Construction	
FN 111	Foods I	3 s.h.
FN 212	Nutrition	3 s.h.
CS 216	Clothing and Man	3 s.h.
CS 312	Housing and Man	3 s.h.
HE 218	Child Development	3 s.h.
HE 224	Marriage and Family Relations	3 s.h.
AR 120	Principles of Design	2 s.h.

A minimum of 18 semester hours beyond General Education courses are to be selected in a field of concentration such as Sociology and/or Psychology. Courses may be selected from the following, or approved substitutes.

SO 231	Contemporary Social Problems	3 s.h.
SO 332	Racial and Ethnic Minorities	3 s.h.
SO 333	Juvenile Delinquency	3 s.h.
SO 435	Social Stratification	3 s.h.
SO 336	Sociology of Family	3 s.h.
SW 238	Introduction to Social Work	3 s.h.
SO 339	The Community	3 s.h.
SO 357	Sociology of Aging	3 s.h.
AN 211	Cultural Anthropology	3 s.h.
AN 319	Kinship and Social Organization	3 s.h.
PC 200	Stress and Coping	3 s.h.

PC 351	Introduction to Psychological Measurements	3 s.h.
PC 354	Developmental Psychology	3 s.h.
PC 355	Child Psychology	3 s.h.
PC 356	Personality	3 s.h.
PC 357	Abnormal Psychology	3 s.h.
PC 358	Social Psychology	3 s.h.
PC 361	Motivation	3 s.h.
PC 373	Adolescent Psychology	3 s.h.
PC 374	Adult Development and Aging	3 s.h.

INTERIOR DESIGN/HOUSING MAJOR

The Interior Design/Housing major prepares individuals through education and experience to identify, research and seek creative solutions relative to the needs of the proximate environment which can be fulfilled by the design of one's surroundings. Graduates are prepared for positions in the field of Interior Design and Housing which include positions with retailers of furnishings and decorative arts as well as with companies producing items for the home; with residential, contract and business design firms; with architects and planning firms; as in-house designers for business firms and public institutions; and with HUD, manufactured housing companies and private housing complexes.

In addition to University, College and Department requirements, the following courses are required:

AR 120	Principles of Design	2 s.h.
	or	
AR 113	Design	3 s.h.
CS 217	Interior Design	3 s.h.
CS 312	Housing and Man	3 s.h.

Required electives totaling 15 s.h. from the following:

CS 101	Personal and Family Management	3 s.h.
CS 303	Visual Merchandising	3 s.h.
CS 311	Soft Constructions for Interiors	3 s.h.
CS 318	Fashion Merchandising	3 s.h.
CS 354	Independent Study	3 s.h.
CS 357	Interior Design Studio	3 s.h.
CS 433	Study Tour	1-3 s.h.
CS 462	Historic Interiors	3 s.h.
CS 463	Modern Interiors	3 s.h.
CS 464	Interior Planning and Drawing	3 s.h.
CS 481	Living Environment for Older Adults	3 s.h.

Outside Concentration: A minimum of 18 s.h. is required from the following (or substitutes approved by the department): Business Emphasis

AD 101	Business Organization and Management	3 s.h.
	or	
MG 360	Management and Production Concepts	
AD 321	Business & Interpersonal Communications	3 s.h.
AD 382	Real Estate Fundamentals	3 s.h.
AG 201	Accounting Principles I	3 s.h.
DE 331	Modern Merchandising	3 s.h.
DE 332	Retail Management	3 s.h.
DE 333	Principles of Selling	3 s.h.
FS 241	Introduction to Management Information Sys.	3 s.h.
FS 292	Business Data Processing	3 s.h.
MG 300	Human Resource Management	3 s.h.
MK 320	Principles of Marketing	3 s.h.
MK 433	Advertising	3 s.h.

Art Emphasis

AR 100	Arts of the 20th Century	3 s.h.
AR 111	Drawing I	3 s.h.
AR 112	Fundamentals of Drawing and Design I	3 s.h.
AR 211	Painting I	3 s.h.
AR 213	Woodworking I: Function and Form	3 s.h.
AR 214	Ceramics I	3 s.h.
AR 215	Sculpture I	3 s.h.
AR 216	Basic Metals I	3 s.h.
AR 217	Printmaking I	3 s.h.
AR 218	Graphic Design I	3 s.h.
AR 219	Fabrics I	3 s.h.
AR 321	Advanced Drawing	3 s.h.
AR 451	Advanced Woodworking: Function and Form	3 s.h.

Electives: Courses supporting educational goals which may include internships to total 124 s.h. minimum for graduation.

Additional requirements: EC 121, PC 101, AH 101, AH 115 OR AH 116, HI 101 are required and may be taken as part of the University's General Education requirements.

CONSUMER AFFAIRS MAJOR

The Consumer Affairs major prepares men and women for positions concerning consumer affairs in business, government and community agencies.

In addition to University, College and Department requirements, the following courses are required:

CS 101	Personal and Family Management	3 s.h.
CS 216	Clothing and Man	3 s.h.
CS 312	Housing and Man	3 s.h.
CS 413	Problems in Consumer Economics	3 s.h.
JN 120	Journalistic Writing or	3 s.h.
EN 310	Oral Communication	3 s.h.
EC 122	Principles of Economics II	3 s.h.

Required Electives totaling 6 s.h. from the following:

CS 112	Fundamentals of Clothing Construction	3 s.h.
CS 212	Advanced Clothing Construction	3 s.h.
CS 217	Interior Design	3 s.h.
CS 303	Visual Merchandising	3 s.h.
CS 318	Fashion Merchandising	3 s.h.
CS 354	Independent Study	1-3 s.h.
CS 416	Problems in Family Finance	3 s.h.
CS 433	Study Tour	1-3 s.h.
CS 461	Microwave Cooking Technology	3 s.h.
FN 211	Foods II	3 s.h.
FN 212	Nutrition	3 s.h.
FN 313	Quantity Food Production and Service	4 s.h.
FN 358	Food Service Equipment and Layout	3 s.h.
FN 259	Quantity Food Purchasing	3 s.h.
FN 362	Experimental Foods	3 s.h.

Outside Concentration: A minimum of 18 s.h. is required from the following (or business substitutes approved by the department):

*AD 235	Introduction to Business Law	3 s.h.
*AD 336	Law of Business Organizations	3 s.h.
*AD 337	Consumer Law	3 s.h.
MG 300	Human Resource Management	3 s.h.
AD 321	Business and Interpersonal Communications	3 s.h.

MK 320	Principles of Marketing	3 s.h.
MK 321	Consumer Behavior	3 s.h.
MK 433	Advertising	3 s.h.

*Required

Additional Requirements: EC 121, SO 151, PC 101 are required and may be taken as a Social Science elective under the University's General Education requirements. EC 122 is also required.

Electives: Courses supporting educational goals which may include internships, study tours, or directed studies to total 124 s.h. minimum for graduation.

COURSE DESCRIPTIONS

CS 101 PERSONAL AND FAMILY MANAGEMENT 3 s.h.
Management as a system and its relationship to individuals and families. Formulation of goals, values and standards; use of decision-making process; utilization of resources. (3 lecture hours)

CS 112 FUNDAMENTALS OF CLOTHING CONSTRUCTION 3 s.h.
Principles and techniques involved in fundamental clothing construction and fitting are analyzed. Directed laboratory experiences provide opportunity to solve individual problems in garment structure through application of principles. For students who do not have ability to exemplify quality workmanship. (1 hour lecture, 3 hours lab)

CS 121 INTRODUCTION TO CONSUMER SERVICES 1 s.h.
Career possibilities for Consumer Services majors are explored. Students will be guided in clarifying their professional objectives and understanding the necessary preparation to pursue individual vocational goals.

CS 212 ADVANCED CLOTHING CONSTRUCTION 3 s.h.
Prerequisite: CS 112 or Placement (by exam)
In-depth study of principles of advanced fitting and clothing construction are applied and analyzed. (1 hour lecture, 3 hours lab)

CS 213 HOME EQUIPMENT/CONSUMER ELECTRONICS 3 s.h.
Consumer education in the selection, use, and care of home equipment and consumer electronics. The student will study the inter-relationship of energy sources and utilities with such equipment as: major appliances, portable and personal care appliances, and consumer electronics. (Two 1-hour lectures, one 2-hour lab)

CS 214 ENVIRONMENTAL TEXTILES 3 s.h.
Investigation of components and characteristics of textiles for man's near environment with emphasis on soft goods for public and private interiors; including production, marketing and legislation affecting acquisition, use and care. (Two 1-hour lectures, one 2-hour lab) NOTE: A student may not count both CS 214 and 314 toward graduation requirements.

CS 216 CLOTHING AND MAN 3 s.h.
Prerequisite: PC 101
Survey of aesthetic, cultural, socio-psychological, economic and physical factors related to the meaning and use of clothing for the individual and society. (3 lecture hours)

CS 217 INTERIOR DESIGN 3 s.h.
Prerequisite: AR 120 or equivalent
Emphasis upon development of knowledgeable consumers in the selection and design of a home, its furnishing and its total environment. (1 hour lecture, 3 hour lab)

CS 303 VISUAL MERCHANDISING 3 s.h.
Designing and arranging of display and selling areas in relationship to merchandising trends

and consumer demands. Emphasis on promotion techniques and merchandise sales through effective use of space, design and color. (1 hour lecture, 3 hours lab)

CS 311 SOFT CONSTRUCTIONS FOR INTERIORS 3 s.h.
Application of design principles to decor is executed through measurement and construction of soft furnishings for the home and contract phases of the interior design industry. (1 hour lecture, 3 hours lab)

CS 312 HOUSING AND MAN 3 s.h.
Managerial, sociological, economic and aesthetic aspects of housing and man are investigated as well as a consideration of the environment of the home as part of the community. (3 hours lecture)

CS 314 TEXTILES 3 s.h.
Prerequisite: CH 102
Analyses of textile components of fiber, yarn, fabrication, finishes and color with emphasis upon consumer acquisition, use and satisfaction, including relevant legislation. (Two 1-hour lectures, one 2-hour lab)

CS 315 CONSUMER ECONOMICS AND FAMILY FINANCE 3 s.h.
Economic, sociological and psychological principles are applied to family money management problems. Sources of consumer aid and protection are investigated. (3 hours lecture)

CS 318 FASHION MERCHANDISING 3 s.h.
Prerequisites: CS 216 and upper level standing
Study of the origins, movement, dissemination and prediction of fashion; an investigation of the methods of operation, merchandising activities and current fashion industry trends; an analysis of the planning and control procedures used in retail merchandising of fashion goods. (3 hours lecture)

CS 354 INDEPENDENT STUDY 1-3 s.h.
Prerequisite: Permission
Particular consumer considerations are independently investigated in the area of housing, home equipment, interior design, clothing, textiles, or in the management of resources. Course may be repeated for a total of three semester hours. Students meet with a faculty member at least 5 hours per semester hour.

CS 357 INTERIOR DESIGN STUDIO 3 s.h.
Prerequisite: CS 217
Creative solutions to problems in interior environments emphasized. Professional interior design practices; design opportunities. (1 hour lecture, 4 hours lab)

CS 413 PROBLEMS IN CONSUMER ECONOMICS 3 s.h.
Prerequisite: CS 315 or Economics
Problems of consumer-seller relationships studied with emphasis given to effects of current economic and social forces. Governmental and private protection agencies which aid the consumer are reviewed. Individual investigations required. (3 hours lecture) Fall semester only.

CS 416 PROBLEMS IN FAMILY FINANCE 3 s.h.
Prerequisite: CS 315
In-depth theories and principles in personal and family finance and the rights and responsibilities of consumers are emphasized. Opportunities are provided for students to explore specific areas of interest. (3 hours lecture) Spring semester only.

CS 421 SENIOR SEMINAR
Prerequisite: CS 121; completion of 75 semester hours
Knowledge gained in major and outside concentration courses is applied to individual career goals. Students have the opportunity to pursue related areas not directly covered in previous

course work, with emphasis upon independent research, analytical thinking and communications skills. (2 hours lecture)

CS 433 STUDY TOUR 1-6 s.h.

Prerequisite: Upper level standing

Opportunity is provided to visit business establishments and cultural centers concerned with household equipment, furnishings, textiles, clothing and housing in America as well as abroad. Museums, factories, designers' showrooms, distribution centers, stores, cultural events and seminars are included. Course may be repeated for a total of six semester hours.

CS 434 QUALITY CONTROL IN TEXTILES 3 s.h.

Prerequisite: CS 314

Physical properties explored through microscopic examination and use of textile testing equipment for fabric analysis. (2 hours lecture, 2 hours lab)

CS 451 INTERNSHIP 1-12 s.h.

Prerequisites: Approval of instructor and department chairperson; upper level standing.

Practical experience related to the student's major area of study with objectives, supervised experience and evaluation. Course may be repeated for a total of 12 semester hours.

CS 453 FLAT PATTERN DESIGN 3 s.h.

Prerequisite: CS 112 or CS 212

Garment design achieved by use of flat pattern techniques. An understanding is developed of the interrelationship of garment design, figure analysis, fabric, fit and construction processes. (1 hour lecture, 3 hours lab)

CS 454 TAILORING 3 s.h.

Prerequisite: CS 112 or CS 212

Various tailoring methods are studied and applied in the selection, fitting, and construction of a tailored garment. Consumer problems in the selection of ready-to-wear apparel are investigated. (1 hour lecture, 3 hours lab)

CS 455 DRAPING 3 s.h.

Prerequisite: CS 112 or CS 212

Apparel design principles are applied by draping fabric to conform to the human figure. Students will pad a form to individual measurements and create garments that are both individual and original. (1 hour lecture, 3 hours lab)

CS 456 HISTORIC COSTUME 3 s.h.

Chronological study of historic costume from ancient times to the present day with emphasis on the affect of aesthetic, economic, geographic, political, religious and social factors upon the design of clothing worn. (3 hours lecture)

CS 461 MICROWAVE COOKING TECHNOLOGY 3 s.h.

Study of the electronic technology, selection, care and use of the microwave oven. Basic physical and chemical concepts related to microwave cooking are included. Individual investigative research problems are required. (Two hours lecture, 2 hours lab)

CS 462 HISTORIC INTERIORS 3 s.h.

Chronological study from ancient times to the mid-19th Century of the dominant influences and characteristics of historical interiors, furniture and ornamental design. Emphasis placed upon style detail and its relationship to social, economic, political, religious and aesthetic influence: and to the contemporary scene. Paper required. (3 hours lecture)

CS 463 MODERN INTERIORS 3 s.h.

Chronological study from mid-19th Century to the present of the dominant influences and characteristics of the 20th century interior, furniture and ornamental design. Emphasis placed upon style detail and its relationship to social, economic, political, religious and aesthetic influences; and to contemporary usage. Paper required. (3 hours lecture)

CS 464 INTERIOR PLANNING AND DRAWING

3 s.h.

Prerequisite: CS 217

Lifespace analysis and design of interior spaces. Presentation, appropriate media, equipment and techniques will be stressed. Freehand and mechanical methods employed to depict floor plans, elevation, and construction details. (1 hour lecture, 3 hours lab)

FOOD AND NUTRITION DEPARTMENT

RONALD. E. SIMKINS, CHAIRPERSON: BAKER, CAUFFIEL, CESSNA, DAHLHEIMER, GRESSLEY, JOHNSON, MINNICK, MOORE-ARMITAGE, STEINER.

Interesting work, good salaries and opportunity for advancement in positions that give meaning, satisfaction and a purpose in life await young men and women who prepare for careers in the growing fields of dietetics, food service management and educational food services.

Courses offered by the Food and Nutrition Department are planned to train the student as a professional to meet the challenge of this growing industry, which includes not only the commercial food service and hospitality facets of the industry, but hospital and educational segments as well.

The prime requisites for success in the field of food and nutrition are an interest in people, an artistic appreciation of quality food, a realization of the need for good nutrition and a knowledge of sound business principles.

This department offers the following three majors:

Nutrition Education Major

Graduates are prepared to manage the school food service programs; to provide meals with optimum nourishment to school children, to the elderly, to child care centers, or to any of the many nutrition feeding programs and to render professional service to teachers concerning the teaching of nutrition. This program meets Pennsylvania Department of Education certification requirements for a Nutrition Program Specialist (Education Specialist I).

Requirements for the American Dietetic Association internship can also be met by taking additional elective courses.

Dietetic Major

This program prepares the student for entry level positions in the dietary department in hospitals and institutional establishments. Undergraduate requirements for an American Dietetic Association approved post-graduate internship are met. The goal of students in this major may be an internship and American Dietetic Association registration or employment within the health care field.

Food Service Management Major

This program is planned to prepare graduates for management positions with establishments providing food service to the general public. Graduates have competencies in foodservice/hospitality management and in business.

In addition to University and College requirements the following courses are required. Graduation requirements total 124 s.h.

Food and Nutrition-All Department Majors

FN 111	Foods I	3 s.h.
FN 211	Foods II	3 s.h.
FN 212	Nutrition	3 s.h.

FN 259	Quantity Food Purchasing	3 s.h.
FN 313	Quantity Food Production and Service	4 s.h.
FN 356	Food Service: Personnel and Administration	3 s.h.
FN 358	Food Service Equipment and Layout	3 s.h.
FN 364	Methods of Teaching	3 s.h.
*BI 241	General Microbiology	3 s.h.

*may be used as a general education elective

Nutrition Education and Dietetics

BI 151	Human Physiology	4 s.h.
FN 362	Experimental Foods	3 s.h.
FN 402	Community Nutrition	3 s.h.

Nutrition Education

ED 442	School Law	1 s.h.
CM 301	Instructional Media	3 s.h.
FE 302	History and Philosophy of Education	3 s.h.
FN 408	School Foodservice Management	3 s.h.
FN 321	Professional Employment Practicum	0 s.h.
AG 201	Accounting Principles I	3 s.h.
EP 302	Educational Psychology	3 s.h.

Dietetics

*CO 200	Intro to Computers or	3 s.h.
*MA 217	Probability and Statistics	
CH 355	Biochemistry and Nutrition	3 s.h.
FN 355	Nutrition in Disease I	3 s.h.
FN 455	Nutrition Disease II	3 s.h.
FN 458	Advanced Human Nutrition	3 s.h.

*may be used as a general education math requirement

Food Service Management

CO 200	Intro to Computers	3 s.h.
FN 306	Food and Beverage: Sales, Service and Menu Design	3 s.h.
AD 235	Introduction to Business Law	3 s.h.
MK 320	Marketing	3 s.h.
LR 480	The Principles and Practices of Collective Bargaining	3 s.h.
FN 204	Hospitality Management Seminar	3 s.h.
FN 401	Food Management Cost Control	3 s.h.
FN 406	Catering Management	3 s.h.
AG 201	Accounting Principles I	3 s.h.

COURSE DESCRIPTIONS

FN 111 FOODS I 3 s.h.
Basic principles of food preparation, including use of equipment, menu planning, marketing and table service for family meals. (2 hours lecture and 2 hours of laboratory work and/or demonstration)

FN 204 HOSPITALITY MANAGEMENT SEMINAR 3 s.h.
Introduction to the hospitality industry; aspects of serving the public, current management principles, operation of hospitality food and lodging facility. (3 hours lecture)

- FN 211 FOODS II** 3 s.h.
Prerequisites: FN 111, CH 102 or CH 112 or concurrently.
Study of food preparation, including food preservation, protein, carbohydrate and fat cookery. (2 lecture and 3 laboratory hours)
- FN 212 NUTRITION** 3 s.h.
Prerequisites: CH 102 or CH 112, BI 151 or concurrently.
Sources and functions of nutrients and interdependence of dietary essentials and nutritive value of an optimum diet are studied. Attention given to varied conditions in human life. (3 hours lecture)
- FN 259 QUANTITY FOOD PURCHASING** 3 s.h.
Prerequisite: FN 211
Includes sources, standards of quality, grades, methods of purchase and storage of various foods. Emphasis on the development of purchasing policies and procedures. (3 hours lecture)
- FN 306 FOOD AND BEVERAGE; SERVICE, SALES AND MENU DESIGN** 3 s.h.
Prerequisites: FN 204 and FN 211
Examines principles, processes and theories of service, sales, promotion and menu design as functions of the food and beverage department. (3 hours lecture)
- FN 313 QUANTITY FOOD PRODUCTION AND SERVICE** 4 s.h.
Prerequisites: FN 211, 212 and 259.
A basic course in quantity food production with experience in planning, purchasing, preparing and serving nutritionally adequate meals. Requirements of National School Lunch program emphasized in satellite and on-premise feeding.
- FN 321 PROFESSIONAL EMPLOYMENT PRACTICUM** 0 s.h.
Prerequisites: FN 313 plus 60 semester hours
Junior or sophomore summer is used for an employment experience in an approved food service facility. Students seek their own position. Assistance and guidance given by department chairperson.
- FN 351 NUTRITION EDUCATION** 3 s.h.
Study of the functional knowledge of nutritional concepts directed toward improved food habits and nutritional health. (3 hours lecture)
- FN 355 NUTRITION IN DISEASE I** 3 s.h.
Prerequisites: FN 212; CH 102 or CH 112, BI 151
Modification of normal adequate diet to meet nutritional needs in pathological conditions requiring special dietary treatment. Advanced nutrition study. (3 hours lecture) Fall semester.
- FN 356 FOOD SERVICE: PERSONNEL AND ADMINISTRATION** 3 s.h.
Prerequisites: PC 101, FN 313.
Organization and administration of food service business, including personnel policies, work simplification, cost controls, supervision and sanitation. (3 hours lecture)
- FN 357 SPECIAL PROBLEMS IN FOODS** 3 s.h.
Prerequisite: FN 211.
Individual problems in foods investigated with emphasis on identified weaknesses in student's knowledge of food. (4 hours)
- FN 358 FOOD SERVICE EQUIPMENT AND LAYOUT** 3 s.h.
Prerequisite: FN 313.
Selection and layout of food service equipment in relation to production, work flow and efficient management. Field trips permit investigation of a variety of layouts. (3 hours lecture)
- FN 362 EXPERIMENTAL FOODS** 3 s.h.
Prerequisites: FN 211, 212, and CH 102, or CH 112

The experimental study of foods, relating chemical and physical properties to reactions and processes occurring in food systems. (2 hours lecture, 3 hours lab)

FN 364 METHODS OF TEACHING 3 s.h.

prerequisites: FN 313 and 356 or concurrently

Current teaching techniques and resource materials in nutrition education emphasized. Both classroom teaching and on-the-job training programs are included. (3 hours lecture)

FN 401 FOOD MANAGEMENT COST CONTROLS 3 s.h.

Food, beverage and labor cost controls for restaurants, school lunch programs and health care feeding facilities are studied including relationships between budgetary information and managerial decision making in large food service operations. (3 hours lecture)

FN 402 COMMUNITY NUTRITION 3 s.h.

Prerequisite: FN 212

Nutritional implications of both good and poor nutrition for all age groups in home and community situations are studied. Corrective and preventive measures emphasized. Spring semester. (Three lecture hours)

FN 406 CATERING MANAGEMENT 3 s.h.

Prerequisites: FN 313, Senior Majors only.

Profitable organization, preparation and service of catered food both on and off the premises is main focus of course. Off-campus experience included.

FN 408 SCHOOL FOODSERVICE MANAGEMENT 3 s.h.

Prerequisites: FN 314, 358, 364

Includes the state and federal history of school foodservice, legislation affecting the program, funding, government donated commodities, federal inspection, and application and claim forms. Field trips for observation and participation in school foodservice operations at approved centers will be arranged. Spring semester only. (3 hours lecture)

FN 410 FOOD, NUTRITION AND AGING 3 s.h.

Prerequisite: Junior Standing 56 s.h.

Relationship of food to health maintenance and special dietary problems during the middle and later years. (3 hours lecture)

FN 433 EDUCATIONAL STUDY TOUR IN FOODS 2-6 s.h.

Comprehensive program of directed activities permits first hand knowledge of growing, processing, marketing and preparation of foods. The historical and cultural aspects of food are studied. Visits to food markets, catering schools, famous restaurants, etc., are included.

FN 444 FOOD COMPOSITION AND BIOCHEMISTRY 3 s.h.

Prerequisites: CH 355

Basic chemistry and biochemistry of essential components of food originating from plant and animal sources. (3 hours lecture)

FN 447 NUTRITIONAL ASPECTS OF FOOD PROCESSING 3 s.h.

Prerequisites: FN 212 and BI 241 Junior Standing 56 s.h.

Study of current known effects of food processing techniques on the nutritional value and safety of foods. (3 hours lecture)

FN 451 MAN AND FOOD 3 s.h.

Prerequisite: PC 101 or SO 151 or AN 110.

Exploration of the economic, biological, psychological, social and aesthetic significance of food for individuals, families and society. Taught as a research and seminar class. Recommended as an elective for all students. (3 hours lecture)

FN 455 NUTRITION IN DISEASE II 3 s.h.

Prerequisites: CH 351 or 355, FN 355

Advanced study of the effects of dietary modification on pathological conditions utilizing

current research. Opportunity to observe the role of the professional dietitian in the clinical setting. Calculation and preparation of modified diets. (3 hours lecture)

FN 458 ADVANCED HUMAN NUTRITION 3 s.h.

Prerequisite: CH 351 or 355 or concurrently, FN 212

Study in depth of the nutrients and their functions within the cell. Incorporation of the principles of physiology and biochemistry in the study of nutrition. Emphasis on current research and evaluation of research methodology. (3 hours lecture)

FN 461 MICROWAVE COOKING TECHNOLOGY 3 s.h.

Study of the electronic technology, selection, care and use of the microwave oven. Basic physical and chemical concepts related to microwave cooking will be included. Individual investigative research problems are required. (2 hours lecture, 2 hours lab)

FN 463 NUTRITION COUNSELING 3 s.h.

Prerequisites: FN 355, PC 101

Use of nutritional counseling in prevention and treatment of disease. (2 hours lecture, 3 hours practicum)

FN 482 INDEPENDENT STUDY 1-6 s.h.

Prerequisite: Must have earned 60 semester hours.

Opportunity to pursue special interests beyond the scope of regular class offerings. Permission of instructor and approval of department chairperson required. (Undergraduate maximum is 12 semester hours) Must apply for Independent Study a semester in advance.

FN 483 INTERNSHIP IN FOOD & NUTRITION 2-12 s.h.

Prerequisite: Must have earned 90 semester hours.

An opportunity for students to work away from the University in supervised job situations at health care facilities, restaurants, or other institutional foodservice establishments. Objective is to provide students with job-related experiences. Must meet University internship requirements.

NOTE: White uniforms including white shoes are required for all lab courses where food is prepared. Students must meet the professional dress requirements of the department.

HOME ECONOMICS EDUCATION DEPARTMENT

ALMA KAZMER, CHAIRPERSON: ANDERSON, BELL, BROWNING, GALLATI, GORDON, HOVIS, NELSON.

A number of career opportunities await the person who completes either the Home Economics Education program or Child Development and Family Relations program.

HOME ECONOMICS EDUCATION PROGRAM

A major in Home Economics Education leads to a Bachelor of Science in Education and meets certification requirements for teaching home economics at all levels (k-adults) in the schools of Pennsylvania. Upon completion of this program, students have the semester hours necessary for teaching in child care programs and are eligible to receive the Nursery-Kindergarten Certificate issued by the Bureau of Private Academic Schools.

Graduates are also prepared for varied types of employment related to improving family life such as home economists with extension services, utility companies, retail business concerns, social service organizations and government agencies.

The program also provides preparation for students who wish to pursue advanced degrees.

HOME ECONOMICS EDUCATION REQUIREMENTS

In addition to University and College requirements, the student is required to complete the following home economics content and professional education courses. Home Economics Content 6 credits from the following clothing courses:

CS 112 - Fundamentals of Clothing Construction	3 s.h.
CS 212 - Advanced Clothing Construction	3 s.h.
CS 453 - Flat Pattern Design	3 s.h.
CS 454 - Tailoring	3 s.h.
CS 455 - Draping	3 s.h.

*Entry into CS 112 or CS 212 will be determined by the student's score on the placement exam.

CS 213 Home Equipment/Consumer Electronics	3 s.h.
CS 217 Interior Design (AR 120 Principles of Design is a prerequisite)	3 s.h.

OR

CS 312 Housing and Man	3 s.h.
CS 314 Textiles	3 s.h.
CS 315 Consumer Economics and Family Finance	3 s.h.
FN 111 Foods I	3 s.h.
FN 211 Foods II	3 s.h.
FN 212 Nutrition	3 s.h.
HE 218 Child Development	3 s.h.
HE 224 Marriage and Family Relations	3 s.h.
HE 320 Teaching in Child Development Centers	3 s.h.

Professional Education Requirements

HE 250 Introduction to Teaching Vocational Home Economics	3 s.h.
CM 301 Instructional Media	3 s.h.
EP 302 Educational Psychology	3 s.h.
FE 302 History and Philosophy of Education	3 s.h.
HE 350 Evaluation and Methods of Teaching Vocational Home Economics	3 s.h.
HE 430 Student Teaching Practicum	1 s.h.
ED 431 Student Teaching (Home Economics)	12 s.h.
ED 442 School Law	1 s.h.
ED 242 Pre-Student Teaching Clinical Experience I	1 s.h.
ED 342 Pre-student Teaching Clinical Experience II	1 s.h.

BI 151 Human Physiology (4 s.h.) OR BI 241 General Microbiology (3 s.h.) is required and may apply to General Education requirements.

Students will use their electives to obtain a concentration or option.

Concentration

Depending upon students' interests and needs, concentration will be varied and might include (1) electives in one of the five home economics subject matter areas or (2) electives in other areas approved by adviser.

Child Development Option

Students receive in-depth preparation for teaching Parenting and Child Development in high school home economics programs, adult programs and community organizations. Those selecting this option take all required courses for the home economics education degree and, in consultation with adviser, select eight semester hours of electives in the Child Develop-

ment and Family Relations area. Student teaching experience will take place in a center having a Child Development and/or Parenting program.

Occupational Home Economics Option

This option is planned to prepare graduates for teaching in home economics occupational programs in comprehensive high schools, vocational-technical schools, adult education programs and community colleges. Students selecting this option take all the courses required for the home economics education degree and, in consultation with adviser, select eight or more semester hours of electives in the area of specialization. The following two courses are required for a minimum of six semester hours:

HE 470	Occupational Home Economics in American Education	3 s.h.
HE 479	Occupational Home Economics Experience	3-6 s.h.

Student teaching experience will take place in a center with an Occupational Home Economics Program.

CHILD DEVELOPMENT/FAMILY RELATIONS PROGRAM

The Child Development/Family Relations program leads to a Bachelor of Science degree. Primary objectives of the program are to prepare professionals to administer and teach in programs that entail aspects of child development and/or family relations; to teach at the adult level; or supervise and direct professional, paraprofessional and volunteer staff in federal, state or local family supportive agencies. The program also provides preparation for students who wish to pursue graduate study in the area of child development/family relations. Students are required to complete the General Education Requirements with the following courses being required:

Natural Sciences

CH 101-102	College Chemistry I and II	8 s.h.
BI 151	Human Physiology	4 s.h.

Social Sciences

PC 101	General Psychology	3 s.h.
AN 110	Introduction to Anthropology	3 s.h.
SO 151	Principles of Sociology	3 s.h.

Two additional social science electives are required.

College of Home Economics Requirements

FN 212	Nutrition	3 s.h.
CS 315	Consumer Economics and Family Finance	3 s.h.

Home Economics Education Department

HE 218	Child Development	3 s.h.
HE 224	Marriage and Family Relations	3 s.h.
HE 317	Infant Development	3 s.h.
HE 318	Topics in Preschool Education	1-3 s.h.
HE 320	Teaching in Child Development Centers	3 s.h.
HE 324	Family Dynamics	3 s.h.
HE 418	Advanced Child Development	3 s.h.
HE 421	Preschool Education	3 s.h.
HE 422	Early Childhood Education	3 s.h.
HE 424	Family Issues	3 s.h.
HE 426	Techniques of Parent Education	3 s.h.
HE 463	Family and the Community	3 s.h.

Other Courses Required

EP 302	Educational Psychology	3 s.h.
CM 301	Instructional Media	3 s.h.
	Restricted Electives	6 s.h.
	Free Electives	18 s.h.

COURSE DESCRIPTIONS

(Courses are three hours lecture per week unless noted otherwise)

HE 218 CHILD DEVELOPMENT 3 s.h.

Prerequisite: PC 101

Focuses on normal development and behavior of children. Survey made of physical, emotional, social and intellectual development of children from conception through early adolescence. Pertinent child development research analyzed.

HE 224 MARRIAGE AND FAMILY RELATIONS 3 s.h.

Prerequisite: PC 101

Focuses on preparation for marriage and principles of human relations basic to marital adjustment. Influence of community and family experiences on personal development and adjustment explored.

HE 250 INTRODUCTION TO TEACHING VOCATIONAL HOME ECONOMICS EDUCATION 3 s.h.

Overview of philosophy and organization of home economics profession and the role of home economics teachers. Opportunities for planned observations and varied teaching experiences using a variety of resource materials are provided for self development and evaluation relative to desirable teacher competencies.

*HE 317 INFANT DEVELOPMENT 3 s.h.

Prerequisite: HE 218

Study of characteristic developmental changes of human infants from birth to approximately two and one-half years.

HE 318 TOPICS IN PRESCHOOL EDUCATION 1-3 s.h.

Prerequisite: HE 218

Part 1: Students learn about pre-school children and child development centers through direct observation; Part 2: Students examine creative methods and develop creative activities for pre-school children; Part 3: Students examine classroom techniques and procedures necessary for integrating 'special needs' pre-schoolers into the normal pre-school setting. Students may take one or any combination of these parts of the course.

HE 320 TEACHING IN CHILD DEVELOPMENT CENTERS 3 s.h.

Prerequisite: He 218 or equivalent

Techniques for planning and teaching pre-school children. Participation as teacher-assistant provides experience in applying principles of child guidance and development needed by teachers in pre-school centers or secondary school child development laboratories. (1 hour lecture, 3 hours lab)

HE 324 FAMILY DYNAMICS 3 s.h.

Emphasis on processes and models of family development topics. Focus on approaches and dynamics of principles related to familial and marital adjustment and coping. (3 hours lecture)

HE 350 EVALUATION AND METHODS OF TEACHING VOCATIONAL HOME ECONOMICS 3 s.h.

Prerequisites: EP 302, HE 250

Orientation to classroom teaching through planned activities utilizing a variety of methods, techniques and resources. Major methods and techniques of evaluation used to assess and report growth, development and academic achievement of students are emphasized.

- HE 351 EDUCATIONAL GAMES AND PUZZLES 1 s.h.
Investigation and evaluation of commercially prepared educational games and puzzles and their place in the home economics education setting. Construction and evaluation of educational games and puzzles by students.
- HE 352 TEACHING IN THE COMMUNITY 1 s.h.
Prerequisite: HE 250
Planned observations and teaching experience in local human services agencies. Choice of subject matter and strategies will be based on needs and interests of clients.
- HE 390-399 INNOVATIVE TEACHING 1-3 s.h.
Prerequisite: HE 250
Investigation and evaluation of innovative curriculum materials, resources and techniques.
- *HE 418 ADVANCED CHILD DEVELOPMENT 3 s.h.
Prerequisite: HE 218
Study of trends in the field of child development based on review of current literature. Observations of children in a variety of informal situations will be made within the limits of available resources.
- HE 421 PRE-SCHOOL EDUCATION 3 s.h.
Prerequisite: HE 218
Examination of the child development philosophy as the basis for decisions and methods in preschool education. Emphasis is placed on play as a developmental process and as the major aspect of preschool curriculum.
- HE 422 EARLY CHILDHOOD EDUCATION 3 s.h.
Prerequisite: HE 218
Current educational theories and research reviewed in terms of implication for pre-school and their effect on material, equipment and activity selection.
- HE 424 FAMILY ISSUES 3 s.h.
Prerequisite: HE 224
Concentrated study of selected areas of family life, with emphasis on current personal and social issues affecting the family.
- HE 425 STUDY TOUR IN FAMILY LIFE 2-6 s.h.
OPTION: FAMILY LIFE Opportunity to observe family social structure and values in relation to cultural background and economic conditions. Culture, class, ethnic variations in family/kinship systems examined. OPTION: CHILD DEVELOPMENT Opportunity to observe developing child in family life/education relative to cultural background and economic conditions.
- *HE 426 TECHNIQUES OF PARENT EDUCATION 3 s.h.
Examination of nature, extent and significance of parent education movement. Interrelationship of home and community agencies are examined in light of various programs, methods and techniques of parenting education.
- *HE 427 ADMINISTRATION OF CHILD DEVELOPMENT CENTERS 3 s.h.
Prerequisite: HE 218 or equivalent.
Development of special knowledge and competencies needed by successful administrators of child care programs including proposal writing, budgeting, management, staff selection and training, appropriate curriculum materials, philosophy, parent involvement, child advocacy and program evaluation.
- HE 430 STUDENT TEACHING PRACTICUM 1 s.h.
Taken concurrently with ED 431. Assists student teachers in analyzing problems and experiences encountered during student teaching. Emphasizes the variety and types of home economics programs and focuses on developing effective teaching strategies (4 sessions of 3 1/2 hours during semester).

- ED 431 STUDENT TEACHING (HOME ECONOMICS) 12 s.h.
Prerequisite: HE 350
Supervised opportunities provided to guide the development of the student teacher in developing effective learning experiences with students in home economics classrooms in selected public schools for one semester. Self-evaluation of personal and professional growth are emphasized. (HE 430 is taken concurrently with course)
- ED 442 SCHOOL LAW (See College of Education) 1 s.h.
- HE 451 WORKSHOP IN HOME ECONOMICS EDUCATION 3 s.h.
Prerequisite: HE 250
Identification and evaluation of current trends and issues in home economics education.
- HE 452 INTERNSHIP IN HOME ECONOMICS EDUCATION 1-12 s.h.
Prerequisites: Permission of department, College Dean, and University Internship Coordinator; upper level standing
Practical experience related to the student's major area of study. Objectives are developed individually in consultation with university faculty member who supervises the internship. Log and major paper required. May be repeated up to a total of 12 semester hours, however these semester hours are not applicable toward the 124 semester hours required for graduation if student receives 12 semester hours in student teaching.
- HE 454 HOME ECONOMICS EDUCATION FOR ADULTS 3 s.h.
Prerequisite: HE 250
Focuses on background and philosophy of adult education; types of home economics programs and methods of implementation; characteristics of adult learners; observation and teaching participation in adult programs.
- HE 463 FAMILY AND THE COMMUNITY 3 s.h.
Study of community contributions and problems that affect family and contributions of family to community. Investigation of ways group dynamics, communication media and other resources aid understanding of human behaviors.
- HE 470 OCCUPATIONAL HOME ECONOMICS IN AMERICAN EDUCATION 3 s.h.
Prerequisite: HE 250 or equivalent
Explores purposes and types of occupational home economics programs. Emphasis is on individualizing instruction in a competency based program including special needs students. Rationale for cooperative education, maintaining FHA/HERO and an advisory committee, and program evaluation are included. Field trips are frequent.
- HE 472 EVALUATION IN HOME ECONOMICS 3 s.h.
Nature and scope of evaluation in contemporary home economics programs emphasizing use and construction of variety of tests and devices designed to measure comprehensive home economics educational objectives.
- HE 479 OCCUPATIONAL HOME ECONOMICS EXPERIENCE 3-6 s.h.
Prerequisites: Approval of instructor and department chairperson; upper level standing
Personalized experiences designed to broaden competencies in a specific area of occupational home economics and provide preservice teachers with a broader perspective of current technology used in business and industry.
- HE 482 INDEPENDENT STUDY 1-3 s.h.
Upper-level students with high scholastic achievement pursue their particular interests outside the realm of the organized home economics education curriculum. May be taken more than once to a maximum of three semester hours. Approval of department required.



The College of Humanities and Social Sciences

Oliver Ford, Dean

The College of Humanities and Social Sciences has as its objective the providing of a liberal education as the basis of the student's preparation for a satisfying career. In a dynamic society such as America's, a broad liberal education accompanying career preparation is virtually a necessity. The College maintains an emphasis upon fundamental understanding and application of the basic principles of our cultural heritage, combined with development of a thorough background of knowledge in the student's specific area of interest. It seeks to promote in students critical and objective thinking, analytical skill, and a keen awareness of their responsibilities to society as it prepares them for their chosen field.

The College's programs of study are:

English
French
German
Journalism
Linguistics
Spanish
Speech
Philosophy

Government and Public Service
Political Science
Regional Planning
Sociology

Anthropology
Criminology
Economics
Geography
History
International Studies
Labor Relations

Pre-Professional Programs
Theological School Preparation
Law School Preparation

DEGREES

The departments of Criminology, Economics, English, Geography, History, Foreign Languages and Literatures, Journalism, Philosophy, Political Science, and Sociology-Anthropology offer work leading to a Bachelor of Arts degree. The Bachelor of Science is offered in Regional Planning. In addition, the Associate of Arts degree is offered by the Criminology Department at the Punxsutawney Campus.

Several departments sponsor Master of Arts or Master of Science degrees in the University's Graduate School, and the English department offers graduate programs leading to the Doctor of Philosophy degree. Information on these programs should be obtained from the Graduate School.

Degree Requirements

In addition to the University's General Education requirements, all students seeking a baccalaureate degree in the College of Humanities and Social Sciences must complete the requirements for a major as established by the department through which they wish to specialize. Statements of these requirements, and for minoring in a specific field, appear in the department sections that follow. A double major or minor may encompass a discipline outside as well as within the College, but should be selected only with adviser approval. As a general principle, there is considerable latitude in course choice for Humanities and Social Sciences majors; for specifically required courses, substitutions in any program must have the written approval of the student's department chairperson or the College Dean. The intermediate series foreign language requirement (a description follows) applies without exception to all Humanities and Social Sciences four-year degree programs.

THE FOREIGN LANGUAGE REQUIREMENT. A candidate for a Bachelor of Arts or Bachelor of Science degree must demonstrate a proficiency in a foreign language equivalent to that attained upon completion of two years of college instruction in that language. The requirement may be met by:

- a) Successful completion of two semesters at the second-year level in a specific foreign language, or
- b) Successful completion of an exemption or credit examination in lieu of the above; said examination to be administered by the IUP foreign languages and literatures department.

Students with two years of high school foreign language preparation should schedule the intermediate series sequence in the first semester; for instance, French III. Students with less preparation should schedule the introductory level series; for instance, French I. Students uncertain as to the strength of their preparation should seek the counsel of the foreign languages department chairperson. Because of its sequential nature, all students should begin their foreign language course work in their first semester.

The foreign language requirement may be met through work in French, German, Latin or Spanish. Also, the Critical Languages Program offers more than twenty languages through self-instruction that meet the requirement. Greek is offered every other two-year cycle.

Any foreign student, registered as such at IUP, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, is exempt from the foreign language requirement for a Humanities and Social Sciences degree, if the department he/she is majoring in does not require a specific language not thus covered.

SPECIAL CREDIT PROGRAMS

College majors may be interested in the various Foreign Study Tours. Credits obtained through such arrangements normally are applicable toward a Humanities and Social Sciences degree. Also of interest are the College's credit-awarding IUP at Valladolid (Spain),

IUP at Duisburg (Germany), and IUP at Nancy (France) programs, as well as the Summer Study in Jalapa (Mexico) Program.

IUP at Valladolid: The University's Department of Foreign Languages and Literatures has sponsored a Spring semester of study at the University of Valladolid, Spain for the past 17 years. The participants live in private homes. For details and brochures, please contact Dr. Juan Cruz Mendizabal, Department of Foreign Languages.

IUP at Duisburg: IUP has a study abroad program at the University of Duisburg, West Germany. The program is open to German majors and other students having specific interest in a foreign study experience. Students must register for FL 100 and pay an administrative fee of \$75 plus tuition per semester. For further information, contact the Chairperson, Department of Foreign Languages.

IUP at Nancy: The Foreign Languages and Literatures Department has established a study program with the University of Nancy, France. Two separate study programs are available. Program A is intended for those participants who have studied advanced French courses and for French majors. Program B is designed primarily for the non-major or for the student who wishes to enroll for just one semester. Participants in the Nancy program must register for FL 100 and pay an administrative fee of \$75 plus tuition per semester.

IUP - MEXICO SUMMER PROGRAM - The Spanish Section of the Department of Foreign Languages sponsors a program of study in Spanish Language in Mexico. The program is located at Jalapa in the state of Veracruz and the cost of the program includes transportation, complete room and board, insurance, tuition, etc. The student may earn up to six hours of undergraduate or graduate credit. Internship opportunities are available for students with fluency in Spanish. For a detailed brochure, please contact the Chairperson, Department of Foreign Languages.

Self-Instruction in Critical Languages, FL 485 - Self-instruction courses are offered in more than twenty languages that are designed for students whose professional or personal interest leads them to the study of an uncommonly-taught language, and whose motivation and aptitude are sufficiently high to undertake this as independent study. Tutors will assist the student in three weekly tutorial sessions, and specialists from other institutions will test orally the achievement of each student at the conclusion of the course. Among the twenty African, Asiatic and European languages available in this program, Japanese, Chinese, Arabic, Hebrew and Portuguese are of considerable interest today. For further information, contact the Chairperson, Department of Foreign Languages and and Literatures. Participants must pay a \$40 fee each semester.

PRE-PROFESSIONAL PROGRAMS

The College of Humanities and Social Sciences offers two pre-professional programs that prepare the student for application to a professional school: pre-law and pre-theology. These are grounded in Social Sciences and Humanities and Business department(s) - Pre-law in Business, Criminology, Economics, English, History, Philosophy or Political Science; and pre-theology in Philosophy. All programs are so designed that, should work at a professional school not ensue, the student may earn an IUP baccalaureate degree, provided he/she has been faithful to faculty advisement.

Course work in the pre-law program centers upon a carefully developed interdisciplinary minor. For detailed guidance in pre-law, students should consult with the Dean of Humanities and Social Sciences and/or the pre-law adviser in their major department.

INTERNSHIP PROGRAMS

Several departments have established programs under which students engage in off-campus supervised work experience for credit. During the past year IUP students have worked in Harrisburg, Pa. as aides to state legislators, with the Governor's Justice Commission and the Local Government Commission, and with the Investigations Division, Pennsylvania Depart-

ment of Justice. Others have worked at correctional institutions in Pittsburgh, Greensburg and Warrendale, as peer group counselors on the local campus, as an assistant to the Pennsylvania State Republican Chairperson, as on-site guides at The United Nations, as workers on an Israeli kibbutz, and as student aides for the Department of Education, Puerto Rico. Other students have worked in the Pittsburgh federal probation office. Many students have worked with major political parties and candidates at the local and state level. At the county level, they have been attached to the offices of the County Planner, the Common Pleas Court, Coroner, Treasurer, Commissioners and Borough Manager. Students have also worked in the Washington office of Pennsylvania Congressmen, and in many federal and international organizations in Washington as well.

For more information about specific Internship programs students should consult with the chairperson of the department in which the student is majoring.

For Internships abroad, consult the information on the Foreign Language Department.

CRIMINOLOGY DEPARTMENT

R. PAUL McCAULEY, CHAIRPERSON; BOGAN, BROWN, COHEN, McGUIRE, McNABB, MELODINI, MUTCHNICK, SCOTT, THOMAS, WEGENER.

The Department of Criminology offers men and women who seek a career in the criminology field a professional education program supported by a broad liberal arts education. The degree offered is the Bachelor of Arts degree with a major in Criminology, under the College of Humanities and Social Sciences; also available are a Two-year Academic Diploma, an Associate of Arts degree, and a minor in Criminology.

The program in Criminology has a five-fold objective:

1. The education of students for employment and leadership in the expanding field of criminal justice.
2. The education of presently employed law enforcement and correctional officers who recognize the need for raising their educational level.
3. The instruction of students who wish to acquire an understanding of the processes of criminal justice as a cultural part of their higher education.
4. The instruction of students who wish to prepare for graduate study and research in the administration of justice.
5. A curriculum that provides an excellent foundation for students preparing for a career in law.

Nearly every level of government offers opportunities for professional careers in criminology. Employment opportunities normally exist in more than 50 federal agencies, including Federal Bureau of Investigation, U.S. Secret Service, Bureau of Narcotics, Intelligence Division (IRS), Inspection Service (IRS), Alcohol Tobacco Tax Division (IRS), State Department Security, Atomic Energy Commission and military investigative branches.

Both men and women will find employment opportunities in parole and probation work for federal, state, and local governments, institutional careers concerned with the custody and treatment of juveniles and adults at all levels of government. In addition, many police departments have specialized units dealing with juveniles, community relations, training and research. Criminalistic laboratories provide another career area, and there are a wide variety of opportunities in traffic administration, investigative and security activities in the commercial and industrial fields.

Career opportunities are available also in research and teaching at the college and university level and in research divisions of agencies in the field of administration of justice.

CURRICULA

(The Criminology major is in revision as this catalog goes to press. Please consult the department for current programs and requirements.)

Required Courses:

CR 101	General Administration of Justice	3 s.h.
CR 102	Criminology	3 s.h.
CR 301	Criminal Law I	3 s.h.
CR 302	Criminal Law II	3 s.h.
CR 490	Crime in Modern Society	3 s.h.

B.A. in Criminology

In addition to the Required Course, the requirements for the degree of Bachelor of Arts in Criminology are 15 more semester hours in Criminology, as follows:

CR Electives	15 s.h.
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Associate of Arts Degree (offered only at Punxsutawney campus)

For officers and students taking this program in Criminology, requirements in addition to the Required Courses are 18 semester hours in Criminology, six semester hours in English, three in Sociology, three in Psychology, three in Political Science, 15 semester hours of electives in the Social Sciences division. The requirements are as follows:

Criminology

The following are suggested, but substitutions may be permitted depending on circumstances:

CR 201	Police Administration I	3 s.h.
CR 202	Police Administration II	3 s.h.
CR 310	Criminal Investigation	3 s.h.
CR 340	Crime Prevention	3 s.h.
CR 350	Techniques of Interviewing	3 s.h.
CR 415	Supervision in the Administration of Justice	3 s.h.

English

EN 101	English I	3 s.h.
EN 102	English II	3 s.h.

Psychology

PC 101	General Psychology	3 s.h.
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Political Science

PS 111	American Politics	3 s.h.
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Sociology

SO 151	Principles of Sociology	3 s.h.
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Electives

Any of the Social Sciences	15 s.h.
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Minor in Criminology

The minor in criminology must be approved by the department and consists of a minimum of 18 semester hours, consisting of the Required Courses plus the following:

Criminology Electives

3 or more s.h.

COURSE DESCRIPTIONS

- CR 101 GENERAL ADMINISTRATION OF JUSTICE 3 s.h.
Administration of criminal justice in United States. Deals with role of police, courts and correctional process.
- CR 102 CRIMINOLOGY 3 s.h.
Prerequisite: CR 101
General survey of nature and causes of crime and its prevention and treatment.
- CR 201 POLICE ADMINISTRATION I 3 s.h.
Prerequisite: CR 102
Analysis of organizational structure, administrative practices and operating procedures of law enforcement agencies.
- CR 202 POLICE ADMINISTRATION II 3 s.h.
Prerequisite: CR 201
Continuation of Police Administration I, with special emphasis on staff functions, such as records, communications, training, personnel administration and finance.
- CR 301 CRIMINAL LAW I 3 s.h.
Prerequisites: CR 101 and 102; Crim majors and minors only
A study and substantive law analysis of elements of crimes, with emphasis on understanding the application of those elements. Attention given to defenses, uncompleted conduct, conspiracy and parties to crime.
- CR 302 CRIMINAL LAW II 3 s.h.
Prerequisites: CR 101 and 102; Crim majors and minors only
Law of arrest, search and seizure, with discussion of important case law. Analysis of safeguards established for protection of individual liberties, especially as found in application of rules governing the introduction and use of information in formalized legal proceedings.
- CR 310 CRIMINAL INVESTIGATION 3 s.h.
Theory and practice of investigation; discussion of various types of information obtainable from persons and things; application of investigative theory to crime and accidents.
- CR 311 CRIMINALISTICS 3 s.h.
Prerequisite: CR 310
Application of scientific crime detection methods; emphasis on collection, preservation and interpretation of physical evidence found in connection with a crime.
- CR 320 TRAFFIC ADMINISTRATION I 3 s.h.
Origin and growth of traffic problem; emphasis on traffic enforcement and procedures, organization and functions of police traffic division, study of traffic laws and judicial process.
- CR 325 INSTRUMENTAL DETECTION OF DECEPTION 3 s.h.
Devices for measuring emotional responses to verbal stimuli; psychological and physiological aspects of deception; analysis of detection of deception techniques and their application to law enforcement.
- CR 330 PLANNING AND RESEARCH 3 s.h.
Prerequisites: CR 101 and 102

- Role of planning and research in contemporary law enforcement; analysis of planning process and nature of planning with emphasis on planning for special events and situations.
- CR 340 CRIME PREVENTION** 3 s.h.
Organization and function of crime prevention agencies; problems and techniques in the prevention of crime; community resources in preventing crime.
- CR 350 TECHNIQUES OF INTERVIEWING** 3 s.h.
Consideration of the nature, methods, and principles of interviewing; emphasis on role playing in interviewing situations.
- CR 360 INTRODUCTION TO SECURITY** 3 s.h.
Historical, theoretical and legal basis of security. Deals with security professional in today's society. Involves basic aspects of security: physical security, theft, electronics, etc.
- CR 362 SECURITY ADMINISTRATION** 3 s.h.
Covers organization, administration, and management of security and plant protection units; information on policy and decision-making, personnel and budgeting; programs in business, industry, and government to include retail, transportation, as well as public and private institutions.
- CR 364 RETAIL SECURITY/LOSS PREVENTION** 3 s.h.
Operation of security departments including functions of mercantile establishments, dishonest employees, shoplifters, management and public relations, receiving, shipping and warehousing, special laws and procedures; overview of the functional operation of various specialized areas of security surveys and loss prevention management in proprietary and governmental institutions.
- CR 366 PHYSICAL AND PLANT SECURITY** 3 s.h.
Study of concepts of physical security integrated with management, physical security requirements and standards, alarm and surveillance devices, animate security, costing, planning and engineering, legal basis for and development and training of guard forces/private police.
- CR 368 PERSONNEL AND MANAGEMENT SECURITY** 3 s.h.
Procedures for handling and control of classified and sensitive information; survey of control systems using data processing; governmental and proprietary concepts, background investigations and employee security; the role of cognizant security office (Defense Contract Administration Service Programs), physical security control and security procedures.
- CR 370 COMMUNITY RELATIONS** 3 s.h.
Role of law enforcement agencies in modern day society; police-community relations units, human relations resources, civil rights and professionalism in law enforcement.
- CR 410 QUESTIONED DOCUMENT ANALYSIS** 3 s.h.
Evaluation and identification of questioned documents; admissibility as evidence, preparation and presentation in court.
- CR 415 SUPERVISION IN THE ADMINISTRATION OF JUSTICE** 3 s.h.
Consideration of supervisory problems in field of administration of justice; emphasis on such topics as leadership, motivation, morale, discipline, public relations, communications, decision-making and the training functions.
- CR 420 TRAFFIC REGULATION AND CONTROL** 3 s.h.
Organization for traffic control, accident investigation, traffic flow pattern, high accident frequency locations, signs, signals and simple engineering remedial actions. Traffic safety research.
- CR 425 ADVANCED INSTRUMENTAL DETECTION OF DECEPTION** 3 s.h.
Prerequisite: CR 325
Special techniques in detection of deception, including: Backster techniques, Keeler tech-

- nique, Modified Backster technique and the Integrated Control Question technique. Statistical chart interpretation. Polygraph research.
- CR 430 COMPARATIVE STUDY OF JUSTICE 3 s.h.
Comparison of American system of administration of justice with those of other nations, including developed and underdeveloped countries.
- CR 431 ETIOLOGY OF DELINQUENT BEHAVIOR 3 s.h.
Analysis of the aberrant behavior of children and youth in terms of modern behavioral sciences, personality and social factors examined with a view toward developing prevention and control procedures.
- CR 432 TREATMENT AND CONTROL OF DELINQUENCY 3 s.h.
Analysis of juvenile court procedures, juvenile probation, juvenile institutions, and juvenile parole in treatment and control of delinquency.
- CR 440 INSTITUTIONAL TREATMENT OF THE OFFENDER 3 s.h.
Modern philosophy and methods in treatment of adult criminals and juvenile delinquents in correctional institutions.
- CR 445 NON-INSTITUTIONAL TREATMENT OF THE OFFENDER 3 s.h.
Analysis of principles and practices in probation and parole; case method; techniques of supervision.
- CR 460 INDUSTRIAL SECURITY AND SAFETY 3 s.h.
Administration of fire and accident prevention programs; government security programs; document control, security clearances and visitor control; special problems and hazards.
- CR 480 SEMINAR IN ADMINISTRATION OF JUSTICE 3 s.h.
Study of problems in administration of justice, reports based upon original investigation; reviews of recent books and periodical literature; topics of current interest. Enrollment limited.
- CR 481 SPECIAL TOPICS IN CRIMINOLOGY 1-3 s.h.
Prerequisite: Department consent
A Seminar providing study of selected topics not emphasized in other courses. May be taken more than once to a maximum 6 semester hours.
- CR 482 INDEPENDENT STUDY IN CRIMINOLOGY 1-3 s.h.
Individual students pursue their particular interests in Criminology in consultation with a member of the staff. May be taken more than once to a maximum of 6 semester hours.
- CR 490 CRIME IN MODERN SOCIETY 3 s.h.
Prerequisite: Criminology majors and minors only.
Analysis of nature and extent of crime at state, national and international levels of government; consideration of special problems in metropolitan areas, organized crime, the professional criminal and white-collar crime; crime control in a democratic society.
- CR 492 CORRECTIONAL ADMINISTRATION 3 s.h.
Administration of juvenile and adult probation and parole programs, and correctional institutions; emphasis on special problems encountered in field.
- CR 497 INTERNSHIP 3-12 s.h.
Prerequisite: 18 credits in Criminology
Practicum designed to broaden educational experience of students through appropriate observational and work assignments with governmental agencies and private firms. Offered during summer and spring only. By appointment only.
- CR 498 SUPERVISED PROFESSIONAL EXPERIENCE 6 s.h.
Prerequisite: 18 credits in Criminology

Practicum designed for full-time police officers who attended the FBI Academy and/or Pennsylvania State Police Academy. By Department approval only.

ECONOMICS DEPARTMENT

DONALD A. WALKER, CHAIRPERSON: CROSS, DAVIS, DYAL, GARVIN, HOLT, HUFF, KARATJAS, KRITES, MARTEL, NOWAK, RADELL, STONEBRAKER, WARE.

The Economics Department offers courses to meet the needs of IUP students in four general areas: a program that prepares students majoring in Economics for graduate school or immediate employment; a program that prepares students to teach Economics on the high school level; a program that offers courses in Economics to students majoring in other departments; and a pre-law program for Economics majors who wish to go to law school.

The program for Economics majors is designed for those who intend to pursue careers as economists in education, government, industry, finance or commerce. The economist in today's world occupies an increasingly important position and great opportunity exists for qualified people.

Degrees offered are the Bachelor of Arts in Economics and the Bachelor of Science in Education with a major in Social Sciences, concentrating on Economics.

CURRICULA

Economics 101, BASIC ECONOMICS, may be taken in partial fulfillment of the Social Sciences segment of the University's General Education requirement. Economics 101 cannot be programmed by Economics majors or minors, by students enrolled in the College of Business, or by students in the College of Education who are contemplating teaching social science on the high school level. Instead, Economics 121, PRINCIPLES OF ECONOMICS I, should be taken by these students, since it serves as a foundation for many advanced Economics courses. Students can receive credit toward graduation for either EC 101 or EC 121 but not both. The Department will accept either EC 121 or EC 122 for General Education credit as a substitute for EC 101.

Students majoring in other fields are welcome to choose Economics courses among the upper-division electives. These courses are designed to aid the student in developing sophisticated insights into economic issues and are valuable in many ways, regardless of the student's ultimate vocation.

It is recommended that Economics majors take a minor in one of the other Social Sciences, in Business, or in Mathematics. A minor in Mathematics is strongly recommended for those whose future may include graduate work in Economics.

Core Program

Requirements for Economics majors and minor are 6 semester hours in Economics. as follows:

EC 121	Principles of Economics I	3 s.h.
EC 122	Principles of Economics II	3 s.h.

B.A. in Economics

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Economics are as follows:

EC 305	Mathematics for Economists I*	3 s.h.
EC 355	Statistics for Economists**	3 s.h.
EC 421	Macroeconomic Analysis	3 s.h.
EC 422	Microeconomic Analysis	3 s.h.

Economics Electives 12 s.h.

*MA 121, MA 123, or MA 127 may be substituted for EC 305

**MA 214, MA 217, or MA 363 may be substituted for EC 355

B.S. in Education (Economics Concentration)

In addition to the Core Program requirements for the degree of Bachelor of Science in Education with a major in Social Sciences, concentrating in Economics, are 9 more semester hours of Economics electives, excluding Economics 101.

Minor in Economics

To minor in Economics, the student must take 9 semester hours of Economics electives in addition to the Core Program, excluding Economics 101 as a possible elective.

Concentrations in Economics

The Department of Economics offers several concentrations in particular aspects of Economics. The concentrations are designed to equip students with the education and skills that will enable them to obtain a position in government or private business upon completion of the undergraduate degree. The Department provides verification that students have completed a concentration, and they may also have the information recorded on their transcripts. These concentrations are not restricted to Economics majors. The concentrations available at present are:

- Competition and Public Policy
- Economics of Government Affairs
- International Economics
- Labor Economics
- Managerial Economics
- Monetary Economics
- Quantitative Economics

Detailed information regarding these concentrations may be obtained from the Department Chairperson.

Pre Law Program

The Department of Economics is a participant in the Pre Law Program offered by the College of Humanities and Social Sciences. For further information concerning this program see section on Pre-Professional Programs.

Grades and Quality Points

The quality point average necessary for graduation or the approval of a specific program is 2.0. This requirement is applicable to economic majors, minors, concentrates of the College of Education, and the concentrations offered by the Department of Economics.

COURSE DESCRIPTIONS

EC 101 BASIC ECONOMICS 3 s.h.
Study of how man makes a living, individually and collectively, with particular reference to our own economic system. For those who do not plan to take more than 3 semester hours of Economics.

EC 121 PRINCIPLES OF ECONOMICS I 3 s.h.
Nature and methodology of economics; mixed capitalism and market economy; national income; employment theory, including economics of fiscal policy; money, banking and Federal Reserve System; economic growth

EC 122 PRINCIPLES OF ECONOMICS II 3 s.h.
Economics of the firm; theory of consumer demand; determination of price and output in different market structures; distribution of income; foreign trade and the balance of payments.

EC 241 CONTEMPORARY ECONOMIC ISSUES 3 s.h.
Examination of relevant and important problematic aspects of U.S. and of world economy, including a rigorous but non-technical analysis of problem, and a formulation and evaluation of possible corrective policies.

EC 283 ENVIRONMENTAL ECONOMICS 3 s.h.
Examination of economic costs and benefits of environmental control and modification. Techniques of economic analysis used to understand economic aspects of environmental problems and contribute toward their solution.

EC 305 MATHEMATICS FOR ECONOMISTS I 3 s.h.
Elements of algebra and calculus necessary to enable students to grasp mathematical foundations of economic theory and statistical research, with examples taken from economic theory and data.

EC 306 MATHEMATICS FOR ECONOMISTS II 3 s.h.
Prerequisite: EC 305 or its mathematical equivalent or permission of the instructor
Application of mathematical methods to microeconomics and macroeconomics, and an introduction to linear programming.

EC 320 HISTORY OF ECONOMIC THOUGHT 3 s.h.
Prerequisite: EC 121 or 122 or permission of the instructor
Examination of social, political, intellectual and economic origins of work of the more prominent past economists, and of content and impact of their work.

EC 325 MONETARY ECONOMICS I 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Organization, operation and economic significance of U.S. monetary institutions; commercial banks and Federal Reserve System; survey of monetary theory and policy; mechanism of international payments.

EC 326 MONETARY ECONOMICS II 3 s.h.
Prerequisite: EC 325 or permission of the instructor
Detailed study of monetary theory; tasks of central banking; principal objectives of monetary policy; intensive study of recent monetary experience; complementary and competing aims of monetary and fiscal policy.

EC 330 LABOR ECONOMICS 3 s.h.
Prerequisite: EC 122 or permission of the instructor
History, structure, and operations of trade unions and employer organizations; major Federal labor legislation; collective bargaining theory; wage determination; current labor problems.

- EC 331 ECONOMIC ORGANIZATION OF INDUSTRY 3 s.h.
Prerequisite: EC 122 or permission of the instructor
Social effectiveness of industries analyzed through measures of market structure, market conduct and market performance.
- EC 332 GOVERNMENT AND BUSINESS 3 s.h.
Prerequisite: EC 122 or permission of the instructor
Formal and informal methods used to maintain, supplement and moderate competition as well as regulation as a substitute for competition.
- EC 333 REGULATION OF INDUSTRY 3 s.h.
Prerequisites: EC 121 and 122 or permission of the instructor
Examines theory and practice of regulation, emphasizing effects of regulation on economic performance and efficiency in U.S.
- EC 334 ECONOMICS OF CORPORATE DECISIONS 3 s.h.
Prerequisites: EC 121 and 122 or permission of the instructor
Applies economic theory to corporate decision making. Topics include corporate objectives, profit maximization, economic measurement and forecasting.
- EC 335 PUBLIC FINANCE 3 s.h.
Prerequisites: EC 121 and 122 or permission of the instructor
Taxation and expenditure theory at Federal level; Federal budget and debt considerations; public sector impact upon economy, intergovernmental fiscal relations.
- EC 336 STATE AND LOCAL FINANCE 3 s.h.
Analysis of character and impact of state and local government revenue sources, expenditures and fiscal systems.
- EC 339 ECONOMIC DEVELOPMENT I 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Theory of growth; theory of economic development of underdeveloped countries.
- EC 340 ECONOMIC DEVELOPMENT II 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Application of theory of growth and analysis of economic development of selected economies; empirical and econometric studies of underdeveloped countries and their economic institutions.
- EC 343 HISTORY OF THE ECONOMIC DEVELOPMENT OF THE UNITED STATES 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Examination of main patterns of the United States' economic growth since end of eighteenth century; emphasizes economic development as a laboratory for economic analysis.
- EC 342 HISTORY OF THE ECONOMIC DEVELOPMENT OF MODERN EUROPE 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Study of dynamic forces which contributed to development of modern Europe; industrial revolution in England; industrialization on the continent; impact of Europe on world economy.
- EC 345 INTERNATIONAL ECONOMICS I 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Theory of international trade; analysis of balance of payments; international economic equilibrium; mechanism of international economic and monetary adjustments.
- EC 346 INTERNATIONAL ECONOMICS II 3 s.h.
Prerequisite: EC 345 or permission of the instructor
Application of theory of international trade to empirical data and problems; historical survey and examination of current problems of international trade; the institutional setting of international trade.

- EC 350 COMPARATIVE ECONOMIC SYSTEMS 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Capitalism, socialism, and communism subjected to economic analysis; their principles, practices, institutions and philosophies.
- EC 351 SOVIET ECONOMY 3 s.h.
Prerequisite: EC 121 or 122 or permission of the instructor
Thorough study of operations of Soviet economy. Course will compare and contrast workings of Soviet economy with other Communist countries.
- EC 355 STATISTICS FOR ECONOMISTS 3 s.h.
Introduction to economic statistics. Material covered regarding empirical frequency distributions, probability, distributions of random variables, functions of random variables and tests of economics hypotheses.
- EC 356 INTRODUCTION TO ECONOMETRICS 3 s.h.
Prerequisites: EC 355 or its mathematical equivalent or permission of the instructor.
Introduction to econometrics. Interest centers upon linear normal regression models of two or more random variables, special econometric problems and solutions of simultaneous equations.
- EC 360 ECONOMICS OF HEALTH SERVICES 3 s.h.
Analysis of the allocation of resources in the health sector using demand and supply techniques. Pricing and output decision by physicians, hospitals and other health agencies will be considered along with other current policy issues.
- EC 371 ECONOMICS OF LABOR LEGISLATION 3 s.h.
Prerequisite: EC 330 or permission of the instructor
Economic background and effects of governmental regulation of labor relations, with emphasis on a detailed examination of National Labor Relations Act as amended.
- EC 372 ECONOMICS OF WAGES AND EMPLOYMENT 3 s.h.
Prerequisite: EC 330 or permission of the instructor
Analysis of wages and employment under various market structures. Also, analysis of impact of labor market forces on wages, prices and distributive shares.
- EC 373 ECONOMICS OF HUMAN RESOURCES 3 s.h.
Prerequisite: EC 121 or permission of the instructor
Inquiry into economic demographics, and related factors affecting growth, structure and distribution of an economy's labor force into different occupations.
- EC 374 ECONOMICS OF EDUCATION 3 s.h.
Analysis of the costs and benefits of education in relation to economic growth, and the private and public process of determining investment in education.
- EC 383 REGIONAL ECONOMICS 3 s.h.
Prerequisite: Three semester hours in Economics or permission of the instructor
Process of regional economic growth, location theory, basic techniques of regional analysis, public and private area development programs.
- EC 382 URBAN ECONOMICS 3 s.h.
Prerequisite: Three semester hours in Economics or permission of the instructor
Structure of urban economy, goals, processes, problems and policy in urban economic development.
- EC 421 MACROECONOMIC ANALYSIS 3 s.h.
Prerequisites: EC 121 and 122 or permission of the instructor
Income and employment analysis; national income accounts and theory; classical, Keynesian and post-Keynesian models; investment, growth and inflation theory; role of government in our economy.

- EC 422 MICROECONOMIC ANALYSIS 3 s.h.
Prerequisites: EC 121 and 122 or permission of the instructor
Consumer behavior, theory of the firm, market structures, distribution, general equilibrium analysis, applications to current problems of economic policy.
- EC 450 INTERNSHIP IN ECONOMICS 2-12 s.h.
Prerequisite: A student must be an economics major who has completed at least 12 semester hours in economics, and who has at least a 2.5 grade point average in the major and in all course work.
The course provides on-the-job experience in economics positions with private and governmental employers. The student is also required to complete related academic work in form of papers and selected readings. Number of credits earned will depend upon the nature of the job and amount of time involved in internship. A maximum of 6 of the credits earned in this course may be counted toward the 30 semester hours in economics requirement for economics majors.
- EC 480 SEMINAR 3 s.h.
Prerequisite: Permission of the instructor
Seminar in selected economic issues or problems.
- EC 481 SPECIAL TOPICS 3 s.h.
Prerequisite: Permission of the instructor
- EC 482 INDEPENDENT STUDY 1-6 s.h.
Prerequisite: Permission of the Department and the instructor
- EC 483 HONORS IN ECONOMICS 3 s.h.
Prerequisite: Permission of the instructor
Readings, conference and reports arranged for students who have demonstrated proficiency in economics. Research work may be directed toward theoretical or applied economic problems.

ENGLISH DEPARTMENT

BOB CUREY, CHAIRPERSON: BETTS, J. BRIGHT, L. BRIGHT, COLLINS-STOCKTON, COOK, CRAIG, J. DAVIS, DAY, EMERICK, FREUND, FRITZ, GRAY, GRAYBURN, GRUBB, HALDEMAN, HARTWELL, HAYWARD, HAZLEY, HUDSON, R.G. JOHNSON, KRASZEWSKI, KRUPNIK, McANDREW, D. McCLURE, McMANMON, MILLER, NANIA, RAY, B. ROFFMAN, R. ROFFMAN, ROUMM, RUFFNER, SEACRIST, SEINFELT, R. SHAFER, H. SMITH, SMITS, SWIGART, TANNACITO, R.L. THOMAS, WADDELL, H. WARREN, WATTA, WILSON, WOODWORTH, YARUP.

One goal of the English program is to contribute to the general language proficiencies of all its students. These proficiencies include the ability to express oneself comprehensibly and clearly in written language, to speak distinctly, tastefully and meaningfully in oral language, and to appreciate, understand and draw sustenance from both long-recognized and recently produced literary and dramatic achievements in the English language. In its programs, the English Department attempts to prepare its majors for careers in the teaching of English and for careers of all types where skill in communication and conviction in favor of humane values are considered an appropriate background for the performance of assigned duties and responsibilities.

Degrees offered by the English Department are the Bachelor of Arts in English, in Pre-Law English and the Bachelor of Science in Education with an English or Communication major. The first two degree programs are under the College of Humanities and Social Sciences, and

the third is under the College of Education. In addition, English and Speech minors are available in the College of Humanities and Social Sciences.

CURRICULA

PLEASE NOTE: The English Department has recently revised its various curricula. Consult the Office of the Chairperson for the revised course list for the curriculum in which you enroll.

Special Requirements

In meeting the University's General Education requirements, English majors in both the College of Education and the College of Humanities and Social Sciences are **REQUIRED** to replace EN 201, English III, with EN 210, Introduction to Literary Analysis. It is recommended that this course be taken during the sophomore year, as early as possible in the major program. Also, **ALL** English majors, in both the College of Education and the College of Humanities and Social Sciences, **MUST** complete the intermediate sequence of a foreign language. This may be done in one of three ways: by examination, by earning credit in the third and fourth semesters of a foreign language, or by completing four semesters of a new language. If the last procedure is used, the two beginning foreign language courses may be applied as free electives to the total number of credits needed for graduation.

B.S. in Education (Communication Major)

This major leads to a teaching certificate in communication in the secondary school. The major takes a basic program covering literature, language, composition, speech, theater, and media and selects one or more specialties from the following: literature, linguistic science, non-print media, writing, speech, theater.

Independent Study, EN 482 and EN 399, Internship are available in all of the specialties. However, such independent activity is usually reserved for students who are at least halfway through their certification requirements. An exception may be made by the department chairperson. The nature of the independent activity depends upon the specialty under which it falls.

Independent activity may be defined as that done independently of a rigidly structured course but not necessarily independently of regular faculty direction and consultation.

A student who wishes to engage in an independent activity under the communication program must obtain permission to do so at the time of Registration (October for the Spring Semester, March for the Fall Semester, and May for the Summer Sessions).

The students must present proposals for the approval of both their advisers and the department chairperson. The proposal will outline in detail the student's plan to engage in independent activity. If the proposal is approved by both the adviser and the department chairperson, the student then pre-schedules for EN 482 or 399.

Despite the 124 semester hour minimum for graduation with a baccalaureate degree at IUP, the Communication program offers students the opportunity to develop skills and knowledge beyond the normal restrictions of the classroom and semester hours. Such opportunity comes in part with the flexibility of the independent activity, described above. Further opportunities lie in the co-curricular areas (campus newspaper, plays, debate, etc.) for which students under many circumstances could be given appropriate specialties credit. Training and experience outside the University and even prior to admission to the University should be considered in the student's development of specialties. In short, since the Communication program is designed to prepare teachers of the wide area of communication for the secondary schools of the Commonwealth, the Department recognizes that preparation and training of such teachers should be restricted as little as possible by enforcement of required courses and course credits.

In the end the teacher of communication should be certified on the basis of course preparation, independent activities, experiences, performances and whatever else contributes to an evaluation of knowledge and training. A teacher certified as a communication teacher has fulfilled the Basic Program and has developed one or more of the following Specialties: Literature, Linguistic Science, Writing, Speech, Theater.

The communication teacher then enters the teaching experience with not only a basic knowledge in literature, language, composition, speech, theater, and the media, but with a specialty that instills confidence to meet an advanced writing class or to direct a play or to advise a newspaper.

B.A. in English

The candidates for the degree of Bachelor of Arts in English usually choose this program because they wish a broad undergraduate education in liberal studies. They may intend to prepare for graduate study in English for eventual college teaching or for other non-academic professions. This program does not lead to certification in secondary English.

In addition to the General Education requirement for English Majors (EN 101, EN 102, EN 210), requirements for the degree of Bachelor of Arts in English include English 211, 212 and 213. In addition, one course is required from each of the following categories for a total of 30 hours: (Prerequisite for all courses: EN 101, 102 and 210)

Category A - Literary Modes of Awareness (courses with the prefix EN 35)

Category B - Literature and Its Milieu (prefix EN 36)

Category C - Literature and the Psyche (prefix EN 37)

Category D - Literature and Society (prefix EN 38)

Category E - Subcategories

1. Language Studies (EN 329, 330, 331, 332, 333)
2. Communication Studies (EN 310, 311, 312, 313)

Category F - Writing (EN 220, EN 221, EN 320, EN 321, EN 322, EN 324)

Category G (optional) EN 480 - Senior Seminar (Registration by Invitation)

Comprehensive Examination: Required of all Liberal Arts majors at the conclusion of the senior year. The result, either 'Pass,' 'Distinction' or 'High Distinction' will be noted on students' transcripts. Failure will not be recorded.

The Senior Seminar may be counted as the final course for completion of the 30-hour requirement. Students who do not take the seminar, either because they do not choose to or do not qualify, must select one additional course from Categories A through F to satisfy the major's requirement.

B.A. in Pre Law - English

The requirements for this major are the same as for the English Arts and Sciences major with the addition of a 21 s.h. pre-law interdisciplinary minor.

For the requirements of the pre-law minor students should contact the departmental pre-law adviser.

Minor in English

To minor in English, 15 semester hours in English are required beyond the General Education requirement of EN 101, EN 102, and EN 201.

Minor in Speech

To minor in speech, 18 semester hours in Speech courses are required.

B.S. in Education (English Major)

In addition to the General Education requirements for English majors (English 101, 102, and 210), requirements for the degree of Bachelor of Science in Education with an English major are a minimum of 36 more semester hours in English, in order to satisfy the requirements for certification. Since English majors do not take a minor, many of them augment the minimal 36 semester hour program with courses that will prepare them for graduate study in their profession of secondary English teaching.

English Education majors must take the following courses: EN 214, EN 215, EN 220, EN 310, EN 324, EN 329, EN 330. The take, in addition, three courses to complete the mjaor. They should check with their department chairperson or with the College of Education to determine which education courses are required.

COURSE DESCRIPTIONS

EN 050 ENGLISH FOR FOREIGN STUDENTS 3 s.h.

Provides foreign students an opportunity to improve their ability to speak and write English. The emphasis is on individualized exercises and assignments.

EN 100 BASIC ENGLISH 3 s.h.

Designed to review, strengthen and further develop the basic English skills necessary for clear and effective communication. Reserved for assignment of selected students.

EN 101 ENGLISH I 4 s.h.

Should be taken the first semester at IUP. Course uses readings in nature and history of language, semantic and linguistic analysis, and problems in rhetoric. Seven theme-length expository papers are written, in addition to shorter exercises and a written final examination. (3 hour lecture, 1 hour individual instructor- student conference)

EN 102 ENGLISH II 3 s.h.

Prerequisite: EN 101

Analytical reading of various types of nonfictional prose, aimed at enunciating both meaning and techniques by which meaning is manifested. Writing in course consists of three substantial documented papers.

EN 201 ENGLISH III 3 s.h.

Prerequisites: EN 101 and 102

Focuses on analysis of an imaginative literature. Writing consists of two substantial critical papers on themes generated by the reading.

EN 208 THE ART OF THE FILM 3 s.h.

Concentrates on the film as an artistic medium. Eight to twelve motion pictures are shown during semester and are analyzed in class discussions.

EN 209 LANGUAGES OF MEDIA 3 s.h.

Introduction course in nature of language and communication, heavily grounded in practice of communication in various media which resources of university make available to students.

- EN 210 INTRODUCTION TO LITERARY ANALYSIS 3 s.h.
Offers beginning English majors opportunities to study examples of various approaches to works of literary art and requires them to practice such approaches through writing at least three critical papers.
- EN 211 ENGLISH LITERATURE TO THE RESTORATION 3 s.h.
A survey of major English authors, major works and major literary genres written from the beginnings of English literature to the Restoration (1660).
- EN 212 ENGLISH LITERATURE FROM THE RESTORATION TO 1900 3 s.h.
A survey of major English authors, major works and major literary genres written from the Restoration to 1900.
- EN 213 AMERICAN LITERATURE: BEGINNINGS TO THE PRESENT 3 s.h.
Prerequisite: EN 210
Provides a general familiarity with American literature.
- EN 214 THE NOVEL 3 s.h.
This course surveys the development of the novel from Cervantes 'Don Quixote' to the present with emphasis on major writers and forms in English
- EN 215 POETRY 3 s.h.
A study in appreciation of poetry, with special attention to technique of the poet and structure of poetry.
- EN 216 SHORT FICTION 3 s.h.
A study of the development of the short story from the middle of the nineteenth century to the present with attention to form, structure and types of the story.
- EN 217 DRAMA 3 s.h.
A study of selected plays from various periods in an attempt to understand the function of drama.
- EN 218 LITERATURE FOR ADOLESCENTS 3 s.h.
Surveys poetry, drama and fiction with which the adolescent is familiar through his school work and his personal reading.
- EN 220 ADVANCED COMPOSITION I 3 s.h.
Primarily seeks to improve writing style, particularly in the more utilitarian forms, such as magazine article and personal essay.
- EN 221 CREATIVE WRITING 3 s.h.
Prerequisite is demonstrated ability and interest in creative writing; may be substituted for EN 220. This is a seminar course in which the kinds of writing done are chosen in line with the special interests and abilities of each student.
- EN 311 ORAL INTERPRETATION 3 s.h.
Emphasizes understanding and appreciation of literature through developing skill in reading aloud.
- EN 310 ORAL COMMUNICATION 3 s.h.
Fundamental principles of public speaking, audience analysis, interest and attention, selection and organization of speech material.
- EN 313 HISTORY OF RHETORICAL THEORY 3 s.h.
Survey of rhetorical theory from Greek and Roman through modern times.
- EN 312 SPEECH 3 s.h.
Advanced study of problems involved in influencing an audience.

- EN 320 ADVANCED COMPOSITION II 3 s.h.
Prerequisite: EN 220
Workshop and tutorial atmosphere for students who intend to write or teach writing.
- EN 321 CREATIVE WRITING II 3 s.h.
Prerequisite: EN 221
A workshop for students who wish to write fiction or poetry under guidance of instructor.
- EN 322 TECHNICAL WRITING 3 s.h.
This course focuses on helping the student to acquire and to apply communication skills essential to the technical and professional writer.
- EN 324 TEACHING AND EVALUATING WRITING 3 s.h.
A study of modern approaches to the teaching of writing, including current theories on the composing process, as well as instruction in evaluating, including holistic scoring. Course includes practice in writing.
- EN 329 THE HISTORY OF THE ENGLISH LANGUAGE 1 s.h.
Studies historical development of the English language, as a basis for a better understanding of modern American English.
- EN 330 THE STRUCTURE OF ENGLISH 3 s.h.
Training in analysis of American-English Language, with structural and generative approaches to system of grammar emphasized. Course is a prerequisite for ED 452, Teaching of English and Speech in the Secondary School.
- EN 331 TRENDS IN LINGUISTICS 3 s.h.
Explores recent developments in linguistic theory and research.
- EN 332 THE DIALECTS OF AMERICAN ENGLISH 3 s.h.
Examines relationship of dialectal differences in sounds, structure and vocabulary to geographical and sociological factors.
- EN 333 PSYCHO-LINGUISTICS 3 s.h.
An introduction to those aspects of the study of language that bear on relationship of thought and behavior; the ways people move from their perception of reality to verbal and non-verbal communication.
- EN 343 CRITICISM OF CONTEMPORARY WRITING 3 s.h.
Covers basic texts of literary criticism and relates development of critical concepts to work of influential literary critics of twentieth century. Not open to freshmen and sophomores.
- EN 345 CLASSICAL LITERATURE IN TRANSLATION 3 s.h.
Masterpieces studied range from those of ancient Greece to Middle Ages. English literature and American literature excluded.
- EN 346 CONTEMPORARY AMERICAN AND BRITISH POETRY 3 s.h.
Study of British and American poetry since World War II.
- EN 347 MODERN AMERICAN FICTION 3 s.h.
Major American writers of fiction since 1945 are considered.
- EN 348 BLACK AMERICAN LITERATURE 3 s.h.
Analyzes significant Black American literature of a variety of types-autobiography, essay, fiction, poetry.
- EN 349 ENGLISH BIBLE AS LITERATURE 3 s.h.
Considers literary aspects of English Bible by relating earlier translations to the Authorized Version of 1611 and by tracing some of the major influences of King James Bible upon writers and speakers of modern English.

- EN 350 THE METAPHORIC PERSPECTIVE 3 s.h.
Prerequisite: EN 210
Focuses on metaphor as a means of representing reality and understanding it better. Studies use of metaphor in fiction, nonfiction and drama.
- EN 351 THE LITERATURE OF DISCURSIVE REASON 3 s.h.
Prerequisite: EN 210
Examines literature that displays the mind's analytic process. Readings include essays and other nonfiction as well as poetry, drama and fiction.
- EN 352 SYMBOL AND ALLEGORY 3 s.h.
Prerequisite: EN 210
Symbol and allegory are viewed as means of comprehending and expressing profound aspects of existence. Distinction between symbolic and allegorical modes of thought is explored.
- EN 353 THE ORAL DIMENSION 3 s.h.
Prerequisite: EN 210
Surveys oral tradition in literature, with focus on epic and lyric poetry, Bible passages, sermons and speeches.
- EN 360 ROMANTICISM 3 s.h.
Prerequisite: EN 210
Emphasizes understanding of Romantic literature from its development in Germany and France to its flowering in England.
- EN 361 THE RENAISSANCE 3 s.h.
Prerequisite: EN 210
The Renaissance in England is spotlighted, including its origins in Humanism. In addition to literature, art, architecture and music are studied.
- EN 362 CHIVALRY AND COURTLY LOVE 1 s.h.
Prerequisite: EN 210
The Continental and Renaissance sources of chivalry and courtly love are traced and their relationship to medieval literature is explored.
- EN 363 THE PURITAN MIND IN ENGLAND AND AMERICA 3 s.h.
Prerequisite: EN 210
Studies literature dealing with Puritan concepts in 17th and 18th century England and America.
- EN 370 MYTH AND LITERATURE 3 s.h.
Prerequisite: EN 210
Examines myth in literature, including classical, Norse, Egyptian and Celtic sources.
- EN 371 HERO AND ANTI-HERO 3 s.h.
Prerequisite: EN 210
Examines protagonists who maintain or reject something inherited: myths, rituals, traditions, customs, etc.
- EN 372 ALIENATION IN LITERATURE 3 s.h.
Prerequisite: EN 210
Views the separation of self from the external world as it is reflected in literature.
- EN 373 CONCEPTS OF CHARACTER IN DRAMA AND NOVEL 3 s.h.
Prerequisite: EN 210
Explores techniques for portraying personality. Readings range from Sophocles to the 20th century.

- EN 380 COUNTRY LIFE-CITY LIFE 3 s.h.
Prerequisite: EN 210
Compares and contrasts literatures produced by two distinct social contexts and discusses influences of each literature on the other.
- EN 381 POVERTY AND CLASS IN LITERATURE 3 s.h.
Prerequisite: EN 210
Examines literary works that treat complex theme of poverty and shows how these works function as social documents and artistic forms.
- EN 382 WAR IN LITERATURE 3 s.h.
Prerequisite: EN 210
Represents war in literature from Homer's Iliad to the Eighth Air Force in Italy during World War II. The intensification of other human experience is also depicted.
- EN 383 MAN IN THE NATURAL WORLD 3 s.h.
Prerequisite: EN 210
Studies how the natural world affects man's definition of himself and his goals.
- EN 390 LITERARY TOUR: BRITAIN 3 s.h. or 6 s.h.
Offered selected summers, either for three weeks during Pre-Session or for six weeks during Main Session. Visits London, Stratford, and Cambridge or Oxford, as well as other places important in English literature.
- EN 399 INTERNSHIP 3-12 s.h.
On-the-job training opportunities in related areas.
- EN 480 SEMINAR: STUDIES IN ENGLISH AND AMERICAN LITERATURE 3 s.h.
A seminar in English or American literature, the special topic to be chosen by the instructor. Open to junior and senior English majors.
- EN 481 SPECIAL TOPICS 2-3 s.h.
These courses vary from semester to semester, covering such diverse topics as autobiography, science fiction, folklore, the political novel, black theater, etc.
- EN 482 INDEPENDENT STUDY 1-6 s.h.
Opportunities for independent study that goes beyond the usual classroom activities. Approval of department chairperson required.
- ED 452 TEACHING OF ENGLISH AND COMMUNICATION IN THE SECONDARY SCHOOL 3 s.h.
Prerequisite: EN 330
This course is a prerequisite to student teaching in English. Introduces student to current professional practices in the teaching of English and communication in high school.

DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

JOSE M. CARRANZA, CHAIRPERSON: BRODE, DECOSTA, DRESCHER, FISEL, FAUST, A.M. GUARDIOLA, A.P. GUARDIOLA, HENRY, HERNANDEZ, JONES, LISCINSKY, MENDIZABAL, MILTZ, OP DE BEECK, PHILLIPS, READY, SHIELDS, SOMMER, SPIEKER, SULLIVAN, VOELKER, WESTPHAL, WHITMER, ZALAZAR.

Foreign language study is offered by the Department of Foreign Languages and Literatures. Majors in French, German and Spanish are available as well as classes in Latin and Greek. Courses in Self-Instruction in Critical Languages which provide for study in twenty African,

Asiatic and European languages, including Japanese, Chinese, Arabic, Hebrew and Portuguese, are also available.

Students who major in a language will acquire an active skill in all phases of that language and enter more deeply into its history, culture and literature. They will also gain some knowledge of its linguistic development throughout the centuries. Language specialists are destined for careers in government work, librarianship, journalism, foreign trade, airlines, tourism, business and teaching. Students who choose careers as secondary school teachers will find the close supervision and advanced methodology offered by the department a distinct asset. Students also may elect to do further graduate work in their language, thereby enhancing their high school teaching careers or preparing themselves for a career in college teaching.

Degrees offered are the Bachelor of Arts in the selected language, the Bachelor of Science in Education in the selected language, and the Master of Education and Master of Arts in Spanish and German. In addition to major concentrations, an 18 semester hour sequence may be chosen for the area of concentration required for a degree in Elementary Education, or a 21 semester hour sequence to satisfy the requirements for a minor in the College of Humanities and Social Sciences. Foreign language majors are required to take HI 101-102, History of Civilization I and II.

GENERAL EDUCATION LANGUAGE REQUIREMENTS

Students in the Colleges of Natural Sciences and Mathematics and Humanities and Social Sciences, who must pass a second year language course (FL 251 and 252) as a College's requirements for graduation, may choose any one of the five languages offered. The six semester hours for these courses are part of the General Education requirement. Self-instruction in Critical Languages fulfills the General Education requirement only in the College of Humanities and Social Sciences. The student with no previous foreign language study will take FL 151-152 (three semester hours each) as prerequisites; the credits will not be applicable to any College or Departmental requirements, but may be counted as general electives in the total required for graduation. Generally, the student should program in accordance with previous school or practical background according to the schedule:

- 1 year of high school, or equivalent, equals FL 151
- 2 years of high school, or equivalent, equals FL 152
- 3 years of high school, or equivalent, equals FL 251
- 4 years of high school, or equivalent, equals FL 252

Individual placement may be requested by the student, in which case the pertinent factors regarding preparation will be weighed by the department, with the student's individual requirements and the judgment of classroom instructors also being considered.

CURRICULA

B.A. in the Specified Language

The requirement for the degree of Bachelor of Arts in the specified language is 36 semester hours in the chosen language above the first year level, as follows:

Foreign Language

FL 251-252	Language III and IV	6 s.h.
FL 053-054	Oral Practice	4 s.h.
FL 351-352	Advanced Language I and II	6 s.h.
FL 055-056	Advanced Oral Practice I and II	2 s.h.
FL 361-362	Development of Culture and Literature I and II**	6 s.h.
FL Electives		12 s.h.

Minor in Foreign Language

A minor in a foreign language consists of 21 semester hours, as follows:

FL 251-252	6 s.h.
FL 053-054	4 s.h.
FL 351-352	6 s.h.
FL 055-056	2 s.h.
FL 361	3 s.h.

**Students majoring in Spanish may select the sequence 361-362 or 363-364. Upon completion of either sequence, either course from the other sequence may be selected.

B.S. in Education (Foreign Language Major)

The requirement for the degree of Bachelor of Science in Education with a foreign language major is a minimum of 33 semester hours in the major language above the first year level and, in addition, three semester hours in the Teaching of Foreign Language in the Secondary School (ED 453), for a total of 36 semester hours. Also, a proficiency examination in the major language chosen and a semester of supervised student teaching is necessary before certification is granted.

Foreign Language

FL 251-252	Language III and IV	6 s.h.
FL 053-054	Oral Practice	4 s.h.
FL 351-352	Advanced Language I and II	6 s.h.
FL 055-056	Advanced Oral Practice I and II**	2 s.h.
FL 361-362	Development of Culture and Literature I and II	6 s.h.
FL Electives		9 s.h.

**Students majoring in Spanish may select the sequence 361-362 or 363-364. Upon completion of either sequence, either course from the other sequence may be selected.

Education

ED 453	Teaching of Foreign Language in the Secondary School	3 s.h.
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A foreign language education major may be certified in a second foreign language after completing 24 semester hours in this language as follows:

FL 251-252		6 s.h.
FL 351-352		6 s.h.
FL 361-362	or	
FL 363-364		6 s.h.
FL 053-054		4 s.h.
FL 055-056		2 s.h.

A student in Elementary Education may elect a concentration of 18 semester hours of a foreign language, consisting of the following:

FL 251-252	6 s.h.
FL 053-054	4 s.h.
FL 351-352	6 s.h.
FL 055-056	2 s.h.

Study Abroad

IUP offers study programs in Valladolid, Spain; Duisburg, Germany; Nancy, France; and Jalapa, Mexico. Students interested in participating in either the Duisburg or Nancy program must register for FL 100 and pay an administration fee. For further information, contact the Chairperson, Department of Foreign Languages and Literatures.

COURSE DESCRIPTIONS

FR, GM, GK, LA, SP, 151-152 FRENCH, GERMAN, GREEK, LATIN,
SPANISH I and II 3 s.h. each

For beginning students; pronunciation, reading, oral and written communication are the objectives. Majors take 051 and 052 concurrently with 151-152.

FR, GM, SP 151-2 ACCELERATED FRENCH, GERMAN, SPANISH I AND II 6 s.h. each

By attending class six hours each week, the student completes the elementary sequence (6 credits) in one semester. The intensive sections present the same basic language skills that are taught in the regular FL 151-152 classes with slightly greater emphasis on the mastery of the spoken language.

FR, GM, SP, 051-052 CONVERSATIONAL PRACTICE I AND II 2 s.h. each

Two hours weekly conversational practice in small groups, to improve pronunciation and oral proficiency.

FR, GM, SP 101 INTENSIVE ELEMENTARY FRENCH, GERMAN, SPANISH 6 s.h. ea.

Student completes sequence in one semester(6 s.h.). Using Dartmouth Intensive Language Model(DILM), sections emphasize mastery of spoken language as well as basic language skills. Classes are 45 minutes each; drill sessions are 40 minutes each, and meet Monday through Friday.

FR, GM, SP 201 INTENSIVE INTERMEDIATE FRENCH, GERMAN, SPANISH 6 s.h. ea.

Student completes sequence in one semester(6 s.h.). Using Dartmouth Intensive Language Model(DILM), students develop language skills with emphasis on oral competency. Classes are 45 minutes each; drill sessions are 40 minutes each, and meet Monday through Friday.

FR, GM, GK, LA, SP 251-252 FRENCH, GERMAN, GREEK, LATIN,
SPANISH III AND IV 3 s.h. each

Continued training in basic skills, with possible addition of study of specific topics; consult the department for topics of interest. Majors take 053-054 (or 051-052) concurrently.

FR, GM, SP 251-2 ACCELERATED FRENCH, GERMAN, SPANISH III AND IV 6 s.h.

By attending class six hours each week, the student completes the intermediate sequence (6 credits) in one semester. The intensive sections continue to develop basic language skills with a slightly greater emphasis upon the mastery of the spoken language.

FR, GM, SP 053-054 CONVERSATION III AND IV 2 s.h. each

Improves oral skills to a higher level, through conversation and discussion.

FR, GM, GK, LA, SP 351-352 ADVANCED FRENCH, GERMAN, GREEK, LATIN,
SPANISH LANGUAGE I AND II 3 s.h. each

Reviews grammar in depth; analyzes the structure of the language; frequent themes required. Majors take 053-054, or 055-056 concurrently.

FR, GM, SP 055-056 ADVANCED CONVERSATION I AND II 1 s.h. each

Designed to increase speaking ability. The variety of content permits repetitions of these relatively informal courses.

FR 361-362 DEVELOPMENT OF FRENCH CULTURE AND LITERATURE
I AND II 3 s.h. each

GM 361-362 DEVELOPMENT OF GERMAN CULTURE AND LITERATURE
I AND II 3 s.h. each

SP 361-362 DEVELOPMENT OF SPANISH CULTURE AND LITERATURE
I AND II 3 s.h. each

SP 363-364 DEVELOPMENT OF SPANISH-AMERICAN CULTURE AND LITERATURE I AND II 3 s.h. each
 Study of the historical and cultural aspects of countries involved; review of their function in the world over the centuries; analysis of the literary schools and evolution.

Elective Courses in French

FR 253 INTERMEDIATE COMPOSITION AND CONVERSATION 3 s.h.
 Intermediate course in grammar, reading, composition and some oral work. Can substitute for or be in addition to FR 252 for majors or serious students.

FR 254 COMMERCIAL FRENCH 3 s.h.
 Prerequisite: FR 251 or equivalent
 Commercial letter writing, use of technical language, survey of special business practices and methods of French-speaking commercial systems and problems of translation are studied. The course is a regular substitute for FR 251.

FR 255 THE ART OF TRANSLATION (VERSION) 3 s.h.
 Prerequisite: FR 252 or equivalent
 Practice in the skills needed to translate from the foreign language into English. Students will analyze problems of translation as they occur in scientific, business, journalistic and literary texts.

FR 363 MEDIEVAL AND RENAISSANCE LITERATURE 3 s.h.

FR 365 SEVENTEENTH CENTURY FRENCH LITERATURE 3 s.h.

FR 366 EIGHTEENTH CENTURY FRENCH LITERATURE 3 s.h.

FR 367 NINETEENTH CENTURY FRENCH LITERATURE 3 s.h.

FR 368 TWENTIETH CENTURY FRENCH LITERATURE 3 s.h.
 Designed to present general surveys of literature of respective periods, with due consideration to social factors and events behind them.

FR 371 THE FRENCH NOVEL 3 s.h.
 Elective survey of the origin and development of French Novel. A selected list of works representative of major forms are read in their entirety.

FR 372 STUDIES IN CONTEMPORARY FRENCH LITERATURE 3 s.h.
 Content of this course will vary in accordance with needs and interests of those who elect it.

FR 461 STRUCTURES OF FRENCH AND ENGLISH 3 s.h.
 Modern methods of linguistic analysis applied to a study of French syntax, transformational, distributional and traditional models serve to explain mechanisms of the language with a pedagogical intent.

FR 481 SPECIAL TOPIC 3 s.h.
 Designed to meet special needs of a student group.

FR 482 INDEPENDENT STUDY 1-3 s.h.
 An opportunity to engage in an in-depth analysis of some topic dealing with the French language and culture through consultation with a faculty member. Permission required.

FR 499 INTERNSHIP 3-12 s.h.
 (See course description for GM 499)

Elective courses in German

- GM 253 INTERMEDIATE COMPOSITION AND CONVERSATION 3 s.h.
Can be taken instead or in addition to 252. Designed for majors or serious students. Offered in spring only.
- GM 254 BUSINESS GERMAN 3 s.h.
Prerequisite: GM 251 or equivalent
A one semester course which can be taken instead of German 252 by students interested in business or as part of the General Education requirement (equivalent to German IV). Business practices and specialized business vocabulary, letter writing, and problems of translation are emphasized.
- GM 256 SCIENTIFIC GERMAN 3 s.h.
Designed to substitute for German 252, will be offered in the second semester. Primarily for science majors, it may be taken as an elective by German majors.
- GM 363-364 INTRODUCTION TO GERMAN LITERATURE I AND II 3 s.h. each
Selected readings in German poetry, drama, and fiction, to acquaint student with some techniques for intelligent understanding and formal criticism of works of literature.
- GM 367 NINETEENTH CENTURY GERMAN LITERATURE 3 s.h.
- GM 368 TWENTIETH CENTURY GERMAN LITERATURE 3 s.h.
- GM 369 CONTEMPORARY GERMAN LITERATURE 3 s.h.
- GM 370-371 THE AGE OF GOETHE I AND II 3-6 s.h.
- GM 381 GERMAN DRAMA IN ENGLISH TRANSLATION 3 s.h.
Representative works of major dramatists in English translation. Primarily intended for students of English literature, comparative literature, and not considered as credit toward a German major.
- GM 391 SPECIAL PROJECTS IN GERMAN LITERATURE 1-3 s.h.
Devoted to a special aspect of German language or literature. May be arranged for individual or group study. Permission of Department required.
- GM 410 HISTORY OF THE GERMAN LANGUAGE 3 s.h.
History and development of German Language, with special emphasis on relationships with English. Analysis of annals in Gothic, Old High German and Middle High German using methods of historical and contemporary linguistics.
- GM 480 SPECIAL TOPICS IN GERMAN LANGUAGE OR LITERATURE 1-3 s.h.
Devoted to a special aspect of German language or literature. May be arranged for individual or group study. Permission required.
- GM 481 SPECIAL TOPIC 3 s.h.
Designed to meet the special needs of a student group.
- GM 482 INDEPENDENT STUDY 1-3 s.h.
An opportunity to engage in an in-depth analysis of some topic dealing with the German language and culture through consultation with a faculty member. Permission required.
- GM 499 INTERNSHIP IN GERMANY 3-12 s.h.
Prerequisite: German 352 or equivalent
A supervised field experience in Germany with approved public agencies and institutions or private firms; no longer than one semester and no less than one month. Positions will be matched as closely as possible with the intern's personal interests and his degree of proficiency in the German language. Academic work at the Gesamthochschule in Duisburg may

precede or follow the Internship. Open to students in other disciplines, such as Political Science, International Relations, Business, etc., with their adviser's approval.

FL 100 STUDY ABROAD

A student wishing to spend a semester or a year abroad may enroll at the University of Duisburg in Germany or at the University of Nancy in France. This may be done in conjunction with an internship abroad.

Elective Courses in Latin

LA 361 DEVELOPMENT OF ROMAN CULTURE AND LITERATURE 3 s.h.

LA 362 LATIN CONVERSATION AND COMPOSITION 3 s.h.

Aims at the ability to speak Latin on a conversational level and to write grammatically correct Latin prose.

LA 371-372 SURVEY OF LATIN LITERATURE I AND II 3 s.h. each

This course sequence will give a comprehensive view of Latin literature from Ennius to the Middle Ages.

LA 482 INDEPENDENT STUDY 1-3 s.h.

An opportunity to engage in an in-depth analysis of some topic dealing with the Latin language and culture through consultation with a faculty member. Permission.

Elective Courses in Spanish

SP 253 INTERMEDIATE COMPOSITION AND CONVERSATION 3 s.h.

Given according to demand and staff availability.

SP 254 COMMERCIAL SPANISH 3 s.h.

Prerequisite: SP 252 or equivalent

Practice with letter writing, technical business terms, and methods of Spanish speaking commercial systems and transactions, and translations.

SP 365 SPANISH LITERATURE BEFORE 1650 3 s.h.

SP 367 NINETEENTH CENTURY SPANISH LITERATURE 3 s.h.

SP 368 TWENTIETH CENTURY SPANISH LITERATURE 3 s.h.

Present general surveys of literature of respective periods, with due consideration to social factors and events behind them.

SP 370 GOLDEN AGE DRAMA 3 s.h.

Traces the development of Spanish theater and examines its artistic and spiritual flowering in Baroque period.

SP 371 THE SPANISH NOVEL 3 s.h.

After a brief survey of origins and trends of the Spanish novel, major stress is given to the Nineteenth Century Novel and the Generation of 98.

SP 376 SPANISH-AMERICAN LITERATURE 3 s.h.

Following a consideration of the salient tendencies of Spanish-American Literature, this course may take form of a comprehensive survey, or it may concentrate its attention upon the novel of social thesis.

SP 389 PENNSYLVANIA-VALLADOLID PROGRAM 21 s.h.

Contact Chairperson, Department of Foreign Languages and Literatures.

SP 390 SPANISH IN THE ELEMENTARY SCHOOL 3 s.h.

Prerequisite: Spanish 251-252 or equivalent

The prospective teacher of Spanish on the elementary level is introduced to materials suitable for Grades 1 through 6. Preparation of games, songs, poems and story telling included.

SP 402 TRANSLATION AND INTERPRETATION 3 s.h.
Fundamental translation skills for use in business and industry as well as in academic and popular fields.

SP 480 MEXICO SUMMER PROGRAM 3-6 s.h.
Contact Chairpeson, Department of Foreign Languages and Literatures.

SP 481 SPECIAL TOPICS 3 s.h.
Designed to meet special needs of a student group, mainly related to Spanish American Literature.

SP 482 INDEPENDENT STUDY 1-3 s.h.
An opportunity to engage in an in-depth analysis of some topic dealing with the Spanish language and culture through consultation with a faculty member. Permission required.

SP 499 INTERNSHIP 3-12 s.h.
Opportunities in Spain, Mexico and the U.S.A. (See course description for GM 499). For further information concerning Internships in France, Spain and Mexico, contact the Chairperson, Department of Foreign Languages and Literatures.

Linguistics

FL 421 LANGUAGE AND SOCIETY 3 s.h.
The student considers salient facts of language and its role in society and culture. Language families, linguistic change and reciprocal influences of culture and language are presented.

FL 482 INDEPENDENT STUDY 1-3 s.h.
An opportunity to engage in an in-depth analysis of some topic dealing with an aspect of foreign languages through consultation with a faculty member. Permission required.

FL 499 INTERNSHIP 3-12 s.h.

Critical Language Program

A self-instructional course for the study of rare languages not taught in the classroom. The students are provided with texts, cassettes and the services of a native speaker. A \$40 semester special fee for audio services and examinations is charged in addition to tuition. Professional teachers of language from other universities will test performance. Students interested must contact the coordinator at least one semester before taking the course. Each course is worth 3 s.h.

The following languages are available for study: Arabic, Chinese, Dutch, Modern Greek, Modern Hebrew, Classical Hebrew, Hindi, Hungarian, Italian Japanese, Korean, Persian, Polish, Portuguese, Russian, Serbo-Croatian, Swahili, Swedish, Tagalog, Thai, Turkish, Vietnamese,

The following numbers will be used to program:

- FL I (1st semester) CL 491
- FL II (2nd semester) CL 492
- FL III (3rd semester) CL 493
- FL IV (4th semester) CL 494

The language will be indicated as follows:

- CL 492 Hindi II

Education

ED 453 TEACHING OF FOREIGN LANGUAGES IN THE SECONDARY SCHOOL 3 s.h. Prerequisite: Successful completion of 351-352 and 055-056 in the student's major language; passage of a language proficiency examination or permission of the instructor. Methods and material for secondary school teaching, current theories and techniques, and classroom demonstrations are given. (Course taught in Fall Semester only).

GEOGRAPHY AND REGIONAL PLANNING DEPARTMENT

RUTH I. SHIREY, CHAIRPERSON: BALLAS, FORBES, HEIDEN, KULKARNI, MILLER, PAYNE, TEPPER, WEBER, ZACUR.

GEOGRAPHY has two traditions of study. The first is the study of relationships between man and environment or the ecological tradition. The second is the study of spatial organization, which involves the way man uses space on the earth's surface. In both traditions the focus is on understanding regions of the world and the interactions within and between them. Geographers make important contributions to the understanding of all aspects of man's use of and impact on the earth's surface.

REGIONAL PLANNING involves preparing for the future. The demands and effects of a large and growing population require that land use, resource use, settlement patterns, transportation systems and economic activity be planned. Regional planning is concerned with the social, economic, locational and environmental aspects of these planning decisions.

GEOGRAPHY and REGIONAL PLANNING are in the same department because 'planning is the art of which geography is the science.'

Employment opportunities for geographers and regional planners are good. Students will find a wide variety of positions in government, business, industry, planning and education available. Environmental and locational knowledge gained in the department's programs provide skills needed in the job market.

Three degree programs are offered by the department: (1) Bachelor of Arts in Geography; (2) Bachelor of Science in Regional Planning; (3) Bachelor of Science in Social Science Education with a concentration in Geography.

CURRICULA

BACHELOR OF ARTS (B.A.) IN GEOGRAPHY

Students in the B.A. program in geography must complete 36 semester hours, including the following courses: GE 230, GE 241, any regional course, GE 312, GE 313 or GE 314, and GE 411. The remaining 18 semester hours may be elected from any of the department's geography offerings. The student may develop a concentration in human geography, physical/environmental geography, planning, regional geography or philosophy, methods and techniques. The geography major may elect to do an internship.

BACHELOR OF SCIENCE (B.S.) IN REGIONAL PLANNING

Students must complete 36 semester hours for the regional planning major. The required courses are: GE 312, GE 313 or GE 314, GE 360, GE 361, GE 462, GE 463, and GE 464 for a total of 21 semester hours. Of the remaining 15 semester hours, nine must be taken from the following: GE 230, GE 231, GE 241, GE 331, GE 335, GE 336, GE 341, GE 342, GE 411 or GE 432. The remaining six semester hours must be taken from GE 313 or 314, GE 332, GE 415 and GE 440. Additionally, the student is required to do a 21 semester hour interdisciplinary minor or a 15-21 semester hour minor in an approved field. An internship maybe elected.

BACHELOR OF SCIENCE IN SOCIAL SCIENCE EDUCATION (GEOGRAPHY CONCENTRATION)

Students concentrating in geography in the social science education program must take a minimum of 15 semester hours as follows (department recommends 24 semester hours in the concentration): GE 101 and GE 231 or GE 332 and GE 341 or GE 342 and GE 102 plus two regional courses and one additional 3 semester hour geography course.

MINOR IN GEOGRAPHY

A minor in geography is appropriate for majors in all other fields of the natural and social sciences. Students of business also find this minor relevant. A minor consists of minimum of 15 semester hours in geography. A student may elect any combination of courses for the minor. The department suggests that students take the core program if they anticipate doing graduate work in geography. Students might also consider concentrating in one of the areas of the field indicated by the section in the course descriptions below.

MINOR IN REGIONAL PLANNING

A minor consists of a minimum of 15 semester hours of course work as follows: GE 360, GE 361, GE 462, GE 463 and 332, or GE 440.

Minors in geography and regional planning may elect an internship.

COURSE DESCRIPTIONS

General Education Courses

GE 101 WORLD GEOGRAPHY: MAN AND ENVIRONMENT 3 s.h.
Study of man's relationship with the earth accomplished through study of physical, cultural, economic and demographic factors.

GE 102 GEOGRAPHY OF UNITED STATES AND CANADA 3 s.h.
The cultural landscape of North America is studied. The relationship between man and environment is examined and spatial patterns of environment, economy, society and politics are considered.

Human Geography

GE 230 CULTURAL GEOGRAPHY 3 s.h.
May be taken in place of GE 101. Introduction to cultural geography, including population, settlement, historical, urban and political geography, human relationships with the natural environment and the literature and methods of cultural geography.

GE 231 ECONOMIC GEOGRAPHY 3 s.h.
Introduction to geographic concepts, methods and skills related to spatial patterns of production, consumption and exchange over the earth's surface.

GE 331 POPULATION GEOGRAPHY 3 s.h.
Spatial variations in numbers, characteristics and dynamics of human population, models and theoretical constructs relevant to demographic structures and processes are studied, as well as major world and regional problems.

GE 332 URBAN GEOGRAPHY 3 s.h.
Basic principles of urban geography including site, situation, function, urban land use, urban structure and urban hierarchy are introduced. Relationships between urban geography and urban planning are explored.

GE 333 TRADE AND TRANSPORTATION 3 s.h.
Deals with the spatial aspects of transportation systems rights of future generations. and

their use. Circulation, accessibility, time and distance concepts and trade patterns are discussed.

GE 334 POLITICAL GEOGRAPHY 3 s.h.
Geographic factors and conditions are analyzed as they relate to the character and function of states. Political institutions are evaluated in light of geographic conditions.

GE 335 GEOGRAPHY OF ENERGY 3 s.h.
Energy production and consumption in human societies through time are considered to provide the background necessary for understanding contemporary problems. Emphasis is on locational and environmental aspects of energy in the United States.

GE 336 SOCIAL GEOGRAPHY 3 s.h.
Spatial dimensions of the American society is the focus of this course. The distribution of various social groups and their impact on the landscape are considered.

GE 337 HISTORICAL GEOGRAPHY 3 s.h.
Studies of past geographies, geographical change through time and historical perspectives on the cultural landscape are included. Historical geography of the United States is emphasized.

GE 431 GEOGRAPHY OF AMERICAN INDIANS 3 s.h.
The historical/cultural geography of Native Americans is the focus. Population, resources, land use, development, settlement patterns and other selected topics are covered.

GE 432 GEOGRAPHY OF CRIME 3 s.h.
The geographical context of crime is examined from historical and contemporary viewpoints. Relevant concepts and analytical approaches are introduced.

Physical/Environmental Geography

GE 241 PHYSICAL GEOGRAPHY 3 s.h.
Introduction to physical geography including study of weather, climate, soils, vegetation, landforms, energy cycles and the hydrologic cycle. Maps and air photographs are used.

GE 341 CLIMATOLOGY I 3 s.h.
The elements of weather and climate and the climatic regions of the earth are studied in relation to other aspects of the physical and biological environment.

GE 342 PHYSIOGRAPHY 3 s.h.
The study of landforms and water features is the focus of this course. Types, distribution and processes of formation are considered in relationship to the human landscape.

GE 440 CONSERVATION: ENVIRONMENTAL ANALYSIS 3 s.h.
Problems of exploitation and utilization of regional resources such as soils, minerals, forests and wildlife are considered in relation to population growth and regional planning and development.

Planning

GE 360 INTRODUCTION TO PLANNING 3 s.h.
Introduction to field of planning on city, metropolitan, regional and county levels. Included are: intergovernmental context and legislative basis for planning; the comprehensive plan; plan implementation and the planning agency.

GE 361 PLANNING: BASIC STUDIES AND ANALYSIS 3 s.h.
Prerequisite: GE 360
Research, analytical design and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans.

- GE 462 PLANNING: DEVELOPMENT, PRINCIPLES AND THEORY 3 s.h.
Prerequisite: GE 360
Examines process of city planning during ancient, medieval, renaissance and modern periods. A review of early planning in America, as well as present city planning is included.
- GE 463 PLANNING: DESIGN 3 s.h.
Prerequisite: GE 360
Presents concepts of city, subdivision and transportation design in relation to topography, natural resources and other physical elements.
- GE 464 LAND USE POLICY 3 s.h.
Basic concepts of land use policy at the national, regional, county and local levels are treated. Analysis is made of various land use policies.

Regional Geography

- GE 251 GEOGRAPHY OF PENNSYLVANIA 3 s.h.
Regions of Pennsylvania are examined in detail to identify man-environment relationships. Soils, topography, climate, vegetation, population and economic patterns are studied.
- GE 252 GEOGRAPHY OF LATIN AMERICA 3 s.h.
Impact of rapid population growth and economic development on the environment and spatial organization of Latin America are considered. The resource base and cultural heritage of the region are studied.
- GE 253 GEOGRAPHY OF EUROPE 3 s.h.
Investigates relationships underlying land use, dominant international problems, boundary disputes and regional complexes of European continent.
- GE 254 GEOGRAPHY OF USSR 3 s.h.
Regions of the Soviet Union, natural resources, cultural patterns, population, strategic areas and related geopolitical problems are studied.
- GE 255 GEOGRAPHY OF AFRICA 3 s.h.
Systematic survey of the physical, economic, political- historical, and cultural geography of the continent is followed by regional studies of countries and peoples in Africa, south of the Sahara.
- GE 256 GEOGRAPHY OF EAST ASIA 3 s.h.
Studies China, Japan, Korea, Outer Mongolia, Taiwan geographic background for development and wise use and restoration of natural resources dealt with.
- GE 257 GEOGRAPHY OF SOUTH AND SOUTHEAST ASIA 3 s.h.
India, Pakistan, Bangla Desh, Sri Lanka, Burma, Thailand, Laos, Cambodia, Vietnam, Malaysia and Indonesia are studied with special attention to regional similarities and differences, particularly as they pertain to human adjustment.

Philosophy, Methods, and Techniques

- GE 411 GEOGRAPHY: THOUGHT AND PHILOSOPHY 3 s.h.
Seminar limited to junior and senior majors with at least 12 semester hours in geography. Deals with history of the discipline, great ideas, leading problems and unresolved issues.
- GE 312 RESEARCH IN GEOGRAPHY AND PLANNING 3 s.h.
Introduction to the basic elements of research in the context of orderly scientific investigation. Emphasizes the application of research methodology to specific geographic and planning problems.

GE 313 CARTOGRAPHY 3 s.h.
Gives an understanding of the compilation and use of maps and develops an ability to construct various types of maps.

GE 314 MAP AND PHOTOGRAPH INTERPRETATION 3 s.h.
Maps and air photographs, along with remote sensing materials, permits inventory and analysis of geologic, land use, urban development and other landscape phenomena. The understanding of these materials and associated tools for their use is presented.

GE 415 REMOTE SENSING 3 s.h.
Deals with air photographs, satellite imagery, thermal sensing, radar imagery and their application to deriving information about the Earth's physical and cultural landscapes.

Other

GE 371 AEROSPACE WORKSHOP 3 s.h.
Develops an appreciation and provides information related to aerospace activities and contributions; offers background for teaching aerospace courses, discusses aviation/ space careers and presents the basic principles of flying (usually including some flight instruction).

GE 481 SPECIAL TOPICS 3 s.h.
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GE 498 INTERNSHIP 3-12 s.h.
Professional learning experience with emphasis on application of academic background. Open to majors and minors in geography and regional planning with 75 semester hours and 15 semester hours in the department, respectively. See internship supervisor for additional information.

GE 499 INDEPENDENT STUDY 3-6 s.h.
Independent research and study under faculty direction. Interested students should approach department chairperson for information.

ED 455 TEACHING OF SOCIAL SCIENCE IN SECONDARY SCHOOL 3 s.h.
Study of modern methods and techniques for teaching social science and of current curricula in social science.

HISTORY DEPARTMENT

JOHN F. KADLUBOWSKI, CHAIRPERSON: CASHDOLLAR, CORD, FERGUSON, FRICKE, GALLANAR, GOODRICH, HATFIELD, KRUPNIK, LANDON, LEHMAN, MARCUS, MASTRO, MILLER, MOORE, OLIVER, RIFE, SMITH, WILEY.

Programs in history are designed to give both those who major in history in the College of Humanities and Social Sciences, and those who concentrate in history in the College of Education an opportunity to study in some depth the past story of man and his world. Degrees offered by the History Department are the Bachelor of Arts in History and the Bachelor of Science in Education with a major in Social Studies, concentrating in history. The first program is under the College of Humanities and Social Sciences, and the second is under the College of Education.

The history student will find that the program is excellent preparation for government service, for pre-law training, for broad business opportunities, for work in varied fields of journalism, for archival positions, and for teaching. Not only the story of the people of the United States, but also that of other peoples is covered in the belief that historical understanding is essential for the future of mankind.

CURRICULA

Requirements for the degree of Bachelor of Arts in History are 30 semester hours in history. Requirements for the degree of Bachelor of Science in Education with a major in Social Studies, concentrating on history, are a minimum of 15 semester hours in history within the 42 semester hours required for social science certification. The requirement for a minor in history is 15 semester hours. For all history programs, courses in history in General Education are applicable. Although there are no prerequisites to history courses, all programs should be planned with an adviser. Every major and concentrate in history will be advised by History Department staff members.

Admission to History 482 and 483, initiation in the local chapters of Phi Alpha Theta and Pi Gamma Mu, participation in study tours and study-abroad programs and other activities should be investigated by every history student. The department is committed to the idea of a broad education.

COURSE DESCRIPTIONS

- HI 101 HISTORY OF CIVILIZATION I 3 s.h.
Survey course, presenting in various forms origin and development of Western man's major political, social, economic, religious and intellectual institutions to approximately 1600 A.D.
- HI 102 HISTORY OF CIVILIZATION II 2 or 3 s.h.
Survey of man's development from 1600 A.D. to present, in which economic, political, social and intellectual trends are discussed.
- HI 103 HISTORY OF THE UNITED STATES AND PENNSYLVANIA I 3 s.h.
Survey of American history from colonization to 1865, with attention to Pennsylvania, colonial foundations, emergence of Federal Union, political and social reform and controversy over sectionalism and slavery.
- HI 104 HISTORY OF THE UNITED STATES AND PENNSYLVANIA II 3 s.h.
Survey of history of the United States and Pennsylvania since 1865, with emphasis on major economic, political and social trends and development of American culture. Also considered is role of America in world affairs.
- HI 112 HISTORY SATELLITES 1 s.h.
A variety of topics from Civilization which, when combined with a 2-credit History of Civilization II (HI 102), will fulfill a requirement in the Social Science package in General Education.
- HI 200 INTRODUCTION TO HISTORY 3 s.h.
For history majors and concentrates. Topics include philosophy of history, important schools of history and historians, and methods of historical research. Student is encouraged to become a better historian and to identify with historical profession.
- HI 210 HISTORY OF IUP 3 s.h.
The focus is the evolution of Indiana as an institution. Emphasis is placed on the direction, the atmosphere, and and the interrelation of the school to the world at large. Attention is given to the development of various internal areas. The Univeristy Archives and resource persons are utilized.
- HI 301 HISTORY OF GREECE 3 s.h.
Will analyze major political, social, and economic developments in ancient Greek civilization from Bronze Age to death of Alexander.
- HI 302 HISTORY OF ROME 3 s.h.
Will trace Roman history from early Republic down to fall of Empire. Roman political theory will be particularly emphasized.

- HI 303 MEDIEVAL EUROPE I, 400-1000 3 s.h.
History of early Medieval Europe, from decline of Rome to beginnings of High Middle Ages; emphasis on political, social, economic, religious and intellectual developments.
- HI 304 MEDIEVAL EUROPE II, 1000-1300 3 s.h.
History of late Medieval Europe, from High Middle Ages to Renaissance period; emphasis on political, social, economic, religious and intellectual developments.
- HI 305 RENAISSANCE AND REFORMATION 3 s.h.
History of Europe from c. 1250; rise of commercial city, Kings, and pressures on Christian Church to 1600. Some consideration of technology and voyages.
- HI 306 EARLY MODERN EUROPE 3 s.h.
Greatness of France under Louis XIV; Sweden; Thirty Years' War. Emergence of modern society; French Revolution.
- HI 307 HISTORY OF EUROPE: 1815-1914 3 s.h.
Study of Europe in 19th century, with emphasis on the emergence of major thought patterns, Romanticism, Nationalism, Socialism and Positivism.
- HI 308 TWENTIETH CENTURY EUROPE 3 s.h.
Political, economic, and diplomatic trends in Europe since 1900, with major emphasis on causes and results of war, and search for security.
- HI 320 HISTORY OF ENGLAND TO 1688 3 s.h.
Survey of growth of English nation, with emphasis on political, social and economic developments leading to 17th century conflict between Crown and Parliament.
- HI 321 HISTORY OF ENGLAND, 1688 TO PRESENT 3 s.h.
Survey of growth of England as a democratic constitutional monarchy. Attention directed to industrial revolution, and to imperial expansion and England's role in 20th century world. Attention given to social and cultural history.
- HI 322 FRENCH REVOLUTION AND NAPOLEON 3 s.h.
Brief sketch of Old Regime, concentration on Revolution, and Empire, with emphasis on politics, social structure, diplomacy and economics.
- HI 323 MODERN FRANCE 3 s.h.
Investigation of political, cultural, economic and social developments since 1815. Discussions and readings.
- HI 324 HISTORY OF GERMANY TO 1848 3 s.h.
Study of German nation from its prehistoric origins, emphasizing medieval and early modern phases, to 1848.
- HI 325 HISTORY OF GERMANY: 1849-TO THE PRESENT 3 s.h.
Study of development of modern Germany from Revolution of 1848, including imperial republican and totalitarian phases, to post-War formation of East and West Germany.
- HI 326 HISTORY OF RUSSIA 3 s.h.
General survey of Russian history, culture and institutions. Special consideration given to study of historical forces formative of Revolution of 1917.
- HI 327 HISTORY OF SOVIET RUSSIA 3 s.h.
General survey of contemporary Soviet history, culture and institutions. Special consideration given to study of communist theory and its place in current Russian historiography.
- HI 330 HISTORY OF THE ISLAMIC CIVILIZATION 3 s.h.
An approach to Learning about a non-Western culture: Muhammad, Arabs, Muslims as

creators of a great civilization from rise of Islam to 1800; emphasis on cultural institutions of Islam and their interrelationships within Middle East.

HI 331 MODERN MIDDLE EAST 3 s.h.
Survey of changes that have taken place in Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HI 335 HISTORY OF THE FAR EAST 3 s.h.
History of China and Japan from ancient times, Buddhism, medieval Japan; Chinese Communism, industrialization. Some consideration of peripheral Asia from 1500.

HI 340 COLONIAL AMERICA 3 s.h.
Survey of original thirteen states from their inception as colonies within British empire to 1763, the eve of independence. Attention given to their political development; economic position within empire; relations with Indians; and evolution of social, educational and religious life.

HI 341 AMERICAN REVOLUTION 3 s.h.
An examination of Whig-Tory participants of American Revolution. Examines events from 1763 to 1783. Changing interpretations of the courses and effects of the revolution will be discussed.

HI 342 THE EARLY REPUBLIC 3 s.h.
Survey of United States history from 1783 to 1850, with special attention on constitutional, political, economic and social trends.

HI 343 CIVIL WAR AND RECONSTRUCTION 3 s.h.
Study of failure of American democracy to cope with issues of mid-nineteenth century, followed by political, economic, military and social developments during War and reconciliation of North and South.

HI 344 HISTORY OF THE UNITED STATES, 1876-1900 3 s.h.
Stresses reaction of various segments of heterogeneous population to rapid industrialization, urbanization and corporatization of American life and emergence of U.S. as a world power, special attention to formation of new institutions.

HI 345 HISTORY OF THE UNITED STATES 1900-1929 3 s.h.
Emphasis on political, social, economic and diplomatic developments in American history between 1900 and 1929.

HI 346 RECENT UNITED STATES HISTORY 3 s.h.
Study of political, economic, and cultural changes in American life since 1929; examines roots of social problems facing us today. Some recent foreign policy trends also studied.

HI 350 HISTORY OF LATIN AMERICA: COLONIAL PERIOD, 1450-1820 3 s.h.
Study of life of people, Indian cultures, conquest by Spaniards and Portuguese, government during Colonial Period, and Wars of Independence.

HI 351 HISTORY OF LATIN AMERICA: NATIONAL PERIOD, 1820-PRESENT 3 s.h.
Study of history of nations which have emerged since independence; emphasis on economic, political, cultural, and social developments of these nations, as well as relationships of these nations to others in the Hemisphere.

HI 360 HISTORY OF PENNSYLVANIA 3 s.h.
Emphasizes the cultural, economic, political and social development of our state in its various periods from colonial to today. Special attention given to diversity of Pennsylvania's people, their institutions and problems.

HI 361 HISTORY OF AMERICAN FOREIGN RELATIONS, 1775-1900 3 s.h.
Traces Foreign Relations of United States from Independence to emergence as a world

power. Topics concentrate on themes of commercial relations, political isolation, expansion, and debate over imperialism

HI 362 HISTORY OF AMERICAN DIPLOMACY 1900-PRESENT 3 s.h.
Treats primarily our 20th century involvement in world affairs and domestic debate over that involvement. Special emphasis will be placed on role of interest groups and increasing power of Executive Department over Foreign Affairs.

HI 363 THOUGHT AND CULTURE, EARLY AMERICA 3 s.h.
Selected topics in early American intellectual and cultural growth, with emphasis on Puritanism, Enlightenment, cultural nationalism, and Romantic movement.

HI 364 THOUGHT AND CULTURE, MODERN AMERICA 3 s.h.
Selected treatment of historical development of modern American movements in social and political thought, religion philosophy, fine arts, and literature.

HI 365 HISTORY OF BLACK AMERICA SINCE EMANCIPATION 3 s.h.
Description and analysis of role of blacks in history of United States since Civil War; emphasis on key leaders, major organizations, leading movements and crucial ideologies of blacks in modern America.

HI 367 ECONOMIC HISTORY OF THE UNITED STATES 3 s.h.
Historical development of economic institutions in American life since Independence; emphasis on farming, labor, transportation, banking and manufacturing.

HI 368 U.S. URBAN HISTORY 3 s.h.
A survey of American cities from their beginnings to present emphasizing relationship of urban history to social science theory, and stages and process of city development.

HI 369 WOMEN IN AMERICA 3 s.h.
A study of the activities of women from the colonial to the modern era-evaluating the culture, societal, religious, economic and political frameworks. It will review women's involvement in movements for feminism, social reform, unionism and the abolition of slavery. Film will be utilized to determine society's changing perspectives of women.

HI 370 RELIGION IN AMERICA 3 s.h.
A history of religious belief and practice in the United States from the colonial period to the present, with an emphasis on the last one hundred years.

HI 372 HISTORY OF THE EARLY AMERICAN WORKING CLASS 3 s.h.
Description and analysis of the nature and significance of the working class of the United States in the 18th and 19th centuries. The work settings and communities of workers will be examined as well as unions such as the National Labor Union and the Knights of Labor.

HI 373 HISTORY OF THE MODERN AMERICAN WORKING CLASS 3 s.h.
Description and analysis of the nature and significance of the working class of the United States in the 20th century. Work settings and strikes will be examined and analyzed as well as unions such as the United Mine Workers and the United Auto Workers and labor leaders including Samuel Gompers, John L. Lewis and George Meany.

HI 374 HISTORY OF ORGANIZED CRIME 3 s.h.
This course studies the relationship between urban, entrepreneurial crime, and the evolution of industrial America.

HI 390 HISTORY OF WOMEN - WORLD CULTURES 3 s.h.
Explores religious, legal, political and mythic dimensions of women in society from ancient to modern times, including Eastern, Western and American experiences.

HI 391 FILM AS HISTORY 3 s.h.
Particularly concerned with probing relationship between cinema and society. History of film

is explored and student is given some background in film interpretation and cinematography, the western, science fiction, police films, and great foreign and American detective films.

HI 392 CRIMES AND PUNISHMENT IN HISTORY 3 s.h.
Explores how historical setting influences nature, commission, response to and punishment of individual and state crimes in history.

HI 481 SPECIAL STUDIES IN HISTORY 3-9 s.h.
Each semester six to ten courses are offered in interest areas that are not part of the regular program. For example, Film as History, the American Jew, Fighting the Great Wars, History of Baseball, the Car and the Christian Perspective have been offered as special studies. Students may schedule as many of these courses as desired, but two per semester is the usual limit.

HI 482 INDEPENDENT STUDY 3-6 s.h.
Prerequisites: 12 s.h. in history; a 3.0 history average; permission of a faculty member
Involves directed reading or research for qualified students. We encourage experimental projects and personalized learning. Honors sections are provided for qualified students.

HI 483 INDEPENDENT STUDY 3 s.h.
An honors program within the independent study format. Minimum qualifications are a 3.0 Q.P.A. 15 s.h. of history, and a 3.2 average in history classes. Satisfactory honors work is rewarded by formal recognition at graduation.

HI 485 INTERNSHIP 3-12 s.h.
With departmental approval, students are attached to local or national government or private agencies doing directive, bibliographical, archival, or museum work. Advising professor meets with intern regularly and determines what papers or reports will be required.

B.A. in Pre-Law/History

The requirements for this major are the same as for the History major with the addition of the pre-law interdisciplinary minor.

For requirements in the pre-law minor, students should contact the departmental pre-law adviser or the department chairperson.

INTERNATIONAL STUDIES

Degree programs in International Studies are offered in both the College of Humanities and Social Sciences (Bachelor of Arts) and the College of Education (Bachelor of Science in Education). Both degrees are interdisciplinary and, consequently, draw upon the faculty and course offerings of many other departments. The course selection is broad enough to prepare the student for any one of a great variety of career opportunities. The Bachelor of Arts program is designed for the specialist who is interested in a professional career; the Bachelor of Science is designed to certify the graduate to teach world cultures or any of the social sciences in the public schools.

CURRICULA

B.A. Program

Beyond the General Education courses required of all students in the University, the requirements for the degree of Bachelor of Arts in International Studies are as follows:

1. The student must build an interdisciplinary sequence of 15 semester hours taking an introductory or comparative international course from each of five social science disciplines. This selection depends upon the goal of the major and should be deter-

mined in consultation with adviser and/or the Director of the Center for International Studies.

2. The student should complete a specialization sequence in the economic and political systems of another culture which must include a study of language, literature, history and geography of that region. This specialization sequence must include at least 15 semester hours. Currently, three specializations are offered: Soviet Studies, The Far East and Latin America. However, students interested in Africa or the Middle or Near East may elect interdisciplinary courses focusing on the developing nations. It is also possible to build a program centering on the Atlantic Community of Nations.

Specialization must include work in at least three disciplines. The student is expected to have completed the intermediate language sequence of the appropriate language in the General Education requirements, so that no credit towards specialization is given for language courses numbered below the 300 level.

Minor in International Studies

A minor in International Studies consists of meeting the requirements listed under (1) above. The curriculum of the Center for International Studies is flexible enough that the student can plan a program to match his interests.

B.S. in Education (International Studies Concentrate)

A concentration in International Studies will supplement the student's required courses and leads to Certification in the social science fields for teaching positions in the state of Pennsylvania.

JOURNALISM DEPARTMENT

CRAIG G. SWAUGER, CHAIRPERSON: DeGEORGE, JESICK, RUSSELL, TRUBY

Students interested in a career in advertising, both media and industrial journalism, or public relations should enjoy this innovative, flexible program. The Journalism major combines journalism elective courses, the student's choice of a variety of courses from other University departments, plus internships which provide on-the-job experience.

The IUP Journalism major is flexible for the individual student, who decides, with an adviser, what directions his or her education will take for a mass communication career.

A student wishing to enter the program becomes a Journalism major in the College of Humanities and Social Sciences. Then, the student chooses an individual program within a large group of elective journalism courses, plus a much larger group of courses from various other areas of the University.

A student who completes the major graduates with a B.A. in journalism. Because journalism itself covers all areas of life, the journalism major covers many areas of study preparation. There are only three required courses, so the student is free to mold the program to his/her own special interests through both major and free electives.

The journalism major will use journalism courses to fulfill the minimum of 30 hours required for the major. All journalism majors must complete the intermediate sequence of a foreign language. This may be done in one of three ways: by examination, by earning credit in third and fourth semesters of a foreign language, or by completing four semesters of a new language. If the last procedure is used, the two beginning foreign language courses may be applied as free electives to the total number of credits needed for graduation.

COURSE SEQUENCE AND PREREQUISITES

The journalism faculty offers the following operational policy for its course sequence and prerequisites. The basic idea is for students to take Level I courses prior to Level II courses, etc. We ask that special attention be given to course prerequisites to avoid scheduling students without proper experience into courses. We do retain flexibility of waiving sequence and prerequisites in individual cases.

LEVEL I

- JN 481 Grammar for Journalist
 JN 105 Journalism & Mass Media (required for all journalism majors) JN 105 is the initial course in the major and the general survey elective course for non-majors. If they have the prerequisites, non-majors are welcome into advanced journalism courses. JN 120 Journalistic Writing (required for all journalism majors)

LEVEL II

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|--------------------------------------|--|
| JN 337 Editing | JN 326 Public Relations I |
| JN 321 Feature Writing | JN 328 News Reporting (all majors in Journalism) |
| JN 343 History of the American Press | JN 481 Sports Journalism |
| JN 481 Issues and Problems | JN 481 Science and Environmental Reporting |
| JN 327 Design, Layout and Production | JN 481 Document Design I |
| JN 338 News Analysis | JN 481 Problem Solving in PRI |
| JN 223 Photojournalism | JN 481 Public Affairs Reporting |

LEVEL III

- | | |
|----------------------------|---------------------------------|
| JN 481 Advanced Reporting | JN 347 Journalism Law |
| JN 481 Editorial Page | JN 482 Independent Study |
| JN 232 Management | JN 399 Internship |
| JN 481 Public Relations II | JN 481 Advertising Writing |
| JN 481 Document Design II | JN 481 Problem Solving in PR II |

THE BASIC PREREQUISITES

- Advanced Reporting (News Reporting)
- Journalism Law (Senior Standing)
- Editing (Journalism & Mass Media, Journalistic Writing)
- Editorial Page (Junior/Senior Standing)
- Feature Writing (Journalism & Mass Media, Journalistic Writing)
- Grammar for Journalist (Journalism & Mass Media)
- History of the American Press (Journalism & Mass Media)
- Independent Study (Departmental Approval)
- Internship (Junior/Senior Standing, and Departmental Approval)
- Issues and Problems (Journalism & Mass Media, Journalistic Writing)
- Journalistic Writing (Journalism & Mass Media)
- Design, Layout and Production (Journalism & Mass Media)
- Management (Journalism & Mass Media, Internship or Field Experience)
- News Analysis (Journalism & Mass Media, Junior/Senior Standing)
- News Reporting (Journalism & Mass Media, Journalistic Writing)
- Photojournalism (Basic photography course or related experience)
- Public Relations I (Journalism & Mass Media, Journalistic Writing)
- Public Relations II (Public Relations I)
- Sports Journalism (Journalistic Writing)

MINOR COURSES OR FREE ELECTIVES

A number of departments cooperate to make journalism study at IUP a very broad experience. These courses may be considered for dual major, a minor program(s), or as electives.

With the assistance of an adviser, a student may develop a program by choosing from the following electives. Electives shown here have pre-authorization. Any other elective requires adviser approval in writing.

ART POLITICAL

Graphic Design
Advanced Graphic Design

BUSINESS

Marketing
Principles of Selling
Business Organization & Mgmt.
Business Communication

BUSINESS MANAGEMENT

Advertising
Consumer Behavior
Marketing Research
Personnel Management
Training Management
Marketing Management

COMMUNICATIONS MEDIA

Intro to Radio Broadcasting
Photography
Television Production
Motion Picture Production
Advanced Motion Picture Production

ENGLISH

Art of the Film
Advanced Composition
Creative Writing
Languages of Media
Oral Communication
Oral Interpretation
Technical Writing

HISTORY

U.S. Urban History
Contemporary U.S. History
Diplomatic History of the U.S.
Social & Intellectual History

PHILOSOPHY

General Logic
Ethics
Political Philosophy

SCIENCE

American Politics
Comparative Government
News Interpretation
Legislative Process
Public Opinion
Metropolitan Problems
Constitutional Law & Civil Liberties
Public Administration
Contemporary Political Problems
State & Local Political Systems
Mass Media in American Politics
Modern Political Thought
American Political Thought

COMPUTER SCIENCE

Introduction to Computers

CONTINUING EDUCATION

Career Planning
Career Planning & Development

CRIMINOLOGY

General Administration of Justice
Criminology
Community Relations
Criminal Investigation

ECONOMICS

Contemporary Economic Issues
Environmental Economics
Government and Business
Regulation of Industry

PSYCHOLOGY

Developmental Psychology
Personality
Social Psychology
Industrial Psychology
Motivation

SOCIOLOGY

Contemporary Social Problems
Population Problems
Modern Social Institutions
Racial & Cultural Minorities
The Community
Industrial Sociology
Intro to Social Research

COURSE DESCRIPTIONS

- JN 105 JOURNALISM AND THE MASS MEDIA** 3 s.h.
A critical examination of roles-goals of newspapers, magazines, radio and television as they affect American society socially, politically and economically.
- JN 120 JOURNALISTIC WRITING** 3 s.h.
Emphasis on intelligent use of writing ability in a journalistic style, and understanding of the why of journalism and mass media.
- JN 223 PHOTOJOURNALISM** 3 s.h.
Introduction to still photography for news media. Includes preparation of portfolio and learning of specialized processing techniques for high-speed work.
- JN 321 FEATURE WRITING** 3 s.h.
Designed for student who might work in journalism or who might wish to write on a part-time or free-lance basis.
- JN 323 MANAGEMENT IN MASS COMMUNICATIONS** 3 s.h.
Attention given to the process of advancement to management positions in journalism.
- JN 326 PUBLIC RELATIONS I** 3 s.h.
Explores functions of Public Relations in detail.
- JN 327 LAYOUT DESIGN AND PRODUCTION** 3 s.h.
Provides basic techniques and theories of layout design and production, including typography, headlines, copyfitting, newspaper design and layout, photo cropping, etc.
- JN 328 NEWS REPORTING** 3 s.h.
Upperclass journalism students. Includes instruction in writing the news story, preparing copy, interviewing, covering special events and similar reporting activities.
- JN 337 EDITING** 3 s.h.
Stresses basic practices such as copyediting and headline writing while also focusing on guidelines for improving accuracy, clarity, transition, spelling and punctuation of copy. Students use wire service stylebook extensively.
- JN 338 NEWS ANALYSIS** 3 s.h.
A current events course, this is a critical study of news and its relationship to the mass media and the public. Seminar and discussion format.
- JN 343 HISTORY OF THE AMERICAN PRESS** 3 s.h.
Traces the development of the American press from its colonial roots. Emphasis on the role of the press in political and social development.
- JN 347 JOURNALISM LAW** 3 s.h.
Prerequisite: JN 328
Open to non-majors by permission of the instructor. Survey of the major Supreme Court and state court rulings governing the mass media, especially the news media. Areas include libel, antitrust, free press/fair trial, privacy. Approach is nontechnical.
- JN 339 INTERNSHIP** 3-12 s.h.
On-the-job training opportunities in journalism and related areas.
- JN 481 SPECIAL TOPICS**
These courses vary from semester to semester, covering a number of journalism specialties. From time to time they are converted to permanent course numbers.

- SPORTS JOURNALISM** 3 s.h.
Emphasizes skills for covering, writing and editing sports, and introduces students to specific practices in newspaper, radio-TV and sports information work.
- PUBLIC RELATIONS II** 3 s.h.
Presents, as a followup to the theory of Public Relations I, more in-depth instruction and assignments such as PR writing, case studies, projects and campaigns.
- ISSUES & PROBLEMS** 3 s.h.
Students examine critical case histories of ethical and professional situations and circumstances in the mass communication industry in a lecture and discussion format.
- PUBLIC AFFAIRS REPORTING** 3 s.h.
This seminar course covers the specialized field of reporting government and public service beats. Techniques and sources are covered in lecture, demonstration and through guest speakers.
- ADVANCED REPORTING** 3 s.h.
Designed for the student seeking a career as a working journalist, this course refines basic reporting and dealing with more sophisticated techniques, and coverage.
- THE EDITORIAL PAGE** 3 s.h.
Emphasis on the writing of vigorous but thoughtful and fair editorials. Study of contemporary practice and policy on letters to the editor, columnists, cartoons, the op-ed page.
- BASIC JOURNALISTIC SKILLS** 3 s.h.
To help journalism majors get a sound start, this course is offered, primarily for freshman but also to other interested students. This course is basic, beginning with parts of speech and parts of the sentence and advancing through most of the other important areas of grammatical instruction.
- ADVERTISING WRITING** 3 s.h.
This is a basic course in the preparation of advertising copy and and continuity for all media. It is a combination of lecture and laboratory course. Enrollment is limited to 15 upperclass students per semester.
- SCIENCE AND ENVIRONMENTAL REPORTING** 3 s.h.
Designed for advanced students who plan to spend a significant portion of their professional lives writing about science and the environment. Presumes advanced journalism skills and a sophisticated knowledge of science gained from at least sixteen to twenty hours of science courses.
- PROBLEM SOLVING IN PR I** 3 s.h.
Gives the student practice in writing and making oral presentations based on public relations cases and problems. Familiarizes the student with problem solving and small group communication skills necessary for those working in the area of public affairs.
- PROBLEM SOLVING IN PR II**
Introduces students to techniques for analyzing and tracking information flow in organizations. Introduces students to creative problem solving techniques which are standard practice in corporate research groups.
- DOCUMENT DESIGN I** 3 s.h.
Teaches students advanced principles of document design and gives them the opportunity to apply techniques of rhetorical/stylistic analysis, general problem solving, and holistic information display to a wide variety of writing formats used in business, industry and government.
- DOCUMENT DESIGN II** 3 s.h.
Gives students advance work in preparation of substantial corporate and government docu-

ments such as annual reports, lengthy project reports, white papers, research reports, etc. Emphasizes skills in research of public and government documents, data analysis and problem solving, holistic information display, writing and editing.

JN 482 INDEPENDENT STUDY

1-6 s.h.

Opportunities for independent study that goes beyond the usual classroom activities. Approval of department chairperson required.

LABOR RELATIONS DEPARTMENT

DONALD S. McPHERSON, CHAIRPERSON: GATES, MORAND, SEDWICK

The Labor Relations Department offers a graduate program within the College of Humanities and Social Sciences leading to the degree of Master of Arts in Labor Relations. The 42 semester hour program consists of a required core of 27 semester hours, including a required thesis, and elective course offerings totaling 15 semester hours. Internships are available and strongly encouraged.

The Labor Relations program is multi-disciplinary, combining analytical and human relations skills with knowledge drawn from social sciences and business disciplines. The degree is designed to prepare professional labor relations practitioners in public and private management, unions, neutral agencies, government agencies, and arbitration panels. It has as its special focus labor relations in the public sector.

While the department does not offer course work leading to an undergraduate major or degree, it does offer several undergraduate courses which are open to students of any major or College.

COURSE DESCRIPTIONS

LR 426 CASE STUDIES IN LABOR-MANAGEMENT RELATIONS 3 s.h.

In-depth study of daily labor-management relationships in variety of organizational settings through utilization of case study technique. Focuses on a problem-solving approach to the contract administration component of the labor-management relationship.

LR 457 LABOR AND BUSINESS IN POLITICS 3 s.h.

In-depth study and analysis of labor and business involvement in politics. Special attention to involvement of labor and business in Pennsylvania politics as well as to the relationship between the two competing groups - conflict or cooperation?

LR 480 PRINCIPLES AND PRACTICES OF COLLECTIVE BARGAINING 3 s.h.

Role, function and authority of negotiation committees, techniques of negotiation, the negotiations agreement, the mediation process and the arbitration process will be analyzed through mainly a case study approach.

LR 481 SPECIAL TOPICS IN LABOR RELATIONS 3 s.h.

Advanced, innovative, or exploratory topics in Labor Relations.

LR 499 INDEPENDENT STUDY

1-3 s.h.

Independent reading and research under the direction of a faculty member.

LINGUISTICS MINOR INTERDISCIPLINARY PROGRAM

Interdisciplinary Linguistics Board: SHARON MONTGOMERY (Philosophy, Chn.), BORMANN (Special Education-Speech and Hearing), WESTPHAL (Foreign Languages and Literatures), JACOBS (Psychology), OLIN-FAHLE (Soci-

ology- Anthropology), TANNACITO (English), TOMPKINS (Computer Science)

Linguistics is a social science, concerned with an aspect of behavior that has traditionally set humans apart from the other animals- our use of an intricate system of speech sounds to communicate with our peers and our use of written symbols to transmit our accumulated knowledge to our descendants. Language has always been regarded as peculiarly human, but even this belief is being questioned by those conducting contemporary experiments on the language capabilities of monkeys. The problems of modern linguistics are of concern to many diverse fields, including anthropology, sociology, psychology, philosophy, and speech and hearing. Linguistics has always had a close relationship with literature and foreign language learning. Developments in other areas have had their impact on linguistics. Formal models of language and its structures are a part of computer science. This Interdisciplinary Linguistics Minor is intended to offer to students the opportunity to acquaint themselves with modern linguistics from a variety of perspectives.

The Interdisciplinary Linguistics Minor consists of 18 semester hours chosen from the list of options below, selected from at least three participating departments, and including no more than 6 semester hours from the student's major department. Any one of the following courses is strongly recommended as an initial program course: AN 233, EN 330, FL 421, or SH 302.

The program is academically supervised by an Interdisciplinary Linguistics Board consisting of an at-large complement and one representative from each of following departments: Computer Science, English, Foreign Languages, Philosophy, Psychology, Sociology- Anthropology, and the speech and Hearing section of the Special Education Department. Board members serve as Interdisciplinary Linguistics advisers.

Some of the courses listed below in the program have prerequisites; these must be satisfied as prescribed by the department offering the course.

Program Courses

AN 233	Cultural Symbolism I: Language in Culture
CO 220	Applied Computer Programming Languages
CO 340	Data Structures and Non-Numeric Programming
CO 460	Theory of Computation
EN 230	History of the English Language
EN 330	The Structure of English
EN 331	Trends in Linguistics
EN 332	Dialects in American English
EN 333	Psycholinguistics (Also PC 333)
FL 421	Language and Society
fl 351-352	Advanced Language I-II, where 'fl' is FR, LA, SP, or GM (French, Latin, Spanish, German).
FR 461	Structures of French and English
PH 221	Logic I
PH 300	Philosophy of Language
PH 321	Logic II
PC 333	Psycholinguistics (also EN 333)
SH 302	Language Development
SH 430	Language Disorders

NOTE: Specific offerings of Special Topics or other courses in the 480 series offered by participating departments may be approved by the board for inclusion in the minor. Consult Board members for current information.

PHILOSOPHY DEPARTMENT

ROBERT M. HERMANN, CHAIRPERSON: ALTMAN, BOONE, BOUFFARD, CHAN, FERRARA, LIN, MLECKO, MONTGOMERY, SCHAUB.

Philosophy (Major and Minor)

The program in philosophy is designed to provide the student with a capacity for thinking clearly, a critical attitude and the ability to reason theoretically.

The major offers the background required for graduate work in philosophy. Those whose primary interests are in other disciplines will find philosophy courses which relate directly to their fields on a theoretical level. Both the minor and double major are especially desirable for their reflective benefits and because of the essentially interdisciplinary nature of philosophy.

Requirements for Major and Minor Philosophy

Major			Minor
	PH 101	General Logic or	
3 s.h.	PH 221	Symbolic Logic I	3 s.h.
	PH 324	History of Philosophy I or	
	PH 325	History of Philosophy II or	
6 s.h.	PH 410	Contemporary Philosophy . . .	6 s.h.
18 s.h.	Departmental Electives		6 s.h.
27 s.h. total			15 s.h. total

No more than one 100-level course may be counted toward the major or minor. Majors concentrating in Philosophy may take up to 9 semester hours in Religious Studies, minors no more than 3 semester hours. These courses are indicated in the catalog by an asterisk.

Religious Studies

A program of courses in religious studies including a minor is offered by the department. These courses are indicated with an asterisk. The program in religious studies is designed to provide a balanced, non-sectarian approach leading to a better understanding of the phenomenon of religion in human experience.

Students considering theological schools, and related vocations such as religious journalism, broadcasting or education are encouraged to pursue a Philosophy major and/or a Religious Studies minor.

Requirements for minor in Religious Studies

No more than one 100-level course may be counted among the required fifteen semester hours. One philosophy course (3 s.h.) may be included among the department electives.

REQUIRED

PH 310	Western Religious Thought in Development	3 s.h.
PH 340	Contemporary Western Religious Thought	3 s.h.
PH 311	Oriental Religio-Philosophic Thought	3 s.h.
	Departmental Electives	6 s.h.
		15 s.h. total

Pre-Law Program

The Philosophy Department participates in the university Pre-Law Minor Program whereby a student majors in one of several academic disciplines including philosophy and also meets the pre-law minor requirements. Students interested in the philosophy major/pre-law minor should consult with the departmental pre-law adviser. Philosophy courses included in the pre-law minor program are as follows: PH 101, General Logic, PH 222, Ethics and PH 327 American Philosophic Thought.

COURSE DESCRIPTIONS

*PH 100 INTRODUCTION TO RELIGION 3 s.h.

A beginning approach to the study of religion. Questions discussed will include: the nature of religion, types of religion, origins of religion, conceptions of deity, the religious nature and destiny of man, religion and science, religion and society, and contemporary religious issues.

PH 101 GENERAL LOGIC: METHODS OF CRITICAL THINKING 3 s.h.

Designed to develop students' ability to critically analyze deductive and inductive argumentation, rhetoric and persuasion, with examples drawn from media, textbooks, advertising, scholarly works, personal contacts, etc. Emphasis upon the nature of definition, clarification of meaning, detection of fallacies, scientific methodology and logic as a practical tool.

*PH 110 WORLD RELIGIONS 3 s.h.

History, comparative theology, ritual and contemporary influences of world's major religions. A nonsectarian study of religions such as Hinduism, Buddhism, Confucianism, Taoism, Shinto, Zoroastrianism, Judaism, Christianity and Islam.

PH 120 INTRODUCTION TO PHILOSOPHY 3 s.h.

Designed to acquaint the beginning student with philosophical problems and methods in such areas as metaphysics, epistemology, logic, value theory and philosophy of religion.

*PH 210 WORLD SCRIPTURES 3 s.h.

Major sacred writings of Hindu, Buddhist, Zoroastrian, Moslem, Confucian, Taoist and Judeo-Christian traditions will be studied from point of view of their religious significance.

PH 221 SYMBOLIC LOGIC I 3 s.h.

An introduction to symbolic logic dealing with the symbolization of deductive arguments in the sentential calculus, syllogistic calculus and quantificational calculus, including the logic of relations. Natural deduction proofs, truth trees and other tests of validity are covered.

PH 222 ETHICS 3 s.h.

Investigation of efforts to rationally justify moral judgment, What is 'moral'? Are moral notions cultural, rational, divine, or innate in origin? Are they 'relative' or 'absolute'? Are they intuitive, cognitively meaningless, or supportable by 'good reasons'?

PH 223 PHILOSOPHY OF ART 3 s.h.

Meaning of aesthetics as a philosophical discipline; methodological questions; a classification of problem areas; questions of imitation, history and art, the artist, the audience; consideration of some of the major western and non-western writers' positions. Nature of artistic creativity; art and anarchy; chance and art; definition of art in the present culture.

PH 250 INTERPRETING THE BIBLE 3 s.h.

An introduction to scholarly methods and major themes necessary to understanding of the Old and New Testaments of Judeo-Christian documents.

PH 460 PHILOSOPHY OF LANGUAGE 3 s.h.

An investigation of issues in the philosophy of language and related issues in linguistics (including anthropological linguistics, sociolinguistics and psycholinguistics). Topics include,

*Program in Religious Studies.

e.g. the influence of language on perception, rationalist/empiricist perspectives on language acquisition, language and political control, reference, meaning, truth.

***PH 310 WESTERN RELIGIOUS THOUGHT IN DEVELOPMENT** 3 s.h.
Theological development of the Judaeo-Christian religious tradition, approached through in depth study of selected writings from the early Church Fathers to the Protestant Reformers.

***PH 311 ORIENTAL RELIGIO-PHILOSOPHIC THOUGHT** 3 s.h.
Advanced study in those religious philosophies which have shaped the oriental worldviews and ways of life. Emphasis on Hinduism, Jainism, Buddhism, Confucianism, Taoism, Mohism, and Shinto.

***PH 312 BIBLICAL HISTORY AND PALESTINIAN ARCHAEOLOGY** 3 s.h.
An investigation of religio-historical traditions of the Bible in light of archaeological research. Will include study of archaeological method and interpretation, discoveries in Egypt, Mesopotamia, and Syro-Palestine as background for understanding the traditions and religious practices and beliefs of Israel, and special questions surrounding the Patriarchal narratives, the Exodus and Conquest, Israel under David and Solomon, the Dead Sea Scrolls and N.T. times.

PH 321 SYMBOLIC LOGIC II 3 s.h.
Prerequisite: PH 221 or permission of instructor
A continuation of Logic I designed to enable students to evaluate consistency of statements, validity of arguments, soundness and completeness of formal systems. Focus on quantificational calculus and inductive logic.

****PH 323 POLITICAL PHILOSOPHY** 3 s.h.
Political thought of such major classical theorists as Plato, Aristotle, Cicero, Augustine, Aquinas, Hobbes, Rousseau, Locke, Marx and Mill, examined against the background of metaphysical roots from which their political views derive.

PH 324 HISTORY OF PHILOSOPHY I: ANCIENT AND MEDIEVAL 3 s.h.
Western philosophy of pre-Socratic, classical Greek, Roman and medieval periods. Special attention given to Plato, Aristotle, Augustine and Aquinas, as well as the philosophic schools.

PH 325 HISTORY OF PHILOSOPHY II: RENAISSANCE AND MODERN 3 s.h.
Continuation of PH 324, beginning with 15th century Renaissance thought and ending with the 19th century precursors of contemporary philosophies.

****PH 327 AMERICAN PHILOSOPHIC THOUGHT** 3 s.h.
Study of the more original and influential philosophical positions developed in America from colonial period to present, and of the thinkers who gave them their most complete expressions.

PH 329 PHILOSOPHY OF RELIGION 3 s.h.
Philosophical problems in religious thought: nature of religious experience, mysticism, defining 'religion,' conceptions of deity, existence of God, meaning of religious language, faith, and knowledge.

PH 330 PHILOSOPHY OF SCIENCE 3 s.h.
An investigation into nature of formal and empirical sciences: structure of scientific thought and its dependence upon or independence of theory; the logical and metaphysical status of scientific 'laws' and theoretical concepts; reductionism in science; the concept of causality; the logic of explanation; problems in confirmation theory; science and value. No special background required. Recommended for math and science majors.

*Program in Religious Studies.

**Offered at the discretion of the department.

***PH 340 CONTEMPORARY WESTERN RELIGIOUS THOUGHT** 3 s.h.
Introduction to thought of such contemporary theologians as Bonhoeffer, Buber, Bultmann, Kierkegaard, Teilhard, Tillich, Barth, Brunner and Niebuhr.

PH 400 ETHICS AND PUBLIC POLICY 3 s.h.
An analysis of the ethical dimension of public policies. Provides a general understanding of ethical theories, then focuses on their application to specific policy issues. Topics will vary from semester to semester. (See current schedule of classes)

PH 405 HUMAN RIGHTS; THEIR BASIS AND BOUNDARIES 3 s.h.
An analysis of a concept which is the focus of much moral, political and legal dispute. Philosophical sources are supplemented by recent social science research concerning the comparative abilities of human and nonhuman animals and by environmental studies which prompt consideration of the possible

PH 410 CONTEMPORARY WESTERN PHILOSOPHY 3 s.h.
Survey in depth of 20th century western positions such as pragmatism, logical positivism, logical and linguistic analysis, existentialism and phenomenology.

PH 420 METAPHYSICS 3 s.h.
Divergent views of the nature of reality and the main questions which it raises: substance, unity, mind, existence, necessity, possibility, time, eternity, space and the self.

PH 421 THEORY OF KNOWLEDGE 3 s.h.
Investigation into problems involved in justifying knowledge claims and a consideration of methods suggested for their resolution. Particular attention paid to problems of certainty, objectivity, perception and truth.

PH 450 PHILOSOPHY OF LAW 3 s.h.
An examination of the philosophical issues that arise in the course of attempting to understand the law and how legal institutions do, and should operate.

PH 481 SPECIAL TOPICS 3 s.h.
Topical courses which will vary from semester to semester. See current schedule of classes.

PH 482 INDEPENDENT STUDY 1-6 s.h.
Individual students wishing to pursue philosophical or religious studies interests not covered in the department's regular offering may do so by seeking approval for independent study. Make inquiry of the chairperson. Upon approval students are guaranteed at least five hours of faculty time per credit. All programs of study must be accepted by the department as a whole. May be taken more than once to maximum of 6 s.h. (This option is available to both philosophy majors and non-majors.)

PH 482 INDEPENDENT STUDY: HONORS PROJECT 3 s.h.
Prerequisites: 3.00 QPA, 15 s.h. in Philosophy and 3.20 average in departmental courses. Majors in Philosophy are invited to take 3 s.h. of independent study designated 'Honors Project.' Upon satisfactory completion, graduation with departmental honors is possible.

*Program in Religious Studies.
Offered at the discretion of the department.

POLITICAL SCIENCE DEPARTMENT

RICHARD F. HEIGES, CHAIRPERSON: BYRNES, CARONE, CHASZAR, KEENE, KRITES, MORRIS, PALMER, PLATT, SMITH, THORPE, WILSON.

Political scientists focus upon political systems, including the effect of environment on the system, inputs, the decision-making agencies which render binding public policies and sys-

tem outputs. Approaches to the study of government and politics include: the **NORMATIVE** approach, in which philosophical attention centers on values by asking the question, 'What ought to be?'; and the **BEHAVIORAL** approach, in which an attempt is made to develop verifiable theories through scientific methods by asking the questions, 'how' and 'why?'

Students majoring in political science have employment opportunities in federal, state and local governments, and, with private civic groups, interest groups and political groups. Students who go on to graduate work find appointments at higher levels and in college teaching. Students graduating in political science, as in any of the social sciences, are in demand by employers in business and industry. Students completing the Political Science Internship Program have experienced considerable success in finding employment upon graduation.

The political science major is also especially suitable for the pre-law student.

Degrees offered by the Political Science Department are the Bachelor of Arts in Political Science, in Government and Public Service and in Pre Law-Political Science; and the Bachelor of Science in Education with a Social Science Major, concentrating in Political Science. The department also offers a minor in political science.

An interdisciplinary major sponsored by the Political Science Department is International Studies. For information on this major, see section on International Studies.

CURRICULA

Core Program

Required of ALL Political Science majors and minors (except Government and Public Service majors) are six semester hours in the following basic courses:

PS 111 - American Politics	3 s.h.
PS 101 - World Politics	3 s.h.

B.A. in Political Science

In addition to the Core Program, requirements for the Bachelor of Arts in Political Science are 30 more semester hours in political science, distributed so that at least one course is in three of the following four areas: American Studies, Political Theory, Public Administration and International Studies. Students preparing for graduate study should take PS 299 - Research Method in Political Science at least one Political course, and courses in Computer Science and Statistics.

B.A. in Government and Public Service

This major requires 36 s.h. as follows: PS 251, 370, 371, EC 330, 336; PC 358; SO 346; plus 19 semester hours of the following: PS 350, 351, 352, 353, 354, 355, 358, 377, 444, 458 (Internship). Also majors should select one of four interdisciplinary minors prescribed by department. For descriptive information about this interdisciplinary program, contact department chairperson.

B.A. in Pre Law-Political Science

The requirements for this major are the same as for the political science major with the addition of a 21 s.h. pre-law interdisciplinary minor.

For requirements in a pre-law minor students should contact the departmental pre-law adviser.

B.S. in Education (Political Science Concentration)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a major in Social Science, Political Science concentration, are 9 more semester hours in political science. Recommended electives are PS 250, 251, 350, 353, or 354 and 499; desirable alternatives are PS 280, 283, 285, 352, 359, and 382-387.

Minor in Political Science

A minor in political science consists of 15 semester hours in political science, composed of the 6 s.h. Core Program and 9 more semester hours elected from all political science courses.

COURSE DESCRIPTIONS

Required Courses

PS 111 AMERICAN POLITICS 3 s.h.
Introduction to American national government and politics, emphasizing Constitution, Party system, Congress, Presidency, Courts, and problems in national-state relations, civil rights, foreign policy, and social and economic policies.

PS 101 WORLD POLITICS 3 s.h.
Analysis of contemporary (Post 1945) state system and forces shaping world in which we live. Student is given a framework within which he can analyze contemporary international politics.

American Studies

PS 251 STATE AND LOCAL POLITICAL SYSTEMS 3 s.h.
Institutions and processes of state and local governments, with special attention to Pennsylvania; emphasis on nature of federalism, state constitutions, and role of state and local government in an urban society.

PS 298 NEWS INTERPRETATION 1 s.h.
Designed to provide students with techniques for intelligent reading of daily newspaper and weekly news magazines and to give some understanding of current affairs at state, national and international levels.

PS 346 POLITICAL SOCIOLOGY 3 s.h.
Examines: (a) who controls the state and state policy, (b) the role the state plays in stabilizing capitalism and protecting the power of the upper class, (c) the political activities of the middle and upper class, (d) labor, civil rights and welfare rights, and social movements in America.

PS 350 THE PRESIDENCY 3 s.h.
Examination of Office of President, with attention to constitutional foundations, evolution, structure, powers and functions; some comparisons between presidential and parliamentary systems and between offices of President and Governor.

PS 351 LEGISLATIVE PROCESS 3 s.h.
Functional study of legislative bodies and process of legislation, covering organization of legislative assemblies, operation of committee system, procedures, bill drafting, aids and controls over legislation.

PS 352 PUBLIC OPINION 3 s.h.
Study of nature of public opinion within political system; attention to formation of public opinion, expression, propaganda, mass media and interest groups.

PS 353 AMERICAN POLITICAL PARTIES 3 s.h.
The role of people, parties and pressure groups in politics of American democracy; attention to sectional and historical roots of national politics, voting behavior, pressure group analysis and campaign activities.

PS 354 METROPOLITAN PROBLEMS 3 s.h.
Analyzes multiplicity of problems facing our metropolitan areas. Contemporary developments such as urban renewal, shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities and political consolidation are examined.

PS 355 FEDERALISM 3 s.h.
Explores characteristics of federal systems of government, with emphasis on theories, origins, institutions, problems in intergovernmental relations in United States, federal systems in other nations and trends.

PS 356 MASS MEDIA IN AMERICAN POLITICS 3 s.h.
Variant theories of the symbolic relationship between American politics and the press are examined in the light of the American colonial-national experience. The special constitutional rights given to the media are explored, with particular attention to radio-TV.

PS 357 LABOR IN BUSINESS AND POLITICS 3 s.h.
An in-depth study and analysis of labor and business' involvement in politics is the focus of the course. Special attention will be given to the involvement of labor and business in Pennsylvania politics as well as to the relationship between the two competing groups—conflict or cooperation.

PS 358 JUDICIAL PROCESS 3 s.h.
Explores nature and limits of judicial power, courts as policy-making bodies, selection of judges, decision process, external forces impinging on the courts, and role of Supreme Court in its relationship with Congress, the Presidency and federalism.

PS 359 CONSTITUTIONAL LAW AND CIVIL LIBERTIES 3 s.h.
Study of civil liberties and civil rights issues through leading Supreme Court decisions; topics treated include First Amendment rights, procedural due process and the Bill of Rights, and Equal Protection problems in civil rights.

Political Theory

PS 360 CLASSICAL POLITICAL THOUGHT 3 s.h.
Evolution of the Western political tradition of Constitutionalism from Plato and Aristotle to Locke and Montesquieu: religious and rational foundations; medieval theories of authority and representation; early modern theories of the state and sovereignty; concepts of law; natural rights, liberty and equality, and justice treated in detail.

PS 361 MODERN POLITICAL THOUGHT 3 s.h.
Development of Western political thought since the mid-16th century: classic liberalism; conservative thought; modern irrational ideologies such as fascism and national socialism; socialist thought; contemporary collectivist liberalism.

PS 362 AMERICAN POLITICAL THOUGHT 3 s.h.
Develops an understanding of American political thinkers from the Puritans through the current Afro-American writers. Political phenomena is examined relating to past writings and inferences are made for future political behavior.

Public Administration

PS 250 PUBLIC POLICY 3 s.h.
Emphasizes dynamics of government as they are evidenced in public opinion, pressure groups, political parties and our governmental institutions; attention also directed toward the political-economical nexus within American society.

PS 370 INTRODUCTION TO PUBLIC ADMINISTRATION I 3 s.h.
Theories of organization and structural organization, personnel processes, executive functions, financial administration, the politics of administration, public relations and problems of democratic control of bureaucracy.

PS 371 ISSUES IN PUBLIC ADMINISTRATION II 3 s.h.
Intensive study of role of Federal agencies and their administrators in determining and developing public policy. Public administration in practice is emphasized by utilizing case studies.

PS 444 SCIENCE/TECHNOLOGY AND POLITICS 3 s.h.
Focuses on the interactions of science/technology and politics as they impinge on the public decision-making process. Technology generated socio-political problems are investigated on local, state, national and international level; the adequacy of political processes and institutions for solving problems in the technological age is questioned.

International Studies

PS 280 COMPARATIVE GOVERNMENT I - WESTERN POLITICAL SYSTEMS 3 s.h.
Analyzes western political systems with emphasis upon major contemporary democratic governments of Europe. Analyzes and compares their political cultures, political institutions and political processes.

PS 281 INTERNATIONAL RELATIONS 3 s.h.
Provides a conceptual framework for understanding sovereignty, nationalism, power, security, dispute settlement, and diplomatic, legal, economic and military relations of nation-states.

PS 283 AMERICAN FOREIGN POLICY 3 s.h.
Examines formulation and execution of American foreign policy, with attention to governmental institutions, mass media, interest groups and public opinion; emphasizes contemporary problems.

PS 285 COMPARATIVE GOVERNMENT II: NON-WESTERN POLITICAL SYSTEMS 3 s.h.
Analyzes major non-western political systems with emphasis upon authoritarian and totalitarian systems. Analyzes and compares in a systematic manner their political cultures, political institutions and political processes.

PS 320 INTERNATIONAL LAW 3 s.h.
Study of the development, nature and function of international law, including recent trends.

PS 321 INTERNATIONAL ORGANIZATIONS 3 s.h.
Inquiry into purposes, structures and actions of contemporary international political organizations, such as United Nations, regional and functional organizations.

PS 380 SOVIET POLITICS 3 s.h.
Essential features of Communist party and government of U.S.S.R., including geographical and historical background and ideological and theoretical foundations. PS 280, Comparative Government, should be taken prior to this course.

PS 382-387 POLITICAL SYSTEMS 3 s.h. each
Intensive, comparative study of the government and politics of a selected region. Suggested prerequisites: PS 280 and/or 285.

PS 382 - Africa

PS 383 - Asia

PS 384 - Middle East

PS 385 - Central and Eastern Europe

PS 386 - Atlantic Community

PS 387 - Latin America

PS 388 POLITICO-MILITARY STRATEGY 3 s.h.
Deals with national security problems including decision making and budgeting, levels of strategy, the utility of force and the impact of the military on American society.

PS 389 DEVELOPING NATIONS 3 s.h.
Suggested prerequisites: PS 280 and/or 285 Political characteristics of emerging nations; impact of economic and social change upon political structure; evolving patterns of political development; and techniques of nation-building.

Research Study and Methodology

PS 299 RESEARCH METHODS IN POLITICAL SCIENCE 3 s.h.
Prerequisite: PS 111 Explores approaches, methods and tools of Political Science, designed to prepare student who plans to do graduate work in Political Science. Majors and Minors only.

PS 480 POLITICAL SCIENCE SEMINAR 3 s.h.
Readings and written assignments on a specific topic determined by the instructor in charge.

PS 481 SPECIAL TOPICS 1-3 s.h.
Course focusing on a specific topic determined by the instructor in charge. See Department Office for current listings.

PS 482 INDEPENDENT STUDIES 3 s.h.
Readings and written assignments on a specific topic determined by the instructor and student. Permission required.

PS 485 HONORS IN POLITICAL SCIENCE 3 s.h.
Prerequisites: 15 s.h. in Social Sciences, including 9 s.h. in Political Science, 2.0 QPA in Social Sciences, and permission of department chairperson and instructor.
Directed readings and one or more papers; topic to be selected by instructor and student.

PS 458 POLITICAL SCIENCE INTERNSHIP 2-12 s.h.
Prerequisites: 9 s.h. in Political Science with 2.0 QPA; PS 111; approval of Internship Director and Chairperson
Practical experience in government and politics. 'Log' and research project required. Course grade determined by the instructor.

SOCIAL SCIENCE

COURSE DESCRIPTIONS

SS 101 CONTEMPORARY SOCIAL SCIENCE 3 s.h.
An interdisciplinary study of a current social topic that uses a team teaching approach. Topics may vary from semester to semester. The course is one option in the Social Science General Education Program.

SS 398 SOCIAL SCIENCE FOREIGN STUDY 2-6 s.h.
Directed foreign study, emphasizing historical, political, economic, social and geographical aspects of the area. Background reading, lectures and briefings, diary or evaluative paper. Course credit may be applied as General Education or elective credit. (For details see Center for International Studies.)

Social Science Minor 21 s.h.
A Social Science minor consists of course work in three Social Science departments beyond General Education courses.

SOCIOLOGY-ANTHROPOLOGY DEPARTMENT

HARVEY HOLTZ, CHAIRPERSON: ACKERMAN, GERALD, GONDOLF, GRANT, LANHAM, LOUDEN, NEWHILL, NOWAK, OLIN-FAHLE, RAIBOURN, RAWLEIGH, REYNOLDS, SANDERSON, SNYDER, VEXLER.

The Sociology-Anthropology Department provides opportunity for studies in sociology and anthropology. Sociology focuses primarily (though not exclusively) on the analysis of modern industrial societies by studying their basic patterns of social organization, the changes produced within these patterns, and the impact of these patterns on the thought and action of individual human beings. Anthropology is the study of human biological and cultural evolution, and is organized into four subfields: sociocultural anthropology, physical anthropology, linguistics and archaeology. Social work involves the practical application of social-scientific knowledge toward the improvement of human relationships and the general quality of social life.

The curricula offered by the department are relevant to a variety of careers and lifetime undertakings. Many students plan to affiliate themselves with professional service, governmental, or research organizations, while other students hope to devote themselves professionally to the scholarly analysis of society by pursuing academic careers in sociology or anthropology. Our departmental programs are designed to serve these various needs and interests of students.

Several degree programs are offered by the department. Students may pursue a Bachelor of Arts in Sociology or a Bachelor of Arts in Anthropology. In addition to these programs (which are offered under the aegis of the College of Humanities and Social Sciences), students may pursue a major in Social Science with a concentration in sociology or anthropology leading to the degree of B.S. in Education. This latter program is intended for the preparation of secondary school teachers and is offered within the College of Education. The department also offers minors in both sociology and anthropology.

CURRICULA IN SOCIOLOGY

(The curricula in sociology are in revision as this catalog goes to press. Please contact the department chairperson or advisor before scheduling courses.)

Bachelor of Arts in Sociology

Students pursuing the B.A. in Sociology are required to complete a total of 30 semester hours distributed as follows: SO 151 - Principles of Sociology, SO 435 - Social Stratification, SO 443 - Development of Social Theory, SO 455 - Social Research Methods, and six elective courses in sociology chosen in consultation with the student's adviser. A maximum of six semester hours of internship in Sociology (SO 471) may be counted toward the 30 semester hours required for the major.

Minor in Sociology

A minor in sociology consists of a total of 15 semester hours distributed as follows: SO 151 - Principles of Sociology; SO 231 - Contemporary Social Problems OR SO 443 - Development of Social Theory OR SO 455 - Social Research Methods; and three other sociology electives.

CURRICULA IN ANTHROPOLOGY

Bachelor of Arts in Anthropology

Students pursuing the B.A. in Anthropology are required to complete a total of 27 semester hours distributed as follows: AN 110 - Intro to Anthropology, AN 222 - Introduction to Physical Anthropology, AN 233 -Cultural Symbolism: Language in Culture and Society, AN 244 - Basic Archaeology, one course from each of the three major groups (A, B, and C) of anthropology courses, and any two additional anthropology courses.

Minor in Anthropology

A minor in anthropology consists of a total of 15 semester hours. Students must take - AN 110 - Introduction to Anthropology and four other anthropology courses of their choice.

COURSE DESCRIPTIONS

Sociology Courses

- SO 151 PRINCIPLES OF SOCIOLOGY 3 s.h.
Scientific study of structure and functioning of human societies, with special attention to factors responsible for organization and transformation of socio-cultural systems. Specific course content varies from one instructor to another.
- SO 231 CONTEMPORARY SOCIAL PROBLEMS 3 s.h.
Exploration of some pressing problems currently endemic to Western society. Problems are defined and solutions explored in light of historical, political, economic, social and anthropological data.
- SO 233 CULTURAL SYMBOLISM: LANGUAGE IN CULTURE AND SOCIETY 3 s.h.
Focuses on social and cultural functions of language. Particular emphasis on analysis of non-Western languages.
- SO 237 NON-WESTERN CULTURES 3 s.h.
A minimal orientation to study of cultural diversity in human societies. Emphasis on determinants of cultural variability and the problem of ethnocentrism. Recommended for Social Science Education students who concentrate in Sociology or Anthropology.
- SO 251 SOCIOLOGY OF HUMAN SEXUALITY 3 s.h.
Depth analysis of a formerly taboo topic, human sexuality, whereby current information derived from biological, psychological and sociological research on human relationships is presented to provide a foundation for self-understanding and societal values.
- SO 314 ETHNOLOGY OF NORTH AMERICAN INDIANS 3 s.h.
Survey of culture history and culture area characteristics of Indians of North America. Detailed study of representative groups related to historical, functional and ecological concepts.
- SO 322 CULTURE AND PERSONALITY 3 s.h.
Prerequisites: PC 101, and SO 151 or AN 110
Examination of personality characteristics produced in a given cultural milieu or sub-group. Cross-cultural comparisons and analyses made with respect to child-rearing, male-female role differentiation, bodily movements, suppression, mental disturbance and religious expression.
- SO 332 RACIAL AND ETHNIC MINORITIES 3 s.h.
Prerequisite: SO 151
Study of racial, ethnic and religious minorities and divergent heritages in our national life.

- SO 333 JUVENILE DELINQUENCY 3 s.h.
Prerequisite: SO 151
Study of social and cultural factors involved in various youth life styles, including delinquency. Cross-cultural and historical approach used in a review of social norms, social control and socialization institutions, and community-based programs for rehabilitation.
- SO 334 POPULATION TRENDS AND PROBLEMS 3 s.h.
Prerequisite: SO 151
Major forces of population change examined. Problems of excessive population growth rates outside of U.S. and declining growth rates in U.S. analyzed. Threats to ecological stability discussed.
- SO 336 SOCIOLOGY OF THE FAMILY 3 s.h.
Prerequisite: SO 151
Sociological study of the family from various theoretical viewpoints. Emphasis on relation between structure and function of the family and the existing and emerging social environment.
- SO 339 THE COMMUNITY 3 s.h.
Prerequisite: SO 151
Analysis of the social structure of communities on the local level in relation to the national community structure. Examination of current problems and future trends.
- SO 340 SOCIOLOGY OF INDUSTRY 3 s.h.
Prerequisite: SO 151
Examination of industrial organizations and their environments. Production systems analyzed in terms of different forms of organization, e.g., bureaucratic, power-equilibrium and worker-participation. Special attention paid to who defines production, how such definitions are legitimized, and how constraints are placed on such definitions by union and other political organizations.
- SO 341 SOCIOLOGY OF EDUCATION 3 s.h.
Prerequisite: SO 151
Examines the place of education in society. Special attention to development of education in America and its relation to political and economic phenomena. Some attention given to education in other industrial and agrarian societies.
- SO 342 SOCIAL AND CULTURAL ASPECTS OF HEALTH AND MEDICINE 3 s.h.
Prerequisite: 6 s.h. in Sociology or Anthropology
Review of fields of medical sociology and anthropology. Focus on such topics as health and illness in cross-cultural context, aging, social and psychological aspects of pain, and social organization of health facilities and services. Definitions of limits of 'life' and 'death' in context of new technological and ethical issues such as euthanasia, genetic counseling and organ transplants also discussed.
- SO 345 INTERPERSONAL DYNAMICS 3 s.h.
Prerequisite: SO 151
Study of interaction between and among individuals and groups in various social settings. Emphasis on small groups, socialization, social influence and compliance, person perception, collective behavior and mass communication.
- SO 346 POLITICAL SOCIOLOGY 3 s.h.
Prerequisite: SO 151
Examination of social context of power and politics, with special reference to such topics as: who controls the state and state policy; the role of the state in - stabilizing capitalism and protecting the power of the upper class; political activities of the middle and upper classes; and labor, civil rights and welfare rights social movements in America.
- SO 352 SOCIOLOGY OF RELIGION 3 s.h.
Prerequisite: SO 151

Nature of religion as a universal social institution. Universal and variable features of human religious activity examined, with special attention to causes and consequences of religious belief and action. Specific topics discussed include: theories of the origin and persistence of religion; evolution of variant forms of religion; relationship between religion and other social institutions, especially economy, polity, and science; types of religious organization in complex societies; revitalization and messianic movements; and the process of secularization.

SO 354 SEXUAL INEQUALITY IN HUMAN SOCIETIES 3 s.h.
Prerequisite: SO 151

Explores current perspectives on sexual inequality. Major topics examined include: sex role socialization, sexual inequality in everyday life, the maintenance of sexual inequality, and the sexes in relation to economy and family in various societies.

SO 357 SOCIOLOGY OF AGING 3 s.h.
Prerequisite: SO 151

Introduction to various problems faced in the process of growing older. Attitudes of society toward elderly and social and cultural impact of an aging U.S. population examined.

SO 371 CULTURAL AREA STUDIES 3 s.h.
Prerequisite: SO 151

Analysis of prehistoric, historic and contemporary aspects of ethnological studies in a culture area. Social organization, linguistic ties, cultural ecology, folklore, mythology, artistic expressions of the peoples and their world view are examined. The course may be repeated UNDER DIFFERENT LETTER DESIGNATIONS according to selection of culture area by instructors responsible for the course.

THE FOLLOWING CULTURE AREAS ARE AVAILABLE:

SO 371A CULTURAL AREA STUDIES: JAPAN

SO 371B CULTURAL AREA STUDIES: CHINA

SO 371C CULTURAL AREA STUDIES: CARIBBEAN

SO 371D CULTURAL AREA STUDIES: NORTHERN EUROPE

SO 401 SOCIAL AND CULTURAL CHANGE 3 s.h.
Prerequisite: SO 151

Exploration of current perspectives on social and cultural change. Special attention to types of changes individuals might want, how these might be implemented and lessons to be learned from various change efforts.

SO 435 SOCIAL STRATIFICATION 3 s.h.
Prerequisite: SO 151

Examines 'who gets what and why?' Detailed analysis of bases of power for and cohesion of super-rich, middle class, and poor. Also examines mobility and how policies affect inequality in America.

SO 443 DEVELOPMENT OF SOCIAL THEORY 3 s.h.
Prerequisites: 9 s.h. in sociology and Junior standing

Examination of historical development of social theory with special attention to the classical theorists and theoretical ideas which have contributed most significantly to modern sociology.

SO 447 MODERN SOCIOLOGICAL THEORY 3 s.h.
Prerequisite: 9 s.h. in sociology and junior standing

Detailed examination of major theoretical issues, perspectives, and controversies occupying center stage in contemporary sociological analysis. Major attention to nature and logic of social theorizing, primary macro-level theoretical perspectives which compete for attention

in contemporary sociology, and the nature of new directions currently being taken within sociological theory.

SO 455 SOCIAL RESEARCH METHODS 3 s.h.

Prerequisites: 9 s.h. in sociology and Junior standing

Examines diverse research designs used in the social sciences, i.e., survey, field study, experiment, documentary and existing statistical data. Focuses both on logic and practice of social research. Students choose either a number of mini-projects or a major research project.

SO 459 DEVELOPMENT OF SOCIAL SERVICES 3 s.h.

Prerequisite: Permission of the instructor

Examination of ideological and institutional conditions which shape health, unemployment, social security and welfare services.

SO 471 INTERNSHIP IN SOCIOLOGY 3-12 s.h.

Prerequisite: Permission of the instructor

Supervised experience in public or private organizations that extends and complements coursework at the University.

SO 480 SOCIOLOGY SEMINAR 1-3 s.h.

Prerequisite: SO 151

Seminar for advanced students devoted to an intensive analysis of specialized issues within the discipline.

SO 481 SPECIAL TOPICS IN SOCIOLOGY 3 s.h.

Prerequisite: SO 151

Focuses on special topics in sociology which are not included in regular course offerings.

SO 482 INDEPENDENT STUDY 1-3 s.h.

Prerequisite: Permission of the instructor

An opportunity for students to engage in an in-depth analysis of some topic through consultation with a faculty member. A semester project ordinarily expected.

SO 483 READINGS IN SOCIOLOGY 1-3 s.h.

Prerequisite: SO 151

Directed readings on special topics in sociology.

Anthropology Courses

Required Courses

AN 110 INTRODUCTION TO ANTHROPOLOGY 3 s.h.

General consideration of human biological and cultural adaptations, stressing analysis of nature of cultural systems as a methods for perceiving and understanding variations among people today.

AN 222 INTRODUCTION TO PHYSICAL ANTHROPOLOGY 3 s.h.

Biological evolution and principles of human genetics; evolution of the primates and the fossil record for human evolution stressed; relationship between race and culture discussed.

AN 233 CULTURAL SYMBOLISM: LANGUAGE IN CULTURE AND SOCIETY 3 s.h.

Focuses on social and cultural functions of language. Particular emphasis to problems in anthropology with respect to non- Western languages.

AN 244 BASIC ARCHAEOLOGY 3 s.h.

Investigates basic concepts and goals of archaeology. Models of culture change, dating techniques, artifact analysis, settlement systems and regional exploration strategies presented. Reconnaissance and excavation methods surveyed. Field and laboratory experience provided.

Group A - Archaeology

AN 213 WORLD ARCHAEOLOGY 3 s.h.
Prehistory of the world stressing Mesolithic through Urban transitions. Emphasis to technology, chronology, ecology and cultural processes.

AN 315 NORTH AMERICAN ARCHAEOLOGY 3 s.h.
Prerequisite: AN 110 or AN 244
Prehistory of North American Indians emphasizing technology and stylistics, history and cultural ecology.

AN 317 QUANTITATIVE AND INSTRUMENTAL ARCHAEOLOGY 3 s.h.
Theory and methods for quantitative analysis of archaeological data applied to data recovered by University excavation programs. Instruments used for analysis of artifacts, flotation samples, features, soil samples and for report preparation will be used by each student.

AN 320 ARCHAEOLOGICAL FIELD SCHOOL 6 s.h.
Prerequisite: AN 110 or AN 244
Field excavation of selected archaeological sites in Indiana and adjacent counties. Opportunity for varied experience in historic and prehistoric Indian sites. Offered Summer only.

Group B - Areal Ethnography

AN 312 WORLD ETHNOGRAPHY 3 s.h.
Detailed study of specific pre-literate cultures. Emphasis given to questions of cultural integration.

AN 314 ETHNOLOGY OF NORTH AMERICAN INDIANS 3 s.h.
Survey of culture history and culture area characteristics of Indians of North America. Detailed study of representative groups related to historical, functional and ecological concepts.

AN 371 CULTURAL AREA STUDIES 3 s.h.
Prerequisite: AN 110 or AN 211
Analysis of prehistoric historic, and contemporary aspects of ethnological studies in a culture area. Social organization, linguistic ties, cultural ecology, folklore, mythology, artistic expressions of the peoples and their world view examined. Course may be repeated UNDER DIFFERENT LETTER DESIGNATIONS according to selection of culture areas by instructors responsible for the course.

THE FOLLOWING CULTURE AREAS ARE AVAILABLE:

AN 371A CULTURAL AREA STUDIES: JAPAN

AN 371B CULTURAL AREA STUDIES: CHINA

AN 371C CULTURAL AREA STUDIES: CARIBBEAN

AN 371D CULTURAL AREA STUDIES: NORTHERN EUROPE

Group C - Topical Anthropology

AN 211 CULTURAL ANTHROPOLOGY 3 s.h.
Explores nature of culture as a human survival technique. Provides a framework for appreciation and understanding of cultural differences and similarities in human societies, past and present.

AN 316 ANTHROPOLOGY OF RELIGION 3 s.h.
Prerequisite: AN 110 or AN 211
Explores nature, function and universal characteristics of religion in human society by utilizing

cross-cultural approach. Theories concerning religious phenomena serve as topics for discussion.

AN 318 MUSEUM METHODS 3 s.h.

Prerequisite: AN 110 or 211 or 244

Lecture and laboratory course surveying role of museums as social and educational institutions, types of museums, museum administration and museum architecture. Procedures for collection, curation, preservation, and storage of anthropological and natural history specimens examined. Multi-media communication stressed in exhibit preparation and gallery design. Provides practical experience in exhibit preparation and installation. Required field trip to Washington, D.C. museums.

AN 319 KINSHIP AND SOCIAL ORGANIZATION 3 s.h.

Prerequisite: AN 110 or AN 211

Survey of mechanisms of integration in social organization and their role in the development of societies. Family, kinship and ideological systems stressed.

AN 321 METHODS OF CROSS-CULTURAL ANALYSIS 3 s.h.

Prerequisite: AN 110 or AN 211

Comparative methods and techniques reviewed and evaluated in relation to the problems they were designed to solve. Statistics and computational equipment used in the analysis of data derived from the Ethnographic Atlas or the Human Relations Area Files.

AN 322 CULTURE AND PERSONALITY 3 s.h.

Prerequisites: PC 101, and AN 110 or SO 151

Examination of personality characteristics produced in a given cultural milieu or sub-group. Cross-cultural comparisons and analyses made with respect to child rearing, male-female role differentiation, bodily movements, suppression, mental disturbance and religious expression.

AN 401 SOCIAL AND CULTURAL CHANGE 3 s.h.

Prerequisite: AN 110 or SO 151

Exploration of current perspectives on social and cultural change. Special attention given to types of changes individuals might want, how these might be implemented, and lessons to be learned from various change efforts.

Additional Anthropology Courses

AN 480 ANTHROPOLOGY SEMINAR 1-3 s.h.

A seminar for advanced students devoted to an intensive analysis of specialized issues within the discipline.

AN 481 SPECIAL TOPICS IN ANTHROPOLOGY 3 s.h.

Focuses on specialized topics in anthropology which are not included among regular course offerings.

AN 482 INDEPENDENT STUDY 1-3 s.h.

An opportunity for students to engage in an in-depth analysis of some topic through consultation with a faculty member. Some kind of semester project ordinarily expected.

AN 471 INTERNSHIP IN ANTHROPOLOGY 3-12 s.h.

Prerequisite: Permission of the instructor

The course is designed to offer students practical experience in any of the specialized fields of anthropology (physical, social-cultural, archaeology and linguistics). Each student develops objectives in consultation with a particular departmental faculty member who is supervising the internship. Detailed field notes and a major paper based on the experience are required.

AN 483 READINGS IN ANTHROPOLOGY 1-3 s.h.

Directed readings on special topics in anthropology. Instructor guides selection of readings.

Social Work Courses

- SW 238 INTRODUCTION TO SOCIAL WORK** 3 s.h.
Prerequisite: SO 151 or AN 110
Introduction to the dynamics of helping relationships.
- SW 301 SOCIAL WORK METHODS** 3 s.h.
Prerequisite: SO 151 or AN 110
Examines the four content areas of social work practice: casework, group work, community organization and human services administration.
- SW 302 INTERVENTION STRATEGIES IN SOCIAL WORK** 3 s.h.
Prerequisite: SO 151 or AN 110
Discussion of social work strategies involving the individual, the family, and the group as units of intervention. Attention given to professional relationships, interviewing skills and the range of practice modalities.
- SW 346 SOCIAL WELFARE POLICIES** 3 s.h.
Prerequisite: SO 151 or AN 110
Examination of the historical development of social welfare policies in Western society.
- SW 401 SOCIAL CASEWORK** 3 s.h.
Prerequisite: SO 151 or AN 110
Introduction to various strategies of social casework. Special emphasis given to assisting the students in incorporating those values and communication skills necessary for effecting change in the social situations of a variety of clients.
- SW 403 SOCIAL GROUP WORK** 3 s.h.
Prerequisite: SO 151 or AN 110
Examines principles and concepts of social group work as a method or strategy; role of the social worker with the group and the individual within the group; consideration of group processes and dynamics of how groups develop; use of program planning and administration.
- SW 405 COMMUNITY ORGANIZATION** 3 s.h.
Prerequisite: SO 151 or AN 110
Examination of approaches used in community organization practice at the neighborhood and other community levels. Areas of emphasis include intergroup relationships, community development, social conflict and consensus, and community problem solving.
- SW 407 HUMAN SERVICES MANAGEMENT** 3 s.h.
Prerequisite: SO 151 or AN 110
Treats social agencies as social systems. Focuses on interpersonal and intergroup relationships, communication decision making and policy formulation, and administrative implications of training, supervision, fund-raising, consultation, budgeting and research.
- SW 455 SOCIAL RESEARCH METHODS** 3 s.h.
Prerequisites: 9 s.h. in sociology and Junior standing
Examines diverse research designs used in the social sciences, i.e., survey field study, experiment, documentary and existing statistical data. Focuses both on logic and practice of social research. Students choose either a number of mini-projects or a major research project.
- SW 459 DEVELOPMENT OF SOCIAL SERVICES** 3 s.h.
Prerequisite: Permission of the instructor
Examination of ideological and institutional conditions which shape health, unemployment, social security and welfare services.

- SW 471 FIELD PLACEMENT IN SOCIAL WORK 3-12 s.h.
Prerequisite: Permission of the instructor Supervised experience in community work with cooperating public and private agencies.
- SW 480 SOCIAL WORK SEMINAR 1-3 s.h.
Prerequisite: SO 151 or AN 110
Seminar for advanced students devoted to an intensive analysis of specialized issues within the discipline.
- SW 481 SPECIAL TOPICS IN SOCIAL WORK 3 s.h.
Prerequisite: SO 151 or AN 110
Focuses on special topics in social work which are not included in regular course offerings.
- SW 482 INDEPENDENT STUDY 1-3 s.h.
Prerequisite: Permission of the instructor
An opportunity for students to engage in an in-depth analysis of some topic through consultation with a faculty member. Semester project ordinarily expected.
- SW 483 READINGS IN SOCIAL WORK 1-3 s.h.
Prerequisite: SO 151 or AN 110
Directed readings on special topics in social work.



MILITARY SCIENCE

COL. WILLARD ROBINSON, CHAIRPERSON: MAJ ROY HELSING, MAJ PHILIP W. SPENCE, MAJ HERBERT D. STRASSER, CPT ELMO G. BURTON, CPT ROBERT W. MCNAMARA, CPT JON H. MOILANEN, CPT RICHARD C. PILLSBURY, SGM RAYMOND C. BROADBENT, MSG JOHN KOTTAL, SFC JOHN C. MOTT, SFC DAVID E. OSGOOD, SSG TERRY L. JORDON, SSG SIMON A. PARKER, SSG JOHN YOON, SSG WILLIAM H. ZENTNER, DAC WILLIAM L. GOSS, DAC DONNA S. RANKIN

IUP is authorized a Senior Reserve Officer's Training Corps (ROTC) unit. The ROTC program offers to both men and women the opportunity to learn and practice leadership and managerial techniques that will prove beneficial to all life's future endeavors; to obtain credits which count toward graduation; and to those who choose to complete the total program, a commission as a second lieutenant in the US Army.

Regular ROTC classes for two semesters satisfy the mandatory University requirement for taking Health and Physical Education classes.

ENROLLMENT

The program is broken into two phases: the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). Enrollment in any of the freshman or sophomore level ROTC courses (MS 101, MS 102, MS 203, MS 204, or MS 996 through MS 999) in no way obligates or commits the student to any military service or any further ROTC courses. These courses are offered on the same basis as other academic courses at IUP with the privilege of withdrawing at any time.

REQUIREMENTS FOR ENROLLMENT

The general requirements for enrollment in ROTC are that the student be accepted by the University as a regular enrolled student, be a citizen of the United States, physically qualified, not less than 14 years of age, but 27 or less at anticipated graduation date. Veterans and junior ROTC graduates may receive exemptions from the Basic ROTC Course as approved by the PMS. For continuation in the ROTC during the junior and seniors years, the student

must have a 2.0 grade point average in his academic area, successfully completed requirements for the Basic ROTC Course, pass a physical examination and be accepted by the Professor of Military Science (PMS). Advanced Course students must agree in writing to complete the junior and senior years since they will receive \$100 a month subsistence during these school years.

WHAT ROTC OFFERS

Equipment, ROTC textbooks and uniforms are issued without cost to enrolled students.

Credit for successful completion of the four-semester hour Health and Physical Education General Education requirement for graduation.

Students formally enrolled in the Advanced Course (MS 305, MS 306, MS 407 and MS 408) are paid a subsistence allowance (currently \$100 a month) during the school year.

Training in other practical skills such as scuba diving, adventure training, rappelling, marksmanship, orienteering, first aid techniques and water safety.

Opportunities to examine the military profession in detail. This includes the Regular Army, National Guard and Army Reserve.

If students so desire and are accepted into the Advanced Course, they will receive commissions as Second Lieutenants upon graduation from the University and serve either three years continuous active duty or three months active duty for training with the remaining obligation served in the Army Reserve or National Guard.

MILITARY SCIENCE CURRICULUM

REGULAR BASIC COURSE - The first two years of military science provide a background of the historical role of military forces as well as current national military objectives. In addition, basic leadership is developed and certain skills are taught such as adventure training, survival training, map reading, scuba diving, rappelling and marksmanship.

MS 101 WORLD MILITARY HISTORY 2 s.h.
A study of the relationship and impact of warfare and military forces on the development of the world. This includes the interaction of military forces on the social, economical and technological development of the world as well as a study of strategy, tactics and personalities involved in the major wars. The time period covered is from 1700 to World War I. Also, see Leadership Laboratory.

MS 102 AMERICAN MILITARY HISTORY 2 s.h.
Study of the evolution of American military institutions and policies and their relationship to society from World War I to present. Included will be studies of the major wars, their strategy and their impact as well as the personalities involved. Also, see Leadership Laboratory.

MS 203 FUNDAMENTALS OF TACTICAL OPERATIONS, TECHNIQUES OF LEADERSHIP AND WEAPONS CHARACTERISTICS 2 s.h.
Organization, techniques, resources and capabilities involved in conducting small unit tactical operations. Emphasis is on leadership, organization, and management techniques needed to cause a group of people to accomplish specific objectives. Characteristics of military weapons systems are taught. Students serve as a leader in Leadership Labs.

MS 204 NATIONAL SECURITY AND FUNDAMENTALS OF MILITARY TOPOGRAPHY 2 s.h.
Study of national security concepts, policies and the national decision-making process with emphasis on national resources, national will and economic factors. Included will be a study of nuclear and conventional response options. Fundamentals of military topography include the use of military maps to determine topographic features, conduct land navigation and perform terrain analysis will be covered.

ADVANCED COURSE - The last two years constitute the Advanced Course of instruction for both men and women who desire a commission as a Second Lieutenant in the Army of the United States. (Either the Army Reserve, National Guard or, for selected students, the Regular Army). This phase is composed of studies in advanced leadership and management, tactics, military law, psychological, physiological and social factors which affect human behavior and modern instructional and training techniques. Practical application is the rule and students have the opportunity to practice and polish their skills. Participation in the Advanced Course will earn the student approximately \$2,500 between \$100 a month subsistence and pay for summer camp (\$1,800 is not taxable).

MS 305 FUNDAMENTALS OF LEADERSHIP AND MODERN LEARNING/TEACHING RELATIONSHIP 3 s.h.

Study in practical application of principles of Leadership /Management as applied in classroom and field to include case studies in psychological, physiological and sociological factors which affect human behavior; individual and group solution of leadership problems common to small units. Also, see Leadership Laboratory.

MS 306 STUDY OF ADVANCE LEADER PLANNING AND EXECUTION OF MODERN COMBAT OPERATIONS 3 s.h.

Analysis of leader's role in directing and coordinating efforts of individuals and small units in execution of offensive and defensive tactical missions, to include command and control systems, the military team and communications techniques. Also, see Leadership Laboratory.

MS 407 MANAGEMENT OF THE MILITARY COMPLEX TO INCLUDE FUNDAMENTALS OF MILITARY AND INTERNATIONAL LAW 3 s.h.

Study of the various managerial elements needed to effectively control a military organization and their techniques used to accomplish these functions. Studies in military law and international law prepare the students for his legal responsibilities.

MS 408 SEMINAR IN MILITARY ANALYSIS AND MANAGEMENT 3 s.h.

Contemporary analysis of use of military in world affairs to include importance of strategic mobility and neutralization of insurgent movements. Selected management problems and situations will be presented as they relate to military justice, administration, and obligation and responsibilities of an officer. Also, see Leadership Laboratory.

LEADERSHIP LABORATORY (one afternoon per week) 0 s.h.

A practical experience designed for the attainment and application of leadership principles. Concurrently scheduled in conjunction with all Military Science courses, it provides for practical challenges in personal accomplishment, both physical and mental, and for development of team work and leadership.

SUMMER CAMP 0 s.h.

Students attend a six-week summer camp upon completion of the first year of the Advanced Course. Time at camp is devoted to practical application of principles and theories taught during the preceding school years. While at camp, each student receives lodging, subsistence, uniforms, medical care, reimbursement for travel and pay in amount of one-half pay of second lieutenant per month.



College of Natural Sciences and Mathematics

Charles R. Fuget, Dean

One of the characteristics of the twentieth century is the marked change in the relation of citizens to their environment. Space probes, orbiting satellites, and productive research on the structure and synthesis of living matter have brought to the forefront for re-examination such time honored queries as, 'What is the nature of the Universe?', or, 'Can man control his natural environment?', or, 'How did life begin?'. Correct answers to these and other questions, coupled with proper application of this knowledge for humankind's betterment, must be a significant part of the goal of educated people everywhere.

The objectives of the College of Natural Sciences and Mathematics are to acquaint the student with the kinds of problems which lend themselves to possible solutions through the use of science; to introduce different scientific techniques through significant illustrative experiences; to give a sense of perspective in the development of science; and to develop an understanding of the basic community of all scientific disciplines.

DEGREES

The Departments of Biology, Chemistry, Computer Science and Physics offer work leading to either a Bachelor of Science or a Bachelor of Arts degree, depending upon the specific course program pursued. The Bachelor of Science degree is awarded for successful work in the Departments of Geoscience and Mathematics. The Bachelor of Arts degree is awarded by the Department of Psychology.

Several departments in the College of Natural Sciences and Mathematics sponsor Master of Arts or Master of Science degrees in the University's Graduate School. Information on these programs should be obtained from The Graduate School.

Degree Requirements

In addition to the University's General Education requirements, all students seeking a baccalaureate degree in the College of Natural Sciences and Mathematics must complete the requirements for a major as established by the department through which they wish to specialize. Statements of these requirements and for minoring in a specific field, appear in the department sections that follow. A double major or minor may encompass a discipline outside as well as within the College, but should be opted only with adviser approval. As a general principle, there is considerable latitude in course choice for Natural Sciences and Mathematics majors; for specifically required courses, substitutions in any program must have the written approval of the student's department chairperson or the College Dean. The intermediate series foreign language requirement (a description follows) applies without exception to all Natural Sciences and Mathematics degrees.

THE FOREIGN LANGUAGE REQUIREMENT

A candidate for a Bachelor of Arts or Bachelor of Science degree must demonstrate a proficiency in a foreign language equivalent to that attained upon completion of two years of college instruction in that language. This requirement may be met by:

- a. successful completion of two semesters at the second year level in a specific foreign language; or
- b. successful completion of an exemption or credit examination in lieu of the above, the examination administered by the IUP foreign languages department.

The foreign language requirement currently may be met through work in French, German, Greek, Latin, or Spanish.

Any foreign student, registered as such at IUP, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, is exempt from the foreign language requirement for a Natural Sciences and Mathematics degree, if the department he/she is majoring in does not require a specific language not thus covered.

SPECIAL CREDIT PROGRAM

College majors may be interested in the programs available through the Marine Science Consortium.

The Marine Science Consortium was established in 1968 for the purpose of promoting teaching and research in the marine sciences. The participating institutions include Indiana University of Pennsylvania and thirteen other colleges and universities. Although no separate major in the Marine Sciences exists, elective courses may be taken and credited toward undergraduate curricula in Biology, Geology, Geography, and Earth Science. The Marine Science Consortium offers five 3-week sessions during the summer at the NASA-Wallops Island Station, Virginia. Normally, several research cruises are offered each summer.

Students must register for credit and pay credit fees to a participating institution. Room and board fees are paid to the Consortium. Applications for all summer sessions must be submitted to the institutional Director by April 1. Students must be accepted by the Consortium before registering at a participating institution. See section on Marine Science Consortium for a listing of courses. For brochure, summer bulletin and application forms, contact: Dr. Francis W. Liegey, Director

PRE-PROFESSIONAL PROGRAMS

The College of Natural Sciences and Mathematics offers pre-professional programs for the preparation of students for acceptance by a professional school: pre-dental, pre-medical and pre-veterinary medicine. In addition, the College offers a major in the Natural Sciences for those students whose goal is pharmacy or pharmacology, optometry, osteopathy, podiatry

or similar professional field. All programs are so designed that, should work at a professional school not ensue, the student may earn an IUP baccalaureate degree, provided he/she has been faithful to faculty advisement.

The pre-professional health programs in Natural Sciences and Mathematics presuppose that the student has an excellent background in the high school sciences and mathematics, or will prove to be an excellent college student. Because admission standards at most professional schools are very high, students desiring pre-professional preparation for any of these fields will find it advantageous to major in the basic department discipline, making known to the department chairperson their eventual goal but delaying explicit affiliation with the pre-professional program until they have established themselves academically at the college level. Commitment to any pre-professional program must be made not later than the end of the student's fourth semester.

Students interested in the related health fields (dentistry, pharmacy, optometry, osteopathy, physical therapy, podiatry, etc.) should consult with the Dean of the College of Natural Sciences and Mathematics during their first semester of IUP attendance, or as soon thereafter as possible.

COOPERATIVE PROGRAMS

IUP has been fortunate to enter into cooperative agreements with a number of outstanding institutions to provide significant career opportunities to our students. These formal agreements provide for accelerated graduate or professional degree programs or carefully planned and coordinated undergraduate programming with the cooperating institution. Programs are intended to assure acceptance of properly qualified students by the cooperating professional schools. Additional information concerning the specific programs can be found under the appropriate academic department in this catalog.

ENGINEERING (See Department of Physics)

Drexel University - the program combines the opportunity for two years of study at IUP with the remaining three years of study as part of the Drexel plan of cooperative education.
University of Pittsburgh - the program will allow the student to enroll at IUP for the first two years of college and conclude degree work by enrolling in an engineering program at the University of Pittsburgh for the last two years.

FAMILY MEDICINE (See Department of Biology)

Jefferson Medical College of Thomas Jefferson University - the program is designed to increase the opportunities for IUP students to be admitted to Jefferson Medical College in the Family Medicine Program designed to provide physicians to rural communities in Pennsylvania where there is a shortage.

FORESTRY AND ENVIRONMENTAL STUDIES (See Department of Biology)

Duke University - the program is designed to coordinate the education of students from IUP with the graduate programs in forestry and environmental management offered at Duke University.

PODIATRY (See Natural Science)

Pennsylvania College of Podiatric Medicine - the program is designed to accelerate the professional training of IUP students in the field of podiatry.

OPTOMETRY (See Natural Sciences)

Pennsylvania College of Optometry - the program is designed to accelerate the professional training of IUP students in the field of optometry.

INTERNSHIP PROGRAMS

Several departments have established programs under which students engage in an off-campus supervised work experience for credit.

For more information about specific Internship programs students should consult with the chairperson of the department in which the student is majoring. Low-income students eligible for internships may receive federal-state funding.

BIOLOGY DEPARTMENT

WALTER W. GALLATI, CHAIRPERSON; ALICO, ANDREW, ASH, BAKER, BROWE, CHARNEGO, CISKOWSKI, CONWAY, DIETRICH, FERRENCE, FORBES, GOLD, HUE, HULING, HULSE, HUMPHREYS, KESNER, LIEGEY, MERRITT, MOORE, NASTASE, PICKERING, SCHROCK, STRAWCUTTER, VALLOWE, WAECHTER, WASKOSKIE, WINSTEAD, ZENISEK.

Degrees offered by the Biology Department are the Bachelor of Science in Biology, the Bachelor of Arts in Biology, Bachelor of Science in Environmental Health, and the Bachelor of Science in Education with a Biology major. The first three degree programs are under the College of Natural Sciences and Mathematics, and the fourth under the College of Education. The department also offers a Biology minor.

CURRICULA

The program leading to a B.S. in Biology is designed to provide maximum depth in the sciences and mathematics with minimum elective opportunity. Students who plan to attend graduate school or professional schools such as those in human or veterinary medicine most often choose this program of studies.

The program leading to a B.A. in Biology is designed to reduce modestly the requirement in sciences and mathematics and allow for greater elective choice from diverse fields. Specialized career plans can be best accommodated with this program.

The Environmental Health Program is a preparation for employment in local, state, and federal agencies and industry. Between the junior and senior year each student should serve an internship with a governmental agency or an industrial concern.

The program leading to the B.S. in Education with a Biology major is designed to prepare for Certification in public school teaching.

NOTE: The Biology Department cooperates in programs with Jefferson Medical College, Duke University School of Forestry and Environmental Studies, and Marine Science Consortium, Inc.

NOTE: In the programs of study that follow, no more than six semester hours in aggregate from internships, independent study and special topics may be counted toward biology course requirements. Credits beyond six earned from these sources are counted as general electives.

CORE PROGRAM

Requirements for B.S. and B.A. in Biology but not Environmental Health and Biology Education are 18 s.h. in Biology, 16 s.h. in Chemistry, and 4 s.h. in Mathematics as follows:

Biology (18 semester hours)

BI 105	Cell Biology	4 s.h.
BI 110	Plant Biology	5 s.h.

BI	120	Animal Biology	5 s.h.
BI	263	Genetics	3 s.h.
BI	480	Biology Seminar	1 s.h.

Chemistry (16 semester hours)

CH	111	Gen Chem I	4 s.h.
CH	112	Gen Chem II	4 s.h.
CH	231	Organic Chem I	4 s.h.
CH	351	Biochemistry	4 s.h.

Mathematics (4 semester hours)

MA	121	Calc I	4 s.h.
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B.S. In Biology

In addition to the Core Program, requirements for the degree of Bachelor of Science in Biology are 15 semester hours in Biology, 4 semester hours in Chemistry, 4 semester hours in Mathematics, and 8 semester hours in Physics, as follows:

Biology

BI		Electives (electives for majors only)	15 s.h.
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Chemistry

CH	232	Organic Chem II	4 s.h.
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Mathematics

MA	122	Calc II or MA 216 Prob and Stat for Biology	4 s.h.
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Physics

PY	111-1	Physics I	3 s.h.
PY	112-1	Physics II	3 s.h.
PY	111-2	Physics Lab	1 s.h.
PY	112-2	Physics II Lab	1 s.h.

B.A. In Biology

In addition to the core program, requirements for the degree of Bachelor of Arts in Biology are 9 additional semester hours in Biology electives.

B.S. In Environmental Health (Biology core does not apply)

Required are at least 36 semester hours in Biology, 12 semester hours in Chemistry, 8 semester hours in Mathematics, 9 semester hours in Safety Science, and 8 semester hours in Physics as follows:

Biology (36 semester hours)

BI	105	Cell Biology	4 s.h.
BI	110	Plant Biology	5 s.h.
BI	120	Animal Biology	5 s.h.
BI	241	Gen Microbiology	3 s.h.
BI	362	Ecology	3 s.h.
BI	310	Applied Entomology & Zoonoses	3 s.h.
BI	321	Environmental Protection I	3 s.h.
BI	322	Environmental Protection II	3 s.h.
BI	480	Biology Seminar	1 s.h.
BI	498	Internship or Alternate Experience	6 s.h.

Chemistry (12 semester hours)

CH	111	Gen Chem I	4 s.h.
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CH 112	Gen Chem II	4 s.h.
CH 231	Organic Chem I	4 s.h.

Mathematics (8 semester hours)

MA 121	Calc I	4 s.h.
MA 216	Probability and Statistics for Biology	4 s.h.

Safety Sciences (9 semester hours)

SA 101	Intro to Occupational Safety and Health Management	3 s.h.
SA 301	Nature & Effects of Occupational Health Hazards	3 s.h.
SA 302	Measurement & Evaluation of Occupational Health Hazards	2 s.h.

Physics (8 semester hours)

PY 111-1	Physics I Lecture	3 s.h.
PY 111-2	Physics I Lab	1 s.h.
PY 112-1	Physics II Lecture	3 s.h.
PY 112-2	Physics II Lab	1 s.h.

B.S. in Education - Biology Major (Biology Core does not apply)

The requirements for the degree of Bachelor of Science in Education with a Biology major are 29 semester hours in Biology, Physics I & II with labs, General Chemistry I and II, Organic Chemistry I and Biochemistry.

Biology

BI 103	General Biology I	4 s.h.
BI 104	General Biology II	4 s.h.
BI 110	Plant Biology	5 s.h.
BI 120	Animal Biology	5 s.h.
BI 361	Microbiology	3 s.h.
BI	(Electives for majors only):	8 s.h.
	BI 105 Cell Biology	
	BI 362 Ecology	
	BI 263 Genetics	

 29 s.h.
Minor in Biology

To minor in Biology, a student must have the permission of the Biology Department Chairperson. The minor consists of the following courses plus biology electives for a minimum total of 17 semester hours of biology.

BI 103-104	Gen. Bio. I and Gen. Bio. II	8 s.h.
	or	
BI 105	Cell Biology	4 s.h.

DUKE COOPERATIVE COLLEGE PROGRAM IN FORESTRY AND ENVIRONMENTAL STUDIES

The Cooperative College program with the Duke University School of Forestry and Environmental Studies is designed to coordinate the undergraduate education of students at Indiana University of Pennsylvania with graduate programs in the areas of resources and environment offered at Duke. Undergraduate majors in one of the natural sciences, mathematics, economics, business or political science are suited to the program. Preparation for the Duke program should include at least one year each of biology with work in botany, economics with a significant component of microeconomics, and mathematics which should include

calculus, computer science and statistics. Applicants to the Duke program who have completed courses in ecology, chemistry, geology, physics and a foreign language; or additional courses in biology, economics and mathematics will be given preferential consideration. Students are accepted in either of two degree programs at Duke, the Master of Forestry (MF) or Master of Environmental Management (MEM).

Students may be accepted into the Duke graduate program after three years of high quality undergraduate study at IUP or upon completion of the baccalaureate. Students who qualify after three years will have completed most of the undergraduate degree requirements at IUP except for total hours. Courses at Duke will be applied to the bachelor's degree at IUP. Dr. Gould F. Schrock, Department of Biology, is the faculty adviser at IUP and assists students in program planning.

JEFFERSON MEDICAL COLLEGE-IUP PHYSICIAN SHORTAGE AREA PROGRAM

A cooperative Family Medicine Physician Education Program has been established by IUP and Jefferson Medical College of Thomas Jefferson University in Philadelphia for the purpose of improving the distribution of physicians in Pennsylvania. The program is designed to increase the opportunities for young women and men to practice family medicine in the rural communities of Pennsylvania where there is a shortage of physicians.

The program at Jefferson Medical College will admit approximately 12 graduates of IUP and 12 graduates of other colleges each year. Students from IUP will be admitted only if properly qualified according to the admission standards and policies of Jefferson Medical College. Applications are reviewed by the Joint IUP-Jefferson Subcommittee and recommendations made to the Jefferson Committee on Admissions.

Requirements for Admission to Jefferson Medical College

Students may choose from a variety of major fields of study during their four years at IUP. Regardless of the major field of study, the following course work must be included:

		IUP
*General Biology or Zoology	1 year	8 s.h.
*Physics	1 year	8 s.h.
*Inorganic Chemistry	1 year	8 s.h.
*Organic Chemistry	1 year	8 s.h.

*All courses include laboratory.

In addition to the minimum course requirements, the prospective medical student is advised to complete such courses as: physical chemistry, quantitative analysis, comparative vertebrate anatomy, genetics, animal developmental biology, calculus, psychology, sociology and philosophy. Although these courses are not required for admission to Jefferson Medical College, they are recommended in order that students have an adequate professional, social and ethical background for the study of medicine. After four years of study at IUP, students will qualify for the Bachelor of Science degree with a major in biology, chemistry, or other curricula if preferred.

Students who qualify for the Physician Shortage Area Program (PSAP) must certify their intentions to adhere to the following plan of education and practice: (a) complete the family medicine curriculum during their four years of medical education at Jefferson Medical College, including a six week clerkship in a rural area; (b) complete a three year family medicine residency; and (c) agree to practice family medicine in an underserved area. Preference will be given to Pennsylvania residents who are interested in this program, with highest priority given to those who actually live, at the time of application, in the underserved area in which they hope to practice.

COURSE DESCRIPTIONS

A nominal fee will be charged for students using departmental transportation in field courses.

BIOLOGICAL SCIENCE COURSES

- BI 105 CELL BIOLOGY** 4 s.h.
Introductory course to increase depth of beginning student's understanding of structural and functional development plus evolutionary aspects of cell concept. (3 hours lecture, 2 hours lab)
- BI 110 PLANT BIOLOGY** 5 s.h.
Prerequisite: BI 105 or special permission.
Plant structure, function development, recognition and grouping, environmental relationships, and economic importance of plants considered. (3 hours lecture, 4 hours lab)
- BI 120 ANIMAL BIOLOGY** 5 s.h.
Prerequisite: BI 105 or special permission.
Morphology, physiology, embryology, ecology, taxonomy, social and economic importance of animals; consideration of principles applicable to a correlation of classical with present zoology. (3 hours lecture, 4 hours lab)
- BI 252 FIELD ZOOLOGY** 3 s.h.
Prerequisite: BI 120
Field natural history of vertebrates; identification, collection and preservation techniques. Field trips required. (2 hours lecture, 3 hours lab)
- BI 261 ORNITHOLOGY** 3 s.h.
Prerequisites: BI 105 or BI 103 and 104
A study of birds of the region. Indoor laboratory as well as field trips required. (2 hours lecture, 3 hours lab)
- BI 262 GENERAL ENTOMOLOGY** 3 s.h.
Prerequisite: BI 120
Morphology, anatomy, ecology, taxonomy, economic and public health importance of insect orders, particularly those of Western Pennsylvania; student collection and field trips required. (2 hours lecture, 3 hours lab)
- BI 263 GENETICS** 3 s.h.
Prerequisites: BI 110 or 120 and CH 231.
Deals with the distribution and function of the hereditary material; special emphasis on microbial, viral and molecular genetics. (2 hours lecture, 3 hours lab)
- BI 269 BIOETHICS AND COEVOLUTION** 3 s.h.
Discussion and exploration of the coevolution of man and nature. Areas covered include the concepts of coevolution, bioethics, resource utilization and possible future lifestyles. Designed for majors and non-majors. (3 hours lecture)
- BI 271 EVOLUTION** 3 s.h.
Prerequisite: One year biology.
Historical development of evolutionary thought, evidence and operational mechanisms involved; origin and phylogenetic relationships of biologic groups. (3 hours lecture)
- BI 272 CONSERVATION OF PLANT AND ANIMAL RESOURCES** 3 s.h.
Prerequisites: BI 105 or BI 103 and 104.
A study of accepted practices in soil, water, forest and wildlife conservation. (2 hours lecture, 3 hours lab) Saturday field trips may be required.
- BI 273 INTRODUCTION TO ROCKY MOUNTAIN ECOLOGY** 4 s.h.
An introductory course intended primarily for those not familiar with the Rocky Mountains.

Flora and fauna of each of the life zones will be described, collected, and identified. Interactions among the various elements of these ecosystems will be considered. This course will be given in a wilderness area. Primitive accommodations allow the student the opportunity to enjoy the wilderness area as much as possible. Study takes place in Wyoming. Tents, food, horses, etc. are provided by a professional outfitter. Offered only in the summer. No prerequisites.

BI 310 APPLIED ENTOMOLOGY AND ZOOSES 3 s.h.

Prerequisite: BI 120 or Permission of instructor.

Study of the measures for abatement or control of arthropods, rodents, birds and other disease vectors of public importance; selection, chemistry, formulation, and safe application of insecticides, rodenticides and fumigants; pesticing equipment; application of biological and other measures of control. (2 hours lecture, 3 hours lab)

BI 331 ANIMAL DEVELOPMENTAL BIOLOGY 3 s.h.

Prerequisite: BI 120

Comparative and molecular development of vertebrate animals are the major considerations. General principles of development are illustrated using vertebrate, invertebrate and plant materials. (2 hours lecture, 3 hours lab)

BI 350 CELLULAR PHYSIOLOGY 3 s.h.

Prerequisite: CH 231

Topics include cell membrane systems, bioenergetics, information processing system as well as growth and differentiation of cells and their organelles. Complements plant and animal physiology and biochemistry. (2 hours lecture, 3 hours lab)

BI 352 COMPARATIVE ANIMAL PHYSIOLOGY 3 s.h.

Prerequisites: BI 120, CH 231

Comparative study of homeostatic mechanisms and systems in animals and their relation to fundamental chemical and physical events in cells. (2 hours lecture, 3 hours lab)

BI 360 MEDICAL MYCOLOGY 3 s.h.

Prerequisite: BI 105

A study of the mycology of pathogenic fungi. Consideration will include sources of infection, distribution, symptomatology, diagnosis, prognosis, immunology and treatment. Pathogens are used in the course and emphasis is placed upon actual laboratory technique and procedures. (2 hours lecture and 3 hours lab)

BI 361 MICROBIOLOGY 3 s.h.

Prerequisites: BI 105, CH 231

Introduction to morphology, physiology, and ecology of procaryotic organisms. Importance of microorganisms in basic and applied research, economics, infection and immunology are discussed. (2 hours lecture, 3 hours lab)

BI 362 ECOLOGY 3 s.h.

Prerequisites: BI 110, 120.

Study of interrelations and adaptations of organisms; includes consideration of physical and biotic environmental factors. Field trips. (2 hours lecture, 3 hours lab)

BI 364 IMMUNOLOGY 3 s.h.

Prerequisites: BI 361, CH 351

Physical and chemical properties of antigens and antibodies; nature of antigen-antibody interactions; mechanism of antibody formation; and immune reaction and disease. Lab employs serological techniques. (2 hours lecture, 3 hours lab)

BI 372 PLANT ANATOMY 3 s.h.

Prerequisite: BI 110

Embryological development and growth and maturation of typical vascular plants; emphasis placed on differentiation and maturation of plant organs of various families. (2 hours lecture, 3 hours lab)

- BI 432 COMPARATIVE VERTEBRATE ANATOMY 3 s.h.
Prerequisite: BI 120
Discussion of anatomy of representative vertebrates from a comparative point of view. Stresses major organizational changes observed in vertebrate history. (2 hours lecture, 3 hours lab)
- BI 445 MICROTECHNIQUE 3 s.h.
Prerequisites: One year Biology, one year Chemistry.
Production of whole mount, smear, squash, microtome section and serial section microscope slides of both plant and animal organisms. (2 hours lecture, 3 hours lab)
- BI 446 DENDROLOGY 3 s.h.
Prerequisite: BI 110 or 112, or by permission of instructor.
Study of woody plants as to their identification, distribution, ecology, culture, anatomy, physiology, mensuration and utilization. (2 hours lecture, 3 hours lab)
- BI 451 TAXONOMY OF PLANTS 3 s.h.
Prerequisite: BI 110
Considers the collection, preservation, and identification and taxonomy of plants of this region. (2 hours lecture, 3 hours lab)
- BI 453 PLANT PHYSIOLOGY 3 s.h.
Prerequisites: BI 110, CH 231.
Studies physiological processes occurring in plants considered in relation to growth, development and ecology of plants. (2 hour lecture, 3 hours lab)
- BI 461 GENERAL PHYSIOLOGY 4 s.h.
Prerequisites: BI 350 or 352, CH 351, MA 121 (or permission of instructor).
Molecular approach to quantitative analysis of mechanisms of functional operation and coordination in living organisms. Emphasis on chemical and physical principles operating at primary functional units of organization. (3 hours lecture and 3 hours lab)
- BI 463 LIMNOLOGY 3 s.h.
Prerequisites: BI 362
An investigation into the physical, chemical, and biological aspects of inland waters and their inter-relationships. In the laboratory the student will gain experience in the techniques involved in aquatic sampling and the analysis of data. (2 hours lecture, 3 hours lab) (Saturday or Sunday labs may be required).
- BI 472 RADIATION BIOLOGY 3 s.h.
Prerequisites: Two years Biology, one year Physics, and General, Organic, and Biochemistry.
Aspects of nuclear physics and radioactive isotopes; uses, effects, detection and measurement of radioactive nuclides used in Biology. (2 hours lecture, 3 hours lab)
- BI 475 MAMMALOGY 3 s.h.
Prerequisite: BI 120
A general discussion of mammals emphasizing systematics, distribution and structural and functional modifications related to evolution of this group. Lab work samples numerous techniques that can be applied to mammalian biology. (2 hours lecture, 3 hours lab)
- BI 476 PARASITOLOGY 3 s.h.
Prerequisite: BI 120
Structure, physiology, ecology, life cycles, pathology and treatment of parasitic protozoa, flatworm and roundworm species of man. Dissection of hosts for parasites. (2 hours lecture, 3 hours lab)
- BI 478 MYCOLOGY 3 s.h.
Prerequisite: BI 110
Involves a study of the systemics, morphology and physiology of the kingdom Myceteae with

emphasis on economically important and experimentally useful organisms. (2 hours lecture, 3 hours lab)

BI 480 BIOLOGY SEMINAR 1 s.h.
Discussion of recent trends in biological thought and research. Students report on assigned readings and/or personal research.

BI 481 SPECIAL TOPICS 1-3 s.h.
This course varies from semester to semester covering diverse topics in specific areas of biology.

BI 482 INDEPENDENT STUDY 1-3 s.h.
Student investigates independently any field of biology in which interested. Work supervised by a faculty member but does not involve regular class or laboratory hours. Enrollment by permission only.

BI 489 LITERATURE OF BIOLOGY 2 s.h.
Designed to acquaint students with the use of library resources dealing with biology as well as with the mechanics of preparing a scientific paper. Practical hands-on experience in a literature search is an integral part of the course work.

BI 498 BIOLOGY INTERNSHIP Max. 12 semester hrs., only 6 semester hrs. may be applied toward the major.

Prerequisites: Biology major with at least 57 semester hours and permission of the Director of Internships and the Chairperson.

Selected students have opportunity, under Department supervision, to gain off-campus practical experience in area of interest. Total number of credits and number of credits toward the Biology major will be decided in consultation between student, his/her adviser, and Director of Internships.

Course Required of Secondary Education Majors

ED 451 TEACHING SCIENCE IN THE SECONDARY SCHOOL 3 s.h.
Background to help science majors meet the problems of teaching science. Various inquiry approaches useful in meeting objectives of a contemporary science class are taught and exemplified. (2 hours lecture, 2 hours lab)

Courses Provided for Students in Elementary Education

BI 311 ENVIRONMENTAL BIOLOGY 4 s.h.
Laboratory and field course providing basic knowledge in biology and its practical implications. Physical and biological aspects of the environment are studied. (3 hours lecture, 3 hours lab)

EL 312 TEACHING OF ELEMENTARY SCIENCE 3 s.h.
Emphasis placed upon science as it relates to the child and the curriculum, planning for teaching science and recent innovations in science teaching. (2 hours lecture, 2 hours lab)
This course is part of the block, field based program.

Courses Required for Environmental Health Majors

BI 321 ENVIRONMENTAL PROTECTION I 3 s.h.
Prerequisites: BI 105, CH 112, and permission of instructor.

Considers impact of important components of physical environment on health and deals with principles and methods for identification, evaluation, and control of such health hazards. Major attention to principles and methods of epidemiological investigation. (2 hours lecture, 3 hours lab)

BI 322 ENVIRONMENTAL PROTECTION II 3 s.h.
Prerequisite: BI 321

Subjects receiving attention include: water and food supplies, domestic and industrial sewage and wastes, housing, accidents, community air pollution, domestic and industrial poisons, ionizing radiations, occupational health hazards. (2 hours lecture, 3 hours lab)

Courses For Non-Biology Majors

BI 103 GENERAL BIOLOGY I 4 s.h.
Introduces biological components of some of man's major problems, including energy storage and release, molecular transport, chemical control, genetics and ecology. (3 hours lecture, 2 hours lab)

BI 104 GENERAL BIOLOGY II 4 s.h.
Prerequisite: BI 103.
Completion of background information with study of selected areas of biology, such as evolution, behavior and developmental biology. (3 hours lecture, 2 hours lab)

BI 150 HUMAN ANATOMY 3 s.h.
Study of the functional systematic anatomy of the human. Lab studies center on non-human mammals whose anatomy is then related to the human condition. (2 hours lecture, 3 hours lab, 2 night exams)

BI 151 HUMAN PHYSIOLOGY 4 s.h.
Course deals with acquiring, through lecture presentations and laboratory experiments, an understanding of the basic functions and control of major organ systems of human body. Organ systems examined include the following: Muscular system, cardiovascular system, respiratory system, endocrine system, renal system, digestive system, reproductive system and nervous system. (3 hours lecture, 2 hours lab)

BI 241 GENERAL MICROBIOLOGY 3 s.h.
Study of microorganisms, and role they play in water, soil, food and infection. Standard methods and techniques are emphasized in laboratory. (2 hours lecture, 3 hours lab)

BI 265 HUMAN GENETICS 3 s.h.
Behavior of genes in man, as individuals and as populations will be considered through pedigree studies, linkage analysis, chemical structure of proteins and cytogenetic correlations. Emphasis on facts and principles which relate to man's growing social, ethical and political problems. (3 hours lecture)

CHEMISTRY DEPARTMENT

THOMAS E. CRUMM, CHAIRPERSON; ASTING, BALLAS, BORDAS, CHRISTODOULEAS, COLEMAN, COSTA, FAZIO, HARTLINE, KOLACZKOWSKI, MARKS, McKELVEY, METZ, PATSIGA, SCROXTON, SYTY, TACKETT, VARRUGHESE, WOOD, WUNZ, ZAMBOTTI.

Degrees offered by the Chemistry Department are the Bachelor of Science in Chemistry, the Bachelor of Arts in Chemistry and the Bachelor of Science in Education with a Chemistry major. The first two degree programs are under the College of Natural Sciences and Mathematics, and the third is under the College of Education. The department also offers a Chemistry minor.

CURRICULA

The B.S. in Chemistry is a professional degree and is accredited by the American Chemical Society. The student completing this major should be qualified to assume a position in industry or government as a chemist or to apply for admission to graduate school to pursue advanced studies leading to the M.S. or Ph.D. degree. The student considering going to a

professional school who also wishes to complete this degree should elect appropriate courses as required by the professional school in addition to the courses required here. Those students who are particularly interested in biochemistry should elect a few selected biology courses.

The curriculum leading to the B.A. in Chemistry is designed to allow for the workable union of nonscience areas with chemistry in such a way as to retain the fundamental science and mathematics requirements needed for a career in chemistry. A cognizant selection of electives will qualify the student for entrance into many fields in which there is an acute need for educated people and, at the same time, satisfy the entrance requirements of various professional and graduate schools.

Some possible and useful combinations between chemistry and other disciplines would include chemistry-biology, chemistry-business administration, chemistry-computer science, chemistry-criminology, chemistry-government, chemistry-pretendental, chemistry-prelaw, chemistry-premedicine and chemistry- English (technical writing). The student must arrange a practical sequence of non-chemistry courses in consort with his/her adviser and the department chairperson concerned. A student seeking a career in forensic science should major in chemistry.

The curriculum leading to the B.S. in Education with a Chemistry major is designed to prepare the student to teach chemistry at the secondary school level. Upon completion of the specified course work, the graduate is eligible for certification as a chemistry teacher by the Pennsylvania Department of Education.

Core Program

Requirements for ALL Chemistry majors are 29 semester hours in Chemistry, 8 semester hours in Mathematics, and 8 semester hours in Physics as follows:

Chemistry

CH 113-114	Concepts in Chem I and II	8 s.h.
CH 231-232	Org Chem I and II	8 s.h.
CH 321	Quant Analysis	4 s.h.
CH 322	Instrumental Analysis	4 s.h.
CH 341	Phys Chem I	4 s.h.
CH 343	Phys Chem Lab I	1 s.h.

Mathematics

*MA 123-124	Calc I and II for Physics and Chemistry	8 s.h.
MA 121-122	Calc I and II	8 s.h.

*B.S. in Chemistry majors must take these Math courses

Physics

*PY 131-1,132-1	Physics I and II	3 s.h. each
*PY 131-2,132-2	Physics I and II Lab	1 s.h. each
PY 111-1,112-1	Physics I and II	3 s.h. each
PY 111-2,112-2	Physics I and II Lab	1 s.h. each

*B.S. in Chemistry majors must take these Physics courses

B.S. in Chemistry

In addition to the Core Program, requirements for the degree of Bachelor of Science in Chemistry are 14-15 more semester hours in Chemistry and 3 more semester hours in Mathematics. In addition, the Department requires that the foreign language requirement (6 semester hours) of the College of Natural Sciences and Mathematics be fulfilled by German courses. Course numbers are as follows:

Chemistry

CH 301	Chemistry Seminar	1 s.h.
CH 342	Phys Chem II	3 s.h.
CH 344	Phys Chem Lab II	1 s.h.
CH 411	Inorg Chem	3 s.h.

Electives from the following (6-7 semester hours):

CH 302	Industrial Chem	3 s.h.
CH 331	Org Qual Analysis	3 s.h.
CH 335	Advan Org Chem	3 s.h.
CH 351	Biochem	4 s.h.
CH 376	Radiochem	3 s.h.
CH 412	Inorg Preparations	3 s.h.
CH 421	Advan Instrum Analysis	3 s.h.
CH 441	Advan Phys Chem	3 s.h.
**CH 498	Problems in Chem	1-2 s.h.

Mathematics (one of the following)

MA 171	Intro to Linear Algebra	3 s.h.
MA 227	Calculus III	4 s.h.
MA 241	Differential Equations	3 s.h.
MA 342	Advanced Calculus for Applications	4 s.h.

Foreign Language

GM 251-		
252	Ger III and Ger IV or	
GM 256	Sci Ger (in place of 252)	3 s.h. each

**CH 498 is required for ACS certification (2 s.h. course)

B.A. in Chemistry

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Chemistry are 15 semester hours minimum in a complementary field, including a minimum of 6 semester hours of advanced work. Any foreign language may be taken to fulfill the Natural Sciences and Mathematics graduation requirement.

B.S. in Education (Chemistry Major)

In addition to the Core Program requirements for the degree of Bachelor of Science in Education with a chemistry major are 4-5 more semester hours in Chemistry (a minimum of 33 semester hours total in Chemistry are required), 4 semester hours in biology, and 3 semester hours in education, as follows:

Chemistry

CH 498	Problems in Chem	1 or 2 s.h.
(at least one of the following)		
CH 411	Inorganic Chem	3 s.h.
CH 351	Biochemistry	4 s.h.
CH 342	Physical Chemistry II	3 s.h.

Biology

BI 105	Cell Biology	4 s.h.
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Education

ED 451	Teaching Science in the Secondary School (see Biology)	3 s.h.
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**CH498 is required for ACS certification (2 s.h. course)

Strongly Recommended Courses for Chemistry Majors

Due to the importance of computers in many areas of chemistry, it is strongly recommended that all chemistry majors take one or two Computer Science courses. Computer Science would be an excellent complementary field for the B.A. degree.

CO 110	Introduction to Computer Science	3 s.h.
CO 250	Introduction to Numerical Methods	3 s.h.

Minor in Chemistry

The minor in Chemistry consists of a minimum of 20 semester hours, selected as follows:

CH 111-112	Gen Chem I and II	8 s.h.
CH 231-232	Org Chem I and II	8 s.h.
CH 321	Quant Analysis	4 s.h.
		or
CH 323	Analytical Methods	4 s.h.
		or
CH 351	Biochem	4 s.h.

Special Courses

The Chemistry Department provides certain special courses as services for other Colleges and Departments, such as CH 101 and 102, CH 103 and CH 355.

COURSE DESCRIPTIONS

For those courses which combine lecture and laboratory, attendance and satisfactory performance in the laboratory are required in order to pass the course.

CH 101-102 COLLEGE CHEMISTRY I & II 4 s.h. each
Topics from fields of inorganic, organic and biochemistry. (3 hours lecture, 2 hours lab)

CH 103 PRINCIPLES OF CHEMISTRY 4 s.h.
One-semester course to survey areas of inorganic and biochemistry. Open only to Physical Education majors. (3 hours lecture, 2 hours lab)

CH 111-112 GENERAL CHEMISTRY I AND II 4 s.h. each
Lecture-discussion of principles of chemistry, including theory and applications. The lab illustrates principles discussed. (3 hours lecture, 3 hours lab)

CH 113-114 CONCEPTS IN CHEMISTRY 4 s.h. each
These two semesters of general chemistry give the chemistry major an in-depth and quantitative background in areas of physical, inorganic and analytical chemistry. (3 hours lecture, 3 hours lab)

CH 230 PHYSICAL CONCEPTS FOR BIOCHEMISTRY 3 s.h.
Prerequisites: CH 101, CH 102
Study of important concepts from physical, analytical and organic chemistry that are necessary background for biochemistry. Designed for dietetics majors in the College of Home Economics. (3 hours lecture)

CH 231-232 ORGANIC CHEMISTRY I AND II 4 s.h. each
Prerequisite: CH 112 or 114.
Study of compounds of carbon, with special emphasis on structure and reactions of more important classes of carbon compounds. Laboratory work involves preparation and purification of representative compounds. (3 hours lecture, 4 hours lab)

CH 301 CHEMISTRY SEMINAR 1 s.h.
Discussion of current technical literature and current research problems of staff. Lectures

by outside chemists and student presentations. Open to junior or senior chemistry majors and to others by permission of the instructor. (1 hour)

CH 302 INDUSTRIAL CHEMISTRY 3 s.h.

Prerequisite: CH 232.

Study of application of chemistry and science to industries of western Pennsylvania for the science teacher. Consists of lectures, laboratory work and field trips to representative industries. (2 hours lecture, 3 hours lab)

CH 303 GLASSBLOWING TECHNIQUES 1 s.h.

Introduces science student to techniques necessary for construction and modification of scientific glass apparatus. Limited to junior and senior science majors and others by permission of instructor. (2 hours lecture)

CH 305 NEW APPROACHES TO TEACHING HIGH SCHOOL CHEMISTRY 3 s.h.

Prerequisite: at least junior chemistry education major.

Survey of current approaches in teaching high school chemistry. Modified versions of Chem Study Approach and Chemical Bond Approach investigated; individualization of chemistry and application of various teaching materials and techniques used in individualizing chemistry surveyed. Environmental chemistry and development of relevant topics in chemistry used to better understand chemical basis of our current environmental problems. (4 hours lecture-lab)

CH 321 QUANTITATIVE ANALYSIS 4 s.h.

Prerequisite: CH 112 or CH 114.

Theory and practice of quantitative analysis, including gravimetric and volumetric analysis; special emphasis on perfecting student's laboratory techniques and application of general chemical knowledge through problem solving. (3 hours lecture, 4 hours lab)

CH 322 INSTRUMENTAL ANALYSIS 4 s.h.

Prerequisite: CH 321.

Modern instrumental methods of chemical analysis. Student learns theory behind the instrument, principles of operation, interpretation of data obtained and limitations of methods. (3 hours lecture, 4 hours lab)

CH 323 ANALYTICAL METHODS 4 s.h.

Prerequisites: CH 112 and non-chemistry major.

Principles of precipitation, acid-base, oxidation-reduction and equilibria are applied to problem solving and to laboratory determinations; instrumental methods of analysis, such as colorimetry, atomic absorption and flame emission, gas chromatography, etc. (3 hours lecture, 4 hours lab)

CH 331 ORGANIC QUALITATIVE ANALYSIS 3 s.h.

Prerequisites: CH 231-232 (CH 232 may be taken concurrently).

Gives student experience in systematic identification of various classes of organic compounds by both chemical and physical methods. (4 hours lecture-lab)

CH 335 ADVANCED ORGANIC CHEMISTRY 3 s.h.

Prerequisites: CH 232 and CH 341.

Selected topics of current interest covered. Possible topics include: reaction mechanisms, molecular spectroscopy, stereochemistry, natural products, heterocyclics, polymer chemistry and organic synthesis. (3 hours lecture)

CH 341 PHYSICAL CHEMISTRY I 4 s.h.

Prerequisites: MA 122, 124 or 128 and PY 112 or 132; CH 112 or 114.

Chemical thermodynamics with applications to solutions, phase and chemical equilibrium-kinetic theory. (4 hours lecture)

CH 342 PHYSICAL CHEMISTRY II 3 s.h.

Prerequisite: CH 341

Study of solids, liquids, surfaces, chemical kinetics, electrochemistry, atomic and molecular structure. (3 hours lecture)

CH 343 PHYSICAL CHEMISTRY LABORATORY I 1 s.h.

Prerequisites: CH 321, 341.

Experiments illustrating application of fundamental laws to actual systems. (3 hours lab)

CH 344 PHYSICAL CHEMISTRY LABORATORY II 1 s.h.

Prerequisites: CH 342, 343

Extension of Physical Chemistry Laboratory I; experiments related to chemical kinetics, molecular spectroscopy and other topics of physical chemistry. (3 hours lab)

CH 351 BIOCHEMISTRY 4 s.h.

Prerequisite: CH 231

Study of chemistry and biological functions of carbohydrates, lipids, proteins, minerals, vitamins and hormones. (4 hours lecture)

CH 355 BIOCHEMISTRY AND NUTRITION 3 s.h.

Prerequisite: CH 102.

Course for Home Economics major; studies chemistry and biological function of biologically active compounds with respect to nutritional requirements. (3 hours lecture)

CH 376 RADIOCHEMISTRY 3 s.h.

Prerequisite: CH 322.

Study of basic aspects of nuclear structure, phenomena of radioactive isotopes and chemical effects of such isotopes. Concurrent lab work utilizing instruments for detection and measurement of radioactive nuclides used in chemical experimentation. (4 hours lecture-lab)

CH 411 INORGANIC CHEMISTRY 3 s.h.

Prerequisite: CH 341

Gives understanding of advanced theories of atomic structure, chemical bonding, acids and bases, coordination compounds and selected topics. (3 hours lecture)

CH 412 INORGANIC PREPARATIONS 3 s.h.

Prerequisites: CH 321 and CH 411.

Lectures include discussion of descriptive chemistry of elements according to their periodicity; laboratory includes investigation of synthesis; purification and characterization of inorganic substances. (4 hours lecture-lab)

CH 421 ADVANCED INSTRUMENTAL ANALYSIS 3 s.h.

Prerequisite: CH 322

Study of modern chemical analysis, using advanced instrumental techniques; emphasis on theory, principles of operation, capabilities and limitations of advanced analytical instruments used. (4 hours lecture-lab)

CH 441 ADVANCED PHYSICAL CHEMISTRY 3 s.h.

Prerequisite or Co-requisite: CH 342.

Study of fundamental ideas of quantum and statistical mechanics, molecular structure, and other topics of current interest. (3 hours lecture)

CH 498 PROBLEMS IN CHEMISTRY 1 to 2 s.h.

Prerequisite: Permission of Chairperson.

Course of independent study on selected problems, including lab work, library reading and conferences with staff member. A minimum of 4 hours per week required per credit.

CH 499 INTERNSHIP IN CHEMISTRY 4-9 s.h.

Prerequisites: CH 113, 114, 231, 232, 321, 341 and departmental approval.

Full-time involvement in an actual 'on-the-job' situation in an industrial laboratory under the tutelage of a selected preceptor. A department faculty member will work closely with the

student and preceptor and will assume responsibility of making the final evaluation and assigning a grade.

SC 105 PHYSICAL SCIENCE I 4 s.h.
See course description in Physics Department. This course is not a prerequisite for Physical Science II.

SC 106 PHYSICAL SCIENCE II 4 s.h.
Designed to survey chemical principles and concepts and to relate these principles to our current environmental problems. Brief exploration made of chemistry of minerals and rocks and sources of energy for the future. (3 hours lecture, 2 hours lab)

SC 111 SCIENCE IN MODERN CIVILIZATION 3 s.h.
Designed to acquaint non-science major with some of the major scientific discoveries and to develop an awareness of how science affects our lives. (3 hours lecture)

COMPUTER SCIENCE DEPARTMENT

GERALD M. BURIOK, CHAIRPERSON; BUTERBAUGH, CUNNINGHAM, CROSS, MAPLE, McKELVEY, SHUBRA, SWEENEY, TOMPKINS, WOLFE.

The program in Computer Science at IUP leads to the B.S. or B.A. degree and is designed primarily to prepare graduates for productive work in highly computer-dependent areas of business, government, and industry. In recent years, the distribution of first jobs for majors graduating from the program has been as follows:

Business Applications Programming and Systems Analysis	24%
Government Applications	16%
Computer Software Development	24%
Scientific & Applied Mathematical Programming	12%
Graduate School	12%
Other Computer Related Jobs	12%

In a rapidly developing field such as Computer Science, it is important that the graduate's education be broad and fundamental so that new trends can more readily be followed. Our goal is to balance fundamentality and breadth with sufficient supervised practice so that our graduates are productive at the time they graduate, but ready and willing to change with the field.

Most applied computer scientists work in cooperation with professionals trained in other areas, and with managers. Hence the ability to work and communicate with others of different educational backgrounds is an important characteristic. To that end, we encourage computer science majors to take a strong minor (or area concentration) in a second area of interest. Some students may wish to double major. Majors in other curricula at IUP are also welcome to take Computer Science courses for which they are qualified, or a Computer Science minor.

Students majoring in Computer Science should set their goals beyond simple programming, and should be preparing:

1. to program well, both in design and implementation phases, and document what they have programmed, and
2. to analyze real-world problems in preparation for program design and implementation, and
3. to manage activities that are strongly computer dependent, or

4. to improve the tools that programmers and systems analysts use, i.e. to develop
 - a. better machine systems,
 - b. better software systems,
 - c. better languages for communicating with machines, or
 - d. better methods for solving intractable problems, or
5. to teach about computers at college or high school level, or
6. to advance the fundamental theory of digital information processors.

CURRICULA

The Computer Science Major Program to the B.A. or B.S. Degree (Note 1) includes:

Computer Science core courses:

CO 110	Introduction to Computer Science (Note 2)	3 s.h.
CO 220	Applied Computer Programming	3 s.h.
CO 250	Introduction to Numerical Methods	3 s.h.
CO 300	Assembler Language Programming	3 s.h.
CO 310	Data Structures	3 s.h.
CO 315	Large File Organization and Access	3 s.h.
CO 480	Seminar on Current Computer Topics, 1 s.h. each semester of senior year	2 s.h.

At least one CO course numbered in the range 405-479.

Additional Computer Science courses to bring the total CO semester hours to a minimum of 30

Minimum: 7 s.h.

Computer Science course requirement: 30 s.h.

Mathematics prerequisite to CO 250:

MA 121-122 or 123-124 or 127-128 (Note 3)	8 s.h.
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General Education requirement of the College of Natural Sciences and Mathematics, including Foreign Language. Six semester hours of the 8 required in the Calculus may be applied toward the General Education requirement of 52 semester hours. CO courses are not accepted as part of the General Education requirement for CO majors. Hence the additional requirement is: 46 s.h.

Elective courses, preferably including courses in a minor or concentration (Note 4), possibly including additional Mathematics and Computer Science courses. 40 s.h.

Minimum total for the B.A. or B.S. degree 124 s.h.

Note 1: If a minor is selected from the College of Natural Sciences and Mathematics, or from the College of Business, or if an additional 9 semester hours of Computer Science are taken, including 4 semester hours CO 485 or 399, then the B.S. degree is awarded. Otherwise the B.A. degree is awarded.

Note 2: Credit in or exemption from CO 110 may be obtained by examination. Credit so obtained applies to the major credit requirement of 30 semester hours, but exemption does not. CO 200, which may be taken in preparation for CO 110, may not be applied to the major credit requirement of 30 semester hours.

Note 3: Any calculus sequence may be elected, MA 127-128 (227) for students interested in pure math, MA 123-124 for students interested in applied math, and MA 121-122 for all others. Any calculus sequence may apply to a minor in mathematics.

Note 4: Minors are possible in a wide variety of fields. See Note 1. For specific restrictions on the minor program, see the announcement of the selected minor department in the Undergraduate Bulletin.

Minor in Computer Science

Any 15 semester hours of Computer Science for which the student is qualified, necessarily including CO 220, Applied Computer Programming.

An undergraduate course in Computer Science for majors in other disciplines who wish to take only one course is:

CO 200 Introduction to Computers (3 s.h.)

COURSE DESCRIPTIONS

Core Courses

CO 110 INTRODUCTION TO COMPUTER SCIENCE 3 s.h.
(For science, mathematics, and computer science majors, and for others who have a sufficiently quantitative orientation.)

Basic structure of modern digital computers; batch processing vs. interactive time-shared online computing; problem analysis and computer solution using flowcharting and the FORTRAN language. Exemption or credit by examination possible. (2 hours lecture and 1 hour recitation)

CO 200 INTRODUCTION TO COMPUTERS 3 s.h.
(For non-science, non-mathematics students, who have a more verbal orientation. Does not count towards Computer Science major.)

A computer appreciation course for students with an interest in computers and what they can do; survey of computer organization, flowcharting and programming; exercises in the interactive BASIC language; economic, political, psychological and technical effects of computers in our society. (3 hours lecture)

CO 210 PROGRAMMING THE COMPUTER 2 s.h.
Prerequisite: CO 200 or equivalent.

Development of computer programming skills using the FORTRAN language, including computer representation of data. Problem analysis and computer solution using flowcharting and the language learned. Two recitation hours per week. May be used as a prerequisite to advanced courses in place of CO 110.

CO 220 APPLIED COMPUTER PROGRAMMING 3 s.h.
Prerequisite: CO 110 or equivalent.

Structured programming principles and techniques, as implemented thru the ANS COBOL language; program design using top-down techniques; group programming projects; program and project documentation; introduction to tape and disc files. (2 hours lecture and 1 hour recitation)

CO 250 INTRODUCTION TO NUMERICAL METHODS 3 s.h.
Prerequisites: CO 110, MA 122, 124 or 128.

Algorithmic methods for function evaluation, roots of equations, solutions to systems of equations operations, matrix operations, curve fitting, interpolation, numerical integration and differentiation; errors in computation. (3 hours lecture)

CO 300 ASSEMBLY LANGUAGE PROGRAMMING 3 s.h.
Prerequisite: CO 110 or equivalent.

Examination of structure and languages of machines; representation of data, addressing techniques, symbolic coding, assemblers, macros, etc; problem solution using assembly language. (2 hours lecture and 1 hour recitation)

CO 310 DATA STRUCTURES 3 s.h.

Prerequisite: CO 220

Basic concepts of data; storage systems and structures; lists, arrays, strings, hashing techniques; searching and sorting techniques; data structures in programming languages; string processing. Programming in a block structured language. (3 hours lecture)

CO 315 LARGE FILE ORGANIZATION AND ACCESS 3 s.h.

Prerequisites: CO 220

The organization of large computer files for business systems, information systems and other applications. Use of COBOL for efficient file access. Evaluation of file access methods. Advanced topics in COBOL. (3 hours lecture)

Intermediate and Advanced Courses in Data Processing

CO 320 SOFTWARE ENGINEERING 3 s.h.

Prerequisite: CO 315 or permission of the instructor.

Planning, design and implementation of large software systems using structured top-down techniques; maintenance and documentation principles and practices; large group projects. (1 hour lecture and 2 hours recitation)

CO 345 DATA COMMUNICATIONS 3 s.h.

Prerequisites: CO 220 and MA 214, 217, or equivalents.

Communication of digital data between computers, and to and from terminals and other peripherals; computer networks; design project or term paper. (3 hours lecture)

CO 360 IBM JOB CONTROL LANGUAGE 1 s.h.

Prerequisite: CO 220 or permission of the instructor

Detailed study of the job control language (JCL) of the IBM OS operating system; comparison of OS with the locally available CP-6 operating system of Honeywell. (3 hours lecture for 5 weeks)

CO 370 COMPUTER RESOURCE MANAGEMENT 3 s.h.

Prerequisite: CO 220

Concepts and techniques of computing facility management, including selection of computer resources; survey of applications in which computer resource management is needed; faculty supervised management project at a selected local computer facility. (3 hours lecture)

CO 399 INTERNSHIP IN COMPUTER SCIENCE 4-12 s.h.

Prerequisites: CO 250, CO 300, CO 310, CO 315, Other courses depending on type of internship position desired. completion of application, and selection by committee.

Positions with participating companies provide students with experience in Computer Science under the supervision of the companies and faculty. Requirements include three on-site consultations, two university consultations, completion of progress reports and presentation of final cumulative paper. Offered only to students during the second semester and summer of their Junior year, or the summer and the first semester of their Senior year. No more than 4 semester hours of CO 399 may be applied toward the 30 semester hours requirement for a major in Computer Science.

CO 402 COMPUTERS IN EDUCATION 3 s.h.

Introduction to computers and computer programming in the language BASIC with emphasis on applications in education; general models for computer usage in education and educational institutions and case studies of specific projects in terms of approach, effectiveness and implications for the future. Does not count toward Computer Science major. (3 hour lecture)

CO 441 DATA BASE MANAGEMENT 3 s.h.

Prerequisite: CO 315

Review of data base concepts. Detailed study of data base management approaches. Comparative study of commercially available data base management systems. Project on the locally available data base system. (3 hours lecture)

CO 480 SEMINAR, CURRENT TOPICS IN COMPUTER SCIENCE

Section 1: Trade Literature 1 s.h.

Section 2: Professional Literature 1 s.h.

Reading, review and discussion of the current literature of computer science and industry, effective oral presentation; employment prospects; one semester focuses on the trade literature, the other on the professional literature, of the field. Must be taken over 2 semesters, in Senior year (or Junior year, if CO 399 Internship is taken in Senior year), with each section taken once. (1 hour recitation)

Advanced Courses in Programming Applications and Theory

CO 420 MODERN PROGRAMMING LANGUAGES 3 s.h.

Prerequisites: CO 220 and CO 310.

Comparative study of the properties and applications of a range of modern higher level programming languages, including APL, SNOBOL, PL/I, ALGOL 60, PASCAL, LISP, and TRAC. Comparison with older languages such as BASIC, FORTRAN, COBOL AND RPG. (3 hours lecture)

CO 450 APPLIED NUMERICAL METHODS 3 s.h.

Prerequisites: CO 250, MA 171 and MA 241, or equivalents.

Polynomial approximations using finite differences, with applications in numerical integration and differentiation. Numerical solution of initial value ordinary differential equations. The APL language will be introduced and used, along with FORTRAN, in programming selected algorithms. (3 hours lecture)

CO 460 THEORY OF COMPUTATION 3 s.h.

Prerequisites: CO 310 and MA 219, or consent of instructor.

Formal methods for describing and analyzing programming languages and algorithms. Backus-Naur forms; productions; regular expressions; introduction to automata theory; Turing machines; recent concepts in algorithm theory. (3 hours lecture)

Advanced Courses in Machines & Systems Programming

CO 410 PROCESSOR ARCHITECTURE AND MICROPROGRAMMING 3 s.h.

Prerequisites: CO 300 and CO 310.

The logical description of computer processor structure (architecture), with emphasis on the microprogramming approach. Project assignments using the Microdata 1600 minicomputer. (3 hours lecture)

CO 430 INTRODUCTION TO SYSTEMS PROGRAMMING 3 s.h.

Prerequisites: CO 300 and CO 310.

Concepts and techniques of systems programming with an emphasis on assembly and compilation of user programs. Representation of source language so as to facilitate the needed translation process. Exercises using various computer systems. Three hours lecture per week.

Special Courses and Project Study

CO 481 SPECIAL TOPICS IN COMPUTER SCIENCE 3 s.h.

Prerequisite: 12 semester hours in Computer Science or consent of instructor.

Seminar in advanced topics of Computer Science, content will vary depending on interests of instructor and students. May be repeated for additional credit. Three hours per week.

CO 485 SPECIAL PROJECTS IN COMPUTER SCIENCE

1-4 s.h.

Prerequisite: Permission of a Computer Science faculty member who agrees to supervise your project.

Arrangements for selection of a specific topic must be made before the end of the prior term. Hours as arranged.

GEOSCIENCE DEPARTMENT**FREDERICK R. PARK, CHAIRPERSON; HALL, PRINCE,
RICHARDSON, C. SUTTON, TAYLOR.**

The Geoscience Department provides curricula in areas of natural science dealing with and related to the earth and its environment by offering courses in astronomy, geology, meteorology and oceanography.

In addition to on-campus instruction, opportunities exist for summer course work and research in geology and oceanography at the Marine Science Consortium located at Wallops Island, Virginia.

Degrees offered by the Geoscience Department are the Bachelor of Science in Geology, the Bachelor of Science in Geoscience, and the Bachelor of Science in Education with a major in Earth and Space Science or with a major in General Science. The first two degree programs are under the College of Natural Sciences and Mathematics, and the last two are under the College of Education.

The Department also will act in an advisory capacity for students enrolled in the B.S. in Natural Science with concentrations in Astronomy, Meteorology, or Oceanography. These degree programs are designed to prepare students for graduate work in the aforementioned disciplines.

CURRICULA

The B.S. degree in Geology is, in a sense, a dual purpose degree program. Not only is it designed to graduate well trained, competent geologists, able to compete for positions as professional geologists in the job market; but it is also designed to provide the student with the necessary allied science and math background to enable the good student to qualify for admission to the Graduate School of his/her choice in Geology.

The B.S. degree in Geoscience offers the student a broad-based science background. In addition to the 38 semester hours of Geoscience (Astronomy, Geology, Meteorology, Oceanography) the student will also acquire a strong background in Math and the Allied Sciences of Chemistry, Biology and Physics. The student who earns the B.S. degree in Geoscience may anticipate career openings in government or private industry in those expanding fields directly associated with environmental studies. The B.S. in Geoscience will also prepare students for admission to graduate study, should they choose to pursue academic preparation beyond the undergraduate level.

The department recognizes as one of its functions the role of serving the field of public education by the preparation of qualified and certified teachers of earth and space science. Also, because of the interdisciplinary nature of both the department and the requirements for preparing general science teachers, the department administers the program designed to lead to general science certification and includes majors of that category as department members.

Minor in Geology

The minor in geology consists of 15 semester hours of geology. General Geology I and II are required. The remaining 7 semester hours of geology may be selected by the student.

It is recognized that the anthropology student minoring in geology would benefit from courses differing in content from those benefiting students who, for example, are majoring in Urban Planning. The department staff members will be happy to consult with students concerning their special needs.

Minor in Geoscience

The requirement for the minor in Geoscience will be 16 semester hours of geoscience, taken within the following framework. Students must complete one course in each discipline within the department: Astronomy 3 semester hours; Geology 4 semester hours; Meteorology 3 semester hours; Oceanography 3 semester hours, for a total of 13 semester hours. The additional 3 semester hours can be taken in any one of the aforementioned disciplines. It is further stipulated that neither then on-major General Astronomy nor the Geology of Pennsylvania courses will be acceptable toward the minor in Geoscience.

DEGREE PROGRAMS

B.S. in Geology

The departmental requirements for the Degree of Bachelor of Science in Geology are as follows:

Geology	35 s.h.*
Geoscience	3 s.h.
Math	7-8 s.h.
Chemistry	8 s.h.
Physics	8 s.h.
Electives	24-25 s.h.

*Includes a summer field course of 5 s.h. and two 1 s.h. independent study. Detailed program description available in Geoscience Department

B.S. in Geoscience

The departmental requirements for the degree of Bachelor of Science in Geoscience are as follows:

Geoscience (Selected under adviser's supervision)	38 s.h.
Math	7-9 s.h.
Biology	11-14 s.h.
Chemistry	8 s.h.
Physics	8 s.h.
Electives	9-13 s.h.

Detailed program description available in Geoscience Department

B.S. in Education (Earth and Space Science Major)

The departmental requirements for the degree of Bachelor of Science in Education with a major in Earth and Space Science are as follows:

Astronomy	7 s.h.
Geology	14 s.h.
Meteorology	6 s.h.
Oceanography	6 s.h.
Math	4 s.h.
Biology	4 s.h.
Chemistry	8 s.h.
Physics	4 s.h.

Detailed program description available in Geoscience Department

B.S. in Education (General Science Major)

A major in another science department may be certified in General Science if the student's program includes, or is supplemented with, the prescribed credits, as follows:

Astronomy	3 s.h.
Geology	3-4 s.h.
Geoscience Field course	3-4 s.h.
Meteorology	3 s.h.
Math	4 s.h.
Biology	8 s.h.
Chemistry	8 s.h.
Physics	8 s.h.
Science Elective	3 s.h.

Detailed program description available in Geoscience Department

COURSE DESCRIPTIONS

GS 101 EARTH SCIENCE: GEOLOGY AND OCEANOGRAPHY 3 s.h.

A non-mathematical treatment of introductory oceanography and geology designed specifically for non-science majors. (3 hours lecture)

GS 102 EARTH SCIENCE: GEOLOGY AND OCEANOGRAPHY LAB 1 s.h.

Should be taken concurrently with GS 101. Lab experiences in various aspects of oceanography and geology. (2 hours lab including field trips)

GS 103 EARTH SCIENCE: METEOROLOGY AND ASTRONOMY 3 s.h.

No prerequisite.

The earth's upper environment is studied by focusing on the effects of the atmosphere and the earth's place in the universe on the daily lives of man. (3 hours lecture)

GS 104 EARTH SCIENCE: METEOROLOGY AND ASTRONOMY LAB 1 s.h.

Should be taken concurrently with GS 103. Use of the weather station and the planetarium highlight the series of exercises designed to aid students in developing meaningful concepts about their ability to understand and, in the future, control their place in the universe. (2 hours lab)

GS 110 GENERAL ASTRONOMY 3 s.h.

Specifically designed to introduce students to discipline of astronomy; emphasis placed on study of planets, space program, constellations and Milky Way. (2 hours lecture, 1 lab session or night observation) No science or math majors except those completing general science certification requirements.

GS 121 GENERAL GEOLOGY I 3 s.h.

Introduction to science of earth; properties and processes of earth's interior and crust and their interaction with surface processes to shape and modify man's physical environment. (3 hours lecture)

GS 122 GENERAL GEOLOGY I LABORATORY 1 s.h.

Should be taken concurrently with GS 121. Identification of common minerals and rocks; introduction to topographic and geologic maps, to land forms, and to geologic structures. (3 hours lab including field trips)

GS 131 GENERAL GEOLOGY II 3 s.h.

Prerequisite: GS 121 or permission of instructor.

Introduction to history of earth, its physical changes and sequences of configuration, and record of biological evolution. (3 hours lecture)

- GS 132 GENERAL GEOLOGY II LABORATORY 1 s.h.
Should be taken concurrently with GS 131. Selected problems in geologic map interpretation, paleontology and stratigraphic rock sequences. (3 hours lab including field trips)
- GS 321 MINERALOGY 3 s.h.
Prerequisite: GS 121 or CH 111.
Concerned with properties of minerals; introduction to crystallography and chemistry of crystals, followed by a determination of minerals and their probable genesis. (2 hours lecture, 3 hours lab)
- GS 322 IGNEOUS AND METAMORPHIC PETROLOGY 3 s.h.
Prerequisite: GS 321.
Concerned with a description of igneous and metamorphic rock character based upon mineral components and physical relationship between mineral components of a rock. (2 hours lecture, 3 hours lab)
- GS 324 GLACIAL GEOLOGY 3 s.h.
Prerequisites: GS 121 and GS 131.
Study of origin and development of all features resulting from action of glaciers. (2 hours lecture-lab or field trip)
- GS 325 STRUCTURAL FIELD GEOLOGY I 3 s.h.
Prerequisite: GS 131 or permission of instructor.
Analysis of deformation structures such as folds, joints, faults, foliation and lineation. Includes lab and field work with geologic maps, cross sections, Brunton compass, stereographic projections, and field reports on structures observed in the region. (2 hours lecture, 3 hours and field trips)
- GS 326 STRUCTURAL FIELD GEOLOGY II 3 s.h.
Prerequisite: GS 325.
Techniques of geologic field work including work with Brunton compass, aerial photographs, plane table and alidade, drafting and rock color charts. Includes a field project involving compilation of measured and described stratigraphic sections, a geologic map, cross section and field report. (2 hours lecture, 3 hours lab and field trips)
- GS 327 GEOMORPHOLOGY 3 s.h.
Prerequisites: GS 121 and GS 131.
A study of the origin of the earth's land forms, including relationship of geologic structure to landform types and role of geomorphic processes in landscape development. (2 hours lecture, 3 hours lab)
- GS 330 PALEONTOLOGY 3 s.h.
Prerequisite: GS 131 or permission of instructor.
Study of the morphology, evolution, geologic significance and paleoecology of invertebrate fossils. (2 hours lecture, 3 hours lab)
- GS 335 ECONOMIC GEOLOGY 3 s.h.
Prerequisite: GS 321.
Deals with location and probable origin of fossil fuels, ores of the non-metals, and metallic ores, both ferrous and nonferrous. (2 hours lecture, 3 hours lab)
- GS 336 GEOLOGY OF THE NORTHERN ROCKIES 3 s.h.
Prerequisite: Permission of Instructor.
A field study of the major geologic features and relationships involved in the development of the northern Rocky Mountains, National Park and Monument areas of South Dakota, Wyoming and Montana are included among the areas investigated. (2 weeks, summer only)
- GS 341 SOLAR SYSTEM 3 s.h.
Prerequisites: MA 121 and PY 111.
Fundamentals of astronomy, with emphasis on observational methods, mechanics and origin

of the solar system, and spatial relationship of the solar system to the other members of the universe. (2 hours lecture, 3 hours lab or night observation)

GS 342 STELLAR ASTRONOMY 3 s.h.

Prerequisites: MA 121 and PY 111.

Fundamentals of astronomy, with emphasis on sun, stars, galaxies, the sidereal universe and use of spectroscopy for gathering astronomical data. (2 hours lecture, 3 hours lab or night observation)

GS 350 OPERATION OF THE PLANETARIUM 1 s.h.

Prerequisites: GS 110 or 341 or 342 or permission of instructor.

Designed to acquaint the student with methods of operation and repair of a Spitz A-3-P planetarium. Content includes topics suitable for lectures to various age groups. Student will write and present a demonstration lesson. Meets once a week with occasional evening observations.

GS 361 PHYSICAL OCEANOGRAPHY 3 s.h.

Prerequisites: PY 111 and MA 121 or permission of instructor.

Introduction to physical, chemical, geological and biological nature of ocean; topography, submarine geology and bottom deposits. (2 hours lecture, 3 hours lab)

GS 362 MARINE GEOLOGY AND PLATE TECTONICS 3 s.h.

Prerequisites: Physics I and II, Geology courses.

A study of marine geology, coastal geomorphology, marine sedimentary environments and plate tectonics examined in the light of sea floor spreading and other oceanographic evidences. (2 hours lecture, 3 hours lab)

GS 371 METEOROLOGY I 3 s.h.

Prerequisite: One year of Physical Science or Physics.

Introduction to meteorological sciences; composition and structure of the atmosphere; radiation principles; elementary thermodynamics and heat balance. (2 hours lecture, 3 hours lab)

GS 372 METEOROLOGY II 3 s.h.

Prerequisite: GS 371 or permission of instructor. Introduction to physical, dynamical and theoretical meteorology. (2 hours lecture and 3 hours lab)

GS 411 SEDIMENTARY PETROLOGY 3 s.h.

Prerequisite: GS 321 or permission of instructor.

Study of sediments and sedimentary rocks with emphasis on interpreting ancient environments of deposition utilizing sieve analysis, hand lens and petrographic microscope. (2 hours lecture, 3 hours lab and field trips)

GS 412 STRATIGRAPHY 3 s.h.

Prerequisite: GS 411 or permission of instructor.

Principles and processes involved in development and description of stratified rock sequences, principles and problems of correlation, and selected stratigraphic problems. (2 hours lecture, 3 hours lab and field trips)

GS 420 GEOLOGY OF PENNSYLVANIA 3 s.h.

Prerequisite: Permission of instructor

An advanced course dealing with many varied aspects of Pennsylvania geology, including the structure, stratigraphy and geologic history of its varied geologic provinces. (2 hours lecture, 3 hours lab)

GS 440 SUBSURFACE GEOLOGY 3 s.h.

Prerequisite: Minimum 20 credit hours of Geology.

An introduction to the geology of petroleum, its origin, migration, entrapment and production. Lab is designed to provide practical experience in subsurface mapping techniques and the use and evaluation of geophysical logging devices. (2 hours lecture, 3 hours lab)

- GS 441 CARBONATE GEOLOGY-FLORIDA 3 s.h.
Prerequisite: Permission of Instructor.
Two weeks of field study in Florida Keys. Course will be conducted from base camp in Florida Keys and will consist of both land and water work as the different carbonate environments in the Keys, Florida Bay and in the Atlantic reef tract are studied.
- GS 480 GEOSCIENCE SEMINAR 1 s.h.
For seniors majoring in some aspect of geoscience. The seminar: (1) provides student opportunity to prepare, formally present and defend a scientific paper based either on his own research or on a topic chosen by him with the approval of instructor, (2) provides opportunity to discuss topics presented by other students, faculty, or guests.
- GS 481 SPECIAL TOPICS 1-3 s.h.
Prerequisite: Permission of instructor.
It is the department's intension to use this course to schedule extended field trips and for teaching special courses which will utilize the specialities of the geoscience faculty.
- GS 482 INDEPENDENT STUDY 1-3 s.h.
Independent study provides the student with an opportunity to use library, laboratory or field research in an area which is of interest to him under the supervision of a designated faculty member.
- GS 485 INTERNSHIP 1-3 s.h.
Summer work experiences with cooperating firms or agencies. May be scheduled only after consultation with advisor and chairperson. Restricted to Junior and Senior Geoscience Department majors.

MARINE SCIENCE CONSORTIUM

FRANCIS W. LIEGEY, DIRECTOR

The following courses are offered through the Marine Science Consortium which operates during the summer at the NASA-Wallops Island Station, Virginia.

All courses include lecture and field work and meet for morning and afternoon sessions on Monday through Friday.

COURSE DESCRIPTIONS

- MI 110 INTRODUCTION TO OCEANOGRAPHY 3 s.h.
Prerequisites: None.
Introduction to physical, chemical, biological and geological aspects of oceans and methods and techniques of oceanography. Lab emphasis placed on at-sea assignments.
- MI 211 FIELD METHODS IN OCEANOGRAPHY 3 s.h.
Prerequisite: MI 110 or consent of instructor.
Familiarization with dynamic marine environment involving use and application of oceanographic instruments and sampling devices.
- MI 212 NAVIGATION 3 s.h.
Prerequisite: Four years high school math or equivalent or consent of the instructor.
Covers navigation, i.e., the art and science of safely bringing a vessel from one position to another in a body of water. Course divided into: (1) brief historical background; (2) navigation within sight of land, i.e., piloting; (3) navigation in the open sea, including electronic navigation methods.
- MI 221 MARINE INVERTEBRATE ZOOLOGY 3 s.h.
Prerequisite: One year biology or consent of instructor.

Study of marine invertebrates with emphasis on development, reproduction, structure, function and classification of selected marine organisms.

MI 241 MARINE BIOLOGY 3 s.h.

Prerequisites: Botany and zoology or consent of instructor.

Study of plant and animal life in marine environment with emphasis placed upon physical and chemical factors affecting biota.

MI 250 MANAGEMENT OF WETLAND WILDLIFE 3 s.h.

Prerequisites: None.

The ecology and management of wetland wildlife, particularly of freshwater marshes and saltwater marshes. Special emphasis on ecosystem approach.

MI 260 MARINE ECOLOGY 3 s.h.

Prerequisite: One year of biology or consent of instructor.

A course in ecology of marine organisms.

MI 270 SCUBA DIVING 3 s.h.

Prerequisites: Swimming ability and good health. (A standard diving physical form will be mailed to students electing the course.) Students who complete course will receive a National Association of Underwater Instructors Diver Certificate.

MI 280 MARINE FIELD BIOLOGY 3 s.h.

Prerequisites: None. An introduction to basic principles of ecology and natural history of selected plants and animals in terrestrial, freshwater and marine environments. Suitable for non-science majors.

MI 331 CHEMICAL OCEANOGRAPHY 3 s.h.

Prerequisites: MI 110 and one year of chemistry.

Treatment of oceanic chemical phenomena by sampling and laboratory analysis techniques.

MI 342 MARINE BOTANY 3 s.h.

In-the-field studies and laboratory analysis by instrumentation of marine and marine fringe plants in the Middle Atlantic Coast as exemplified by those found in the Cape Henlopen, Delaware, and Wallops Island, Virginia, areas.

MI 343 MARINE ICHTHYOLOGY 3 s.h.

Prerequisites: General Biology and/or consent of the instructor.

A study of fishes. Specimens collected along Eastern Seaboard by students will be used to illustrate anatomy, physiology and systematics of this major vertebrate group. Field collections will give student opportunity to observe relationships of these animals to biotic and physical environment.

MI 344 ANATOMY OF MARINE CHORDATES 3 s.h.

Prerequisites: Six hours of biology including general Zoology.

Designed to familiarize students with various aspects of marine chordates.

MI 345 MARINE ORNITHOLOGY 3 s.h.

Prerequisite: One year of Biology, or consent of the instructor.

Introduces student to avian fauna of seacoast and enables comparison with inland species. In addition to field work providing visual and vocal identification, lecture material will include information on distribution, behavior, physiology and anatomy of birds.

MI 362 MARINE GEOLOGY 3 s.h.

Prerequisites: MI 110 and physical geology or consent of instructor.

Studies of structural and sedimentary environments of continental shelf, slopes and ocean basins and crustal structure of earth and its relation to sedimentary record and geologic history of oceans.

MI 364 PHYSICAL OCEANOGRAPHY

3 s.h.

Prerequisites: MI 110, one year of physics, one semester of calculus and permission of the instructor.

Course includes consideration of physical properties, mass and energy budgets, theory of distribution of variables; cause, nature, measurement, analysis and prediction of tides, currents and waves; and basic instrumentation in the field.

MI 420 MARINE MICROPALAEONTOLOGY

3 s.h.

Prerequisites: One year of geology and biology or consent of instructor.

Deals with modern, living representatives of microorganisms important in fossil record with particular emphasis placed on taxonomy, morphology, evolution and ecologic affinities of representative groups.

MI 431 ECOLOGY OF MARINE PLANKTON

3 s.h.

Prerequisite: One year of Biology.

Study of phytoplankton and zooplankton in marine and brackish environments. Qualitative and quantitative comparisons made between the planktonic populations of various types of habitats in relation to primary and secondary productivity.

MI 459 COASTAL GEOMORPHOLOGY

3 s.h.

Prerequisite: One year of Geology.

A study of coastal geomorphology with emphasis on Late Cenozoic and Pleistocene sea-level changes in response to world-wide continental glaciation. The student will participate in field studies of Pleistocene deposits and the weathering of these deposits.

MI 481 SPECIAL TOPICS

3 s.h.

Prerequisite: Instructor consent.

Topics vary from session to session.

MI 500 PROBLEMS IN MARINE SCIENCE

3 s.h.

Graduate students or undergraduate students with advanced standing registering for this course may elect either of the following options.

Option A: Take a 200, 300, or 400 level MI course and complete, in addition to regular course requirements, a project in the area under direction of instructor.

Option B: Complete an independent research project. A research proposal must be approved by the Academic Committee of M.S.C. in advance of the time research is to be pursued.

MATHEMATICS DEPARTMENT

JAMES C. REBER, CHAIRPERSON; ANGELO, ARMS, BERTNESS, BROUGHTON, BUSOVICKI, CROOKS, A. DAVIS, DEISHER, DUNCAN, GIAMBRONE, GIBSON, HARTMAN, HENNEMANN, W. LONG, MADERER, D. McBRIDE, R. McBRIDE, McCOY, MUELLER, OAKES, PETERS, RETTIG, D. SHAFER, SHAWER, SHEPLER, W. SMITH, SPEAKMAN, STILWELL, WESTWOOD, R. WOLFE, M. WOODARD.

The Mathematics Department prepares students for work in industry, graduate school mathematics and teaching. Degrees offered by the Department are the Bachelor of Science in Mathematics, the Bachelor of Science in Applied Mathematics, and the Bachelor of Science in Education with a Mathematics major. The first two degree programs are offered within the College of Natural Sciences and Mathematics and the third is with the College of Education. The Department also offers a minor in Mathematics and a minor in Applied Statistics. The program for a mathematics major in the College of Natural Sciences and Mathematics is two-phased. A student may pursue a degree in Applied Mathematics or Mathematics. Those completing a degree in Mathematics will be prepared to continue their studies in mathematics in graduate school though some may enter business, industry, or government service. Those students receiving a degree in Applied Mathematics will be primarily prepared to enter business, industry, or government service in an area where mathematics or computer sci-

ence is used or to continue their studies in applied mathematics or computer science in graduate school. This student would not be expected to continue graduate studies in pure mathematics.

The program leading to the B.S. in Education with a Mathematics major prepares the student for teaching mathematics in junior or senior high school. Many graduates, however, continue their formal education in mathematics at the graduate level.

Core Program

Requirements for ALL Mathematics majors, beyond the University's General Education requirements are CO 110 and 18 semester hours in Mathematics, as follows:

MA 127, 128, 227	Calculus I, II, III	12 s.h.
MA 171	Introduction to Linear Algebra	3 s.h.
MA 271	Introduction to Algebraic Structures	3 s.h.

B.S. in Mathematics

In addition to the Core Program, requirements are 18 more semester hours in Mathematics, as follows:

I.	MA 421	Advanced Calculus I	3 s.h.
	MA 476	Abstract Algebra I	3 s.h.
II.	At least 3 semester hours in one of the following:		
	MA 422	Advanced Calculus II	3 s.h.
	MA 427	Introduction to Topology	3 s.h.
	MA 477	Abstract Algebra II	3 s.h.
III.	At least enough semester hours in the following courses to meet the minimum requirements of 36 semester hours total for the major:		
	MA 241	Differential Equations	3 s.h.
	MA 353	Theory of Numbers	3 s.h.
	MA 355	Foundations of Geometry I	3 s.h.
	MA 356	Foundations of Geometry II	3 s.h.
	MA 363	Mathematical Statistics I	3 s.h.
	MA 364	Mathematical Statistics II	3 s.h.
	MA 371	Linear Algebra	3 s.h.
	MA 423	Complex Variables I	3 s.h.
	MA 424	Complex Variables II	3 s.h.
	MA 465	Topics in Statistics	3 s.h.

It is strongly recommended that the Mathematics major take two of the three courses in Section II, one of the two being Introduction to Topology. It is further recommended that students who intend to take graduate work in mathematics check the requirements for entrance to their intended school of graduate study for guidance in choosing courses from Section III. B.S. in Applied Mathematics In addition to the Core Program, requirements are as follows:

I.	MA 241 - Differential Equations and MA 342 -	Advanced Calculus for Applications	7 s.h.
	or		
	MA 421, 422	Advanced Calculus I and II	6 s.h.
	MA 363, 364	Mathematical Statistics I and II	6 s.h.
	MA 445	Programming Models in Operations Research	3 s.h.
	or		
	MA 446	Probabilistic Models in Operations Research	3 s.h.

- II. An additional course selected from the following is required so that the total number of semester hours is at least 36. MA 371, MA 399, MA 423, MA 424, MA 427, MA 445, MA 446, MA 465, MA 476, MA 477, MA 481, MA 490.
- III. CO 250 Introduction to Numerical Methods 3 s.h.
CO 450 Applied Numerical Methods 3 s.h.

B.S. in Education (Mathematics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a Mathematics major are 16 semester hours in Mathematics, including ED 456, as follows:

- I. Required courses:
- | | | |
|---------------------|---|--------|
| MA 355 | Foundations of Geometry I | 3 s.h. |
| Ma 363 | Mathematical Statistics I | 3 s.h. |
| MA 452, 453, or 454 | - Mathematical Methods Seminar* | 1 s.h. |
| ED 456 | Teaching Mathematics in the Secondary Schools | 3 s.h. |

*Seminars in teaching geometry, teaching algebra and teaching general mathematics will be conducted as part of the seminar offerings. It is required that each Mathematics major take at least one of these seminars.

- II. One 3 semester hour course must be selected from the following five courses:
- | | | |
|--------|---------------------|--------|
| MA 353 | Theory of Numbers | 3 s.h. |
| MA 371 | Linear Algebra | 3 s.h. |
| MA 421 | Advanced Calculus I | 3 s.h. |
| MA 476 | Abstract Algebra I | 3 s.h. |
- III. Mathematics electives (chosen in consultation with adviser) at least 3 semester hours.

Minor in Mathematics

The Minor in Mathematics consists of a minimum of 17 semester hours in mathematics made up of any two semester sequence in calculus and additional semester hours selected from courses for mathematics majors. This excludes MA 010, MA 101, 110, 214, 216, 217, 417, 482, 483.

Minor in Applied Statistics

The Minor in Applied Statistics consists of a minimum of 17 semester hours in Mathematics selected as follows: Required are (a) MA 121, 123, or 127; (b) Choice of at least one of the following: MA 102, MA 122, MA 171; (c) Choice of MA 214, 216 or MA 217; (d) MA 417. The remaining semester hours may be chosen from appropriate courses in Statistics, Ma 418, MA 481-3 or mathematics courses approved by designated adviser in the Mathematics Department.

A cumulative QPA of at least 2.0 in MA courses is required for a Minor in Mathematics or Applied Statistics. The Mathematics Department will not certify that a transfer student has complete a minor unless the student has completed at least one course in the IUP Mathematics Department.

COURSE DESCRIPTIONS

MA 010 BASIC ALGEBRA 3 s.h.
A basic course in algebra including factoring, exponents and radicals, systems of linear equations, complex fractions and inequalities. Designed for those students who lack the basic algebraic skills required in MA 110 Elementary Functions. This course will not meet general education math requirements. (3 hours lecture)

- MA 101 FOUNDATIONS OF MATHEMATICS** 3 s.h.
Introduces logic and mathematical way of analyzing problems; develops an appreciation for nature, breadth, and power of mathematics and its role in a technological society and introduces useful mathematics or mathematics related to student interest. Possible topics include: logic, problem-solving, number theory, linear programming, probability, statistics, intuitive calculus, introduction to computers, mathematics of finance, game theory. (3 hours lecture)
- MA 102 FINITE MATHEMATICS** 3 s.h.
Prerequisite: At least 4 years of high school mathematics or a college mathematics course. An informal approach to practical application of mathematics. Fundamental concepts of matrices, linear system, linear programming, probability and decision theory will be introduced and used to develop mathematical models for business, physical science and ecology. Computer packages may be used as a tool to solve mathematical problems. This course may be taken in place of MA 101 by well-prepared students or by those who have completed MA 101 and seek an additional experience. (3 hours lecture)
- MA 110 ELEMENTARY FUNCTIONS** 3 s.h.
For students not prepared to begin study of calculus; topics include polynomial, exponential, logarithmic and trigonometric functions. (3 hours lecture)
- MA 121/122 CALCULUS I AND II FOR BUSINESS, NATURAL AND SOCIAL SCIENCES** 4 s.h. each
Prerequisite: MA 110 or equivalent high school preparation. Introduces non-math major to analytic geometry, elementary functions (including trig functions), central ideas of the calculus (limit, derivative and integral), applications of these central ideas to social and natural sciences and numerical methods that involve series. (4 hours lecture)
- MA 123/124 CALCULUS I AND II FOR PHYSICS AND CHEMISTRY** 4 s.h. each
Prerequisites: High school algebra, geometry and trigonometry. Techniques of differentiation and integration, with application to analytic geometry of two and three dimensions by means of vector analysis (algebra and calculus), kinematics, surface integrals, line integrals, infinite series, matrices and simultaneous linear equations, differential equations with numerous application to physical problems. (4 hours lecture)
- MA 127/128/227 CALCULUS I, II, AND III** 4 s.h. each
Prerequisite: Permission of the Mathematics Department. These courses stress the theory of the calculus as well as the application in problem solving. Topics to be included are: Calculus I -- real numbers, an introduction to analytic geometry, functions, limits and continuity, derivatives and applications, the differential, and antidifferentiation; Calculus II -- definite integrals and applications, logarithmic and exponential functions, trigonometric and inverse trigonometric functions, polar coordinates, hyperbolic functions, indeterminate forms, improper integrals and Taylor's formula; Calculus III -- vectors in the plane, parametric equations, vectors in three dimensional space, solid analytic geometry, differential calculus of functions of several variables, directional derivatives, gradients, applications of partial derivatives, infinite series. (4 hours lecture)
- MA 171 INTRODUCTION TO LINEAR ALGEBRA** 3 s.h.
Introduction to vector spaces, linear transformations determinants and matrix algebra. Topics are presented in a direct and intuitive approach. (3 hours lecture)
- MA 214 PROBABILITY AND STATISTICS FOR BUSINESS MAJORS** 3 s.h.
Designed to introduce study of probability theory, discrete random variables and probability distributions, empirical frequency distributions, theoretical frequency distributions, statistical investigations and sampling, and sampling distributions. (3 hours lecture)

- MA 216 PROBABILITY AND STATISTICS FOR NATURAL SCIENCES 4 s.h.
Prerequisite: MA 121
Frequency distributions, measures of central tendency and variation, probability, probability distributions, sampling distributions. Hypothesis testing for means, variances, proportions. Correlation and prediction, regression, analysis of variance and nonparametric statistics. Emphasis on applications. (4 hours lecture)
- MA 217 PROBABILITY AND STATISTICS 3 s.h.
(For non-math majors)
Frequency distributions, measures of central tendency, variation, elementary probability, sampling, estimation, testing hypotheses, correlation and regression; emphasis on applications as opposed to theoretical development of topics. (3 hours lecture)
- MA 219 DISCRETE MATHEMATICS 3 s.h.
Prerequisites: CO 110 and a two semester calculus sequence.
Topics include set algebra, mappings, relations, semigroups, groups, directed and undirected graphs, Boolean algebra and propositional logic, with examples and applications of these to various areas of computer science. Emphasis placed on developing an intuitive understanding of basic structures rather than formal theories, and influence of these topics on theory and practice of computing. (3 hours lecture)
- MA 241 DIFFERENTIAL EQUATIONS 3 s.h.
Prerequisite: MA 122 or 124 or 227. Emphasis is placed on techniques of solution and elementary physical applications. A thorough study is made of differential equations classified as order one-degree one, linear, and nonhomogeneous. Solution techniques involving reduction of order techniques, the differential operator and infinite series are introduced. (3 hours lecture)
- MA 271 INTRODUCTION TO ALGEBRAIC STRUCTURES 3 s.h.
Gives student basic ideas of contemporary mathematics. Includes mathematical logic, algebra of sets, equivalence relations and partitions of sets, functions and fundamentals of group theory. Methods of proof in area of abstract mathematics. (3 hours lecture)
- MA 342 ADVANCED CALCULUS FOR APPLICATIONS 4 s.h.
Prerequisite: MA 241
This course deals with application of mathematics to problems of science. Emphasis is placed on the three phases of such an application and on the development of skills necessary to carry out each step: (a) translation of the given physical information to a mathematical model; (b) treatment of the model by mathematical methods; (c) interpretation of the mathematical result in physical terms. Topics included are vector calculus, integral theorems, fourier series, partial differential equations and the Laplace transformation. (4 hours lecture)
- MA 353 THEORY OF NUMBERS 3 s.h.
Prerequisite: MA 271.
Divisibility, congruences, primitive roots, number theoretic functions, diophantine equations, continued fractions, quadratic residues. (3 hours lecture)
- MA 355 FOUNDATIONS OF GEOMETRY I 3 s.h.
Prerequisites: MA 171, 271.
Studies various groups of transformations and geometries associated with these groups in the Euclidean plane. The Euclidean Similarity, Affine and Projective Groups of Transformations are studied. (3 hours lecture)
- MA 356 FOUNDATIONS OF GEOMETRY II 3 s.h.
Prerequisite: MA 355. An extension of the topics included in MA 355. The real projective plane is introduced and the analytic geometry of this plane. (3 hours lecture)
- MA 363 MATHEMATICAL STATISTICS I 3 s.h.
Prerequisite: MA 122 or 124 or 227.
Probability theory necessary for understanding of mathematical statistics is developed. Ap-

lications of set theory to models, combinations and permutations, binomial, Poisson and normal distributions, expected values and moment generating functions. (3 hours lecture)

MA 364 MATHEMATICAL STATISTICS II 3 s.h.
Prerequisite: MA 363.

Multivariate distributions, change of variable technique, Chisquare distribution, estimation, confidence intervals, hypothesis testing, contingency tables, goodness of fit. Practical applications are used to aid in the development. (3 hours lecture)

MA 371 LINEAR ALGEBRA 3 s.h.
Prerequisites: MA 171, 271.

Vector spaces and linear transformations are studied in a theoretical setting. Also canonical forms and multilinear algebra are studied. (3 hours lecture).

MA 399 INTERNSHIP IN MATHEMATICS 3-12 s.h.
Prerequisites: Completion of core curriculum, completion of application.

Positions with participating companies or agencies provide students with experience in mathematics related work under the supervision of the agencies and faculty. Requirements include one to three on-site consultations, two university consultations, completion of progress reports and presentation of final cumulative paper.

MA 417 STATISTICAL APPLICATIONS 3 s.h.
(For non-math majors) Prerequisite: MA 214, 216 or 217.

Using computer programs, a wide array of statistical procedures for educational research workers will be explored. Basic concepts of statistical inference and prediction will be reviewed, including regression analysis and prediction, hypothesis testing, analysis of variance and covariance, and partial and multiple correlation. Emphasis is on use of computer and interpretation of computer print-outs, along with understanding techniques employed. No computer knowledge is necessary. (3 hours lecture)

MA 418 SAMPLING SURVEY THEORY AND ITS APPLICATION 3 s.h.
Prerequisites: (For non-math majors), MA 214, 216 or 217.

Directed to the student who is or will be doing quantitative research and will be commissioning large-scale surveys and will be evaluating the results. Sampling techniques and statistical principles underlying their use will be introduced. Consideration to the practical problems associated with implementation. (3 hours lecture)

MA 421 ADVANCED CALCULUS I 3 s.h.
Prerequisites: MA 124 or MA 227, MA 271.

Study of set theory, real number system, functions topology of cartesian space, sequences, convergence and uniform convergence, continuity, and uniform continuity. (3 hours lecture)

MA 422 ADVANCED CALCULUS II 3 s.h.
Prerequisite: MA 421.

Includes study of convergence sequences in R^n , global properties of continuity, uniform continuity, differentiation of R^n , Reimann integrals and infinite series. (3 hours lecture)

MA 423-424 COMPLEX VARIABLE I AND II 3 s.h. each
Prerequisite: MA 124 or 227.

Introduction to theory of functions of a complex variable: topics included are elementary functions, analytic functions, conformal mapping, integration, series and application. (3 hours lecture)

MA 427 INTRODUCTION TO TOPOLOGY 3 s.h.
Prerequisite: MA 271.

Study of sets, functions, continuity, compactness, the separation axioms and metric spaces; application of topology to analysis is demonstrated. (3 hours lecture)

MA 445 PROGRAMMING MODELS IN OPERATIONS RESEARCH 3 s.h.
Prerequisites: 2 semester sequence of calculus

- Development of deterministic mathematical models for managerial and social sciences with relevant computational techniques. (3 hours lecture)
- MA 446 PROBABILISTIC MODELS IN OPERATIONS RESEARCH 3 s.h.
Prerequisites: 2 semester sequence of calculus, MA 363.
Development of probabilistic mathematical models for managerial and social sciences with relevant computational techniques. (3 hours lecture)
- MA 450 MATHEMATICS FOR EARLY CHILDHOOD 3 s.h.
Prerequisite: MA 151 Study of childcentered, activity-oriented mathematics program for early childhood education.
Students gather and construct manipulative materials and become familiar with commercially produced materials. Pre-number activities, number activities, numeration, operations on whole numbers, fractional numbers, geometry, measurement, problem solving.
- MA 452 SEMINAR IN TEACHING ALGEBRA 1-4 s.h.
- MA 453 SEMINAR IN TEACHING GEOMETRY 1-4 s.h.
- MA 454 SEMINAR IN TEACHING GENERAL MATHEMATICS 1-4 s.h.
Seminars are designed for pre-student teacher. Students in each class will gain insights into the problems in teaching each topic, and become aware of the materials available and methods of instruction geared to the special type of student. Education majors only.
- MA 465 TOPICS IN STATISTICS 3 s.h.
Prerequisite: MA 364
Correlation and regression from applied and theoretical points of view, bivariate and multivariate normal distribution, analysis of variance, nonparametric methods. Practical problems involving statistical techniques and use of computer statistical packages. Knowledge of computer programming is not required. (3 hours lecture)
- MA 476 ABSTRACT ALGEBRA I 3 s.h.
Prerequisites: MA 171, 271.
Development of theory of integral domains, fields, rings and groups; designed to develop student's power to think for himself and to improve ability to construct formal proofs. (3 hours lecture)
- MA 477 ABSTRACT ALGEBRA II 3 s.h.
Prerequisite: MA 476
Designed to have student continue study of algebra by use of axiomatic method; Euclidean domains; polynomial domains and extension fields included; inter-relationships between these structures and simpler structures, particularly groups and rings, are developed as in study of Galois group of a polynomial and in an introduction to Galois Theory. (3 hours lecture)
- MA 481 TOPICS IN MATHEMATICS 1-3 s.h.
(Credit toward Math major)
- MA 482 TOPICS IN MATHEMATICS 1-3 s.h.
(Credit toward graduation)
- MA 483 TOPICS IN MATHEMATICS 1-3 s.h.
(Credit for non-math majors only)
- MA 490 INDEPENDENT STUDY 1-3 s.h.
- ED 456 TEACHING MATHEMATICS IN THE SECONDARY SCHOOLS 3 s.h.
(To be taken during the year prior to student teaching.) Prepares students to teach mathematics in modern secondary schools. Lesson planning and presentation evolve from examin-

ation of teaching strategies, use of media in teaching mathematics and handling of individual differences. (3 hours lecture)

Courses for Elementary and Special Education Majors Only

MA 151 MATHEMATICS FOR ELEMENTARY TEACHERS I 3 s.h.

Topics included are: acts, concepts of logic, mathematical systems, systems of numeration developing the set of integers, rational numbers and real numbers. (3 hours lecture).

MA 152 MATHEMATICS FOR ELEMENTARY TEACHERS II 3 s.h.

Prerequisite: MA 151

Topics included are: sentences in one variable, sentences in two variables, non-metric geometry, metric geometry, coordinate geometry, introduction to statistics and probability, computers and calculators. (3 hours lecture)

EL 313 TEACHING MATHEMATICS IN THE ELEMENTARY SCHOOLS 3 s.h.

Prerequisite: MA 152

Emphasis given to recent developments in curriculum and instruction techniques for developing concepts, implications of recent research and resources and materials helpful to prospective teachers. Students will be expected to diagnose, plan, instruct and evaluate during a supervised teaching experience. Three hours lecture)

EX 240 TEACHING OF MATHEMATICS TO THE MENTALLY AND PHYSICALLY HANDICAPPED 3 s.h.

Prerequisite: MA 151

Emphasis is given to recent developments in the elementary curriculum and instruction, techniques for developing concepts, implications of recent resource developments and materials helpful to the prospective special education teacher. In this section, more emphasis will be put on helping children see issues through physical activity and how to adapt current materials to meet the needs and abilities of slow children. (3 hours Lecture)

Exemption tests for waiver of requirements are available for both MA 151 and MA 152. MA 101 Foundations of Mathematics is NOT an appropriate substitute for either MA 151 or MA 152.

Concentration in Mathematics for Elementary Education Majors

Elementary education majors may elect to take a concentration of at least 15 hours in mathematics. The program of courses for this concentration is as follows: In addition to MA 151 and 152 select nine hours from the following courses:

MA 317 INTRODUCTION TO PROBABILITY AND STATISTICS 3 s.h.

Prerequisite: MA 152

Introduces students to elementary concepts of probability and statistics which will enable them to analyze data, make predictions and determine which concepts may be used with children. (3 hours lecture)

MA 420 PRE-CALCULUS MATHEMATICS I 3 s.h.

Prerequisite: MA 152

Examines the function concept as applied to elementary real number functions and graphing techniques for these functions. Topics include real number functions such as absolute value, step, linear, quadratic and other polynomial functions, trigonometric and other periodic functions, exponential logarithmic functions and all other inverse functions. Students will examine curricular materials that develop function concepts in Grades K-8. (3 hours lecture)

MA 456 PRINCIPLES OF GEOMETRY I 3 s.h.

Prerequisite: MA 152

Students become acquainted with an informal, intuitive approach to geometry. Activities and materials for teaching geometrical concepts to children are an integral part of the course. (3 hours lecture)

MA 457 INTRODUCTION TO NUMBER THEORY 3 s.h.

Prerequisite: MA 152

Introduction to topics of elementary number theory including: divisibility, prime numbers, factorization, modular arithmetic, problem-solving and place of number theory in the elementary school curriculum. Students will examine many number theory activities which can help to strengthen skills with basic facts in an interesting, non-routine setting. (3 hours lecture)

MA 458 INTRODUCTION TO LOGIC AND LOGICAL GAMES 3 s.h.

Prerequisite: MA 152

Introduction to some of the basic ideas, terminology, and notation of mathematical logic and Boolean Algebra as well as games of strategy that involve logic. In addition, an investigation of how logic is taught and used in various programs for the elementary school. (3 hours lecture)

MA 459 COMPUTER RELATED TOPICS IN THE ELEMENTARY AND MIDDLE SCHOOL 3 s.h.

Prerequisite: MA 152

Provide teachers with concepts and techniques necessary to teach computer related topics to children. Participants will work with elementary school children throughout the semester. (3 hours lecture)

MA 471 BASIC CONCEPTS OF ALGEBRA 3 s.h.

Prerequisite: MA 152

Concepts of basic algebraic structures such as group, ring, integral domain, field and vector space are studied within the context of the mathematical maturity of the student. Other topics include relations and functions, polynomials and polynomial equations, systems of equations and inequalities. Consideration given to development of these concepts in the mathematics curriculum. (3 hours lecture)

NATURAL SCIENCES

CHARLES R. FUGET, DIRECTOR; BALLAS, BROUGHTON, GAGGINI, MUELLER, SCROXTON.

The program leading to the Bachelor of Science degree in Natural Science is designed to prepare students for various professional schools - optometry, podiatry, pharmacy, dentistry (the natural science major is not recommended for medical school preparation). The degree is offered by the College of Natural Sciences and Mathematics.

In addition to the University's General Education requirements and the requirements of the College of Natural Sciences and Mathematics, a total of 45-46 semester hours are required for the major. The distribution is: Biology, 14 s.h.; Chemistry, 16 s.h.; Physics, 8 s.h.; and Mathematics or Computer Science, 7 to 8 s.h.

NOTE: The credits in Natural Sciences and in Mathematics INCLUDE those required in the General Education portion of the degree requirements.

PHYSICS DEPARTMENT

RICHARD D. ROBERTS, CHAIRPERSON; BERRY, BUCKWALTER, EDDY, FOX, GAGGINI, HERSHMAN, MATOLYAK, MATOUS, McNAMARA, RAMSEY, RIBAN, WHITSON.

The Physics Department aims to fully prepare qualified young men and women for careers in physics. Two degrees are offered within the College of Natural Sciences and Mathematics: the Bachelor of Science in Physics and the Bachelor of Arts in Physics. Each of these is adequate preparation for those wishing to enter a graduate program in physics or wishing

to pursue research in industrial technology or for those wishing a strong physics background before aiming at their direct goal of medical research, air pollution control, etc. Two degrees are provided within the College of Education, the Bachelor of Science in Education with a Physics major and the Bachelor of Science in Education with a Physics-Mathematics major. The department also provides a minor in Physics, as well as general science courses for those who wish to be truly liberally educated with a working knowledge of the rudiments of physical science.

In addition, a pre-engineering program is offered whereby a student may acquire the first two years' requirements at IUP and complete the remainder at the cooperating institution.

CURRICULA

Core Program

Requirements for ALL Physics programs are 18 semester hours in Physics and 18 semester hours in Mathematics as follows:

Physics

*PY 131-1	Physics I-C Lecture	3 s.h.
*PY 132-1	Physics II-C Lecture	3 s.h.
*PY 131-2	Physics I-C Lab	1 s.h.
*PY 132-2	Physics II-C Lab	1 s.h.
PY 222	Mechanics I	2 s.h.
PY 331	Modern Physics	3 s.h.
PY 350	Intermediate Experimental Physics I	3 s.h.

Mathematics

*MA 123	Calculus I for Physics and Chemistry	4 s.h.
*MA 124	Calculus II for Physics and Chemistry	4 s.h.
MA 241	Differential Equations	3 s.h.
MA 342	Advanced Calculus for Applications	4 s.h.
CO 200	Introduction to Computers	
or		
CO 110	Introduction to Computer Science	3 s.h.

*Or appropriate substitute.

B.S. in Physics

In addition to the Core Program, requirements for the degree of Bachelor of Science in Physics are 27 more semester hours in Physics and 3 more semester hours in Mathematics, as follows:

Physics

PY 223	Mechanics II	2 s.h.
PY 231	Electronics	4 s.h.
PY 242	Optics	3 s.h.
PY 323	Electricity and Magnetism II	2 s.h.
PY 342	Thermal and Statistical Physics	3 s.h.
PY 351	Interm. Exp. Physics II	3 s.h.
PY 473	Quantum Mechanics I	4 s.h.
PY 472	Nuclear Physics	3 s.h.
or		
PY 490	Solid State Physics	3 s.h.
Physics Elective		3 s.h.

Mathematics - One of the following:

MA 171	Intro to Linear Algebra	3 s.h.
MA 217	Probability and Statistics	3 s.h.
MA 421	Advanced Calculus I	3 s.h.
MA 423	Complex Variables I	3 s.h.
CO 250	Intro to Numerical Methods	3 s.h.

B.A. in Physics

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Physics are 18 more semester hours in Physics as follows:

Physics

PY 223	Mechanics II	2 s.h.
PY 231	Electronics	4 s.h.
PY 323	Electricity and Magnetism II	2 s.h.
PY 351	Interm. Exp. Physics II	3 s.h.
PY 473	Quantum Mechanics I	4 s.h.
Physics Elective		3 s.h.

In addition, students are required to complete a two-semester Natural Science sequence other than Physics and a two-semester advanced Social Science or a two-semester advanced Natural Science sequence.

B.S. in Education (Physics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a Physics major are 10 more semester hours in Physics and 8 semester hours in Chemistry as follows:

Physics

PY 231	Electronics	4 s.h.
PY 242	Optics	3 s.h.
Physics Elective		3 s.h.

Chemistry

CH 111-112	General Chemistry I and II	8 s.h.
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B.S. in Education (Physics - Mathematics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a combined Physics-Mathematics major are 6 more semester hours in Physics and 12 more semester hours in Mathematics, as follows:

Physics

PY 242	Optics	3 s.h.
Physics Elective		3 s.h.

Mathematics

MA 271	Intro to Algebraic Structures	3 s.h.
MA 171	Intro to Linear Algebra	3 s.h.
MA 355	Foundations of Geometry I	3 s.h.
MA 421	Advanced Calculus I	3 s.h.

Minor in Physics

To minor in Physics, a student must successfully complete 15 semester hours in Physics which must consist of at least three courses at the 200 level or higher. PY 150 may be substituted with the permission of the chairperson.

Pre-Engineering (Chemical, Civil, Electrical, Materials, Mechanical)

Common to all engineering programs are the following science and mathematics requirements: *PY 131-1, *PY 131-2, *PY 132-1, *PY 132-2, PY 322, PY 342, *MA 123, *MA 124, MA 171, MA 241 *CH 111, *CH 112.

Further requirements depend on the particular engineering program chosen. Complete information regarding a specific program may be obtained from the Physics Department. *Or appropriate substitute.

COURSE DESCRIPTIONS

PY 101 PHYSICS AND OUR ENVIRONMENT 3 s.h.

An overview of the areas of energy, transportation and pollution. These topics are approached via the relevant concepts of physical science and physics. (3 hours lecture)

PY 110 SOLAR ENERGY 3 s.h.

Prerequisite: SC 105 or equivalent

Overview of the solar energy field including the feasibility of solar technologies in comparison with other energy technologies. Science of solar collection, storage and applications. (3 hours lecture)

*PY 111-1 PHYSICS I LECTURE 3 s.h.

Prerequisites: Elementary algebra and trigonometry

General college physics; mechanics, wave motion and sound. (3 hours lecture)

*PY 112-1 PHYSICS II LECTURE 3 s.h.

Prerequisite: PY 111-1

Electricity and magnetism, heat, light, atomic and nuclear physics, and an elementary introduction to relativity and quantum theory. (3 hours lecture)

*PY 111-2 PHYSICS I LAB 1 s.h.

Corequisite: PY 111-1

Physics laboratory at level of Physics I; exercises in mechanics, wave motion and sound. (3 hours lab)

*PY 112-2 PHYSICS II LAB 1 s.h.

Corequisite: PY 112-1

Physics laboratory at level of Physics II; exercises in optics, electricity and magnetism, and radioactivity. (3 hours lab)

*PY 131-1 PHYSICS I-C LECTURE 3 s.h.

Prerequisites: MA 121, 123 or 127, at least concurrently

A calculus-based course in general college physics; topics covered are similar to those covered in Physics 111, but are treated in more depth through use of calculus. (3 hours lecture)

*PY 132-1 PHYSICS II-C LECTURE 3 s.h.

Prerequisites: MA 122, 124, or 128, at least concurrently

Continuation of Physics I-C; topics covered are similar to those covered in Physics II, but are treated in more depth through the use of the calculus. (3 hours lecture)

*PY 131-2 PHYSICS I-C LAB 1 s.h.

Corequisite: PY 131-1

Sequence of physics laboratory at same level as Physics I-C; exercise in mechanics, wave motion, sound and kinetic theory. (3 hours lab)

- *PY 132-2 PHYSICS II-C LAB 1 s.h.
Corequisite: PY 132-1
Sequence of physics laboratory at same level as Physics II-C; exercises in optics, electricity and magnetism, and radioactivity. (3 hours lab)
- PY 150 COMPUTER APPLICATION TO PHYSICS LABORATORIES 3 s.h.
Covers applications of the RCA 110A and micro-computers to laboratory data acquisition. Interfacing design and construction as well as computer repair and machine level computer programming are included. (2 hours lecture and 2 hours lab).
- PY 151-1 MEDICAL PHYSICS LECTURE 3 s.h.
Development of concepts and principles of physics with a strong emphasis as to their use and application in medical and other biophysical areas. (3 hours lecture)
- PY 151-2 MEDICAL PHYSICS LAB 1 s.h.
Experiments dealing with applications of physical principles to field of medicine. Practical experience with use of electronic equipment, chart recorders, etc., of type found in modern day medicine will be introduced. (3 hours lab)
- PY 222 MECHANICS I 2 s.h.
Prerequisites: PY 111 or 131; MA 122, 124 or 128
Dynamics of a particle in one, two and three dimensions, central forces including planetary and satellite motion, energy in particle dynamics, statics, systems of particles. (2 hours lecture)
- PY 223 MECHANICS II 2 s.h.
Prerequisites: PY 222, MA 241
Mechanics of a rigid body, constraints, oscillations, wave motion, introduction to Lagrangian and Hamiltonian formulation and relativistic mechanics. (2 hours lecture)
- PY 231 ELECTRONICS 4 s.h.
Prerequisites: PY 112-1 or 132-1; MA 122, 124 or 128
Circuit theory, transients, vacuum-tube and transistor circuits, frequency response, input and output impedance, feedback and electronic noise. Operational amplifiers and digital electronics. (3 hours lecture, 3 hours lab)
- PY 242 OPTICS 3 s.h.
Prerequisites: PY 112-1 or 132-1; MA 122, 124, or 128
Geometrical optics, physical optics, including interference, diffraction and polarization. Quantum Optics is introduced. (3 hours lecture)
- PY 322 ELECTRICITY AND MAGNETISM I 2 s.h.
Prerequisite: PY 222
Electrostatic potential theory, dielectrics, dipole theory, magnetostatics, Maxwell's equation for static fields, and Legendre's polynomials and other approximation methods. (2 hours lecture)
- PY 323 ELECTRICITY AND MAGNETISM II 2 s.h.
Prerequisite: PY 322
Time-dependent form of Maxwell's equations, electromagnetic induction, vector potential, magnetism, radiation fields and poynting vector. (2 hours lecture)
- PY 331 MODERN PHYSICS 3 s.h.
Prerequisites: PY 112-1 or 132-1; MA 122, 124 or 128
Introduction to particle and wave properties of matter, atomic structure, relativity, solid state and nuclear physics. (3 hours lecture)

*PY 111-1, 112-1 with accompanying labs PY 111-2, 112-2 and PY 131-1, 132-1 with accompanying labs PY 131-2, 132-2 also satisfy the General Education requirement for a laboratory science sequence.

- PY 342 THERMAL AND STATISTICAL PHYSICS 3 s.h.
Prerequisites: PY 112-1 or 132-1; MA 122, 124 or 128
Thermometry, laws of thermodynamics, low-temperature physics, entropy, properties of ideal gas and an introduction to statistical mechanics. (3 hours lecture)
- PY 350 INTERMEDIATE EXPERIMENTAL PHYSICS I 3 s.h.
Prerequisites: PY 242 and 331
Required fundamental experiments in areas of mechanics, optics, modern physics and heat. (6 hours lab)
- PY 351 INTERMEDIATE EXPERIMENTAL PHYSICS II 3 s.h.
Prerequisite: PY 350
Increasingly sophisticated experiments in essential areas of physics. Analog and digital computers and the Van de Graaff are available. (6 hours lab)
- PY 421 SELECTED EXPERIMENTS I 3 s.h.
Prerequisites: PY 231 and 331
Experiments selected from advanced optics, microwaves, radio and optical astronomy, semiconductor properties, cryogenics and classic experiments in atomic physics. (6 hours lab)
- PY 432 ADVANCED ELECTRONICS 3 s.h.
Prerequisite: PY 231
Digital Measurement, Switching Circuit, Logic circuits, Counting, Coding, Input and Output, AD and DA converters, Computer organization. (2 hours lecture, 3 hours lab)
- PY 472 NUCLEAR PHYSICS 3 s.h.
Prerequisite: PY 331
Survey of nuclear physics; nuclear size; nuclear mass, reaction theory, types of radioactive decay, nuclear models, nuclear forces and elementary particles. (3 hours lecture)
- PY 473 QUANTUM MECHANICS I 4 s.h.
Prerequisites: PY 222 and 331
Quantum mechanics following method of Schrodinger; the theory is applied to properties of harmonic oscillator, hydrogen atom, electron in a magnetic field and radioactive decay of alpha particles. (4 hours lecture)
- PY 474 QUANTUM MECHANICS II
Prerequisite: PY 473
A sequel to PY 473, general principles of quantum mechanics are further developed. Matrix mechanics, angular momentum theory, time-independent perturbations, variational methods, spin and introduction to the many-body problem. (3 hours lecture)
- PY 480 SEMINAR 1 s.h.
Speakers from within and outside the University conduct a seminar on a weekly or bi-weekly basis on different topics of interest in the physics community.
- PY 481 SPECIAL TOPICS IN PHYSICS 1-3 s.h.
Varies from semester to semester and covers diverse topics in specific areas of physics. This course number is also used to offer courses under development.
- PY 482 INDEPENDENT STUDY IN PHYSICS 1-6 s.h.
With departmental permission, an advanced student may investigate one or more areas of physics in the student's interest. Work is supervised by a physics faculty member but does not necessarily involve regular lecture or laboratory hours.
- PY 490 SOLID STATE PHYSICS 3 s.h.
Prerequisites: PY 223 and 331
Reciprocal lattice, crystal structure, the quantization of fields to produce quasi-particles such as phonons, magnons, excitons. Fermi gas of electrons, energy bands, semiconductor crystals and photoconductivity. (3 hours lecture)

General Education Courses

SC 105 PHYSICAL SCIENCE I 4 s.h.
The physical world is studied by focusing on concepts of matter and energy; emphasis on physical phenomena that can be explained by Physics and Astronomy. (3 hours lecture, 2 hours lab)

SC 106 PHYSICAL SCIENCE II 4 s.h.
See course descriptions in Chemistry Department section.

SC 401 THE GROWTH OF SCIENCE AND ITS CONCEPTS I 3 s.h.
Traces development of science concepts and their interaction with growing society of Western Civilization, from earliest beginnings to time of Newton. Treatment is non-mathematical. (3 hours lecture)

SC 402 THE GROWTH OF SCIENCE AND ITS CONCEPTS II 3 s.h.
Influence and development of concepts of Science in Western Civilization are studied from Newton to present time; stress placed on non-mathematical understanding of the basic ideas. (3 hours lecture)

ED 457 TEACHING PHYSICS IN THE SECONDARY SCHOOL 3 s.h.
Provides foundation for a prospective secondary school physics teacher in the area of current professional practices, curriculum and methods.

PSYCHOLOGY DEPARTMENT

DOUGLAS A. ROSS, CHAIRPERSON; CARTWRIGHT, EDGAR, FLEISCHER, GROVER, D. R. JACOBS, MAGEE, MARQUETTE, PATTON, RICH, RITTLE, ROBERTSON, SCHNEIDER, STIRES, SUSSMANN, THORNTON, VANDE CREEK, WALZ, ZANICH.

The program in psychology leads to a Bachelor of Arts degree and is designed to give the student an understanding of the methods and major findings of the science of behavior, with an introduction to several areas of professional application. The major offers the background required for graduate work in psychology and also preparation for such related fields as social work, personnel work, advertising, medicine, law and theology. The department also offers a minor in psychology.

CURRICULA**B.A. in Psychology**

The major in psychology consists of a minimum of eleven courses, including PC 101 - General Psychology and MA 217 - Probability and Statistics, both of which can be used to meet General Education requirements, and Experimental Design and Analysis I and II. At least two courses must be taken from Group A and two courses from Group B below. Psychology majors are required to complete a minor or concentration.

Course Group A

PC 362	Physiological Psychology	4 s.h.
PC 363	Human Cognition: Perception	4 s.h.
PC 365	Conditioning and Learning	4 s.h.
PC 366	Human Cognition: Learning	4 s.h.
PC 367	Animal Behavior	4 s.h.

Course Group B

PC 351	Intro. to Psych. Measurement	3 s.h.
PC 354	Developmental Psychology OR	3 s.h.
PC 355	Child Psychology	3 s.h.
PC 356	Personality	3 s.h.
PC 357	Abnormal Psychology	3 s.h.
PC 358	Social Psychology	3 s.h.

Suggested Course Sequence for Psychology Majors

Freshman Year

First Semester	— PC 101 - General Psychology
Second Semester	— MA 217 - Probability & Statistics

Sophomore Year

First Semester	— PC 290 - Exp. Design & Analysis I
Second Semester	— PC 291 - Exp. Design & Analysis II

Junior Year

First Semester	
	One course from Group A
	One course from Group B
Second Semester	
	One course from Group A
	One course from Group B
Senior Year	
	At least three additional courses in psychology

An honors program has been developed to enrich the education of qualified psychology majors and assist such students in gaining entrance to graduate school by providing classroom and research experiences which will prepare them for work at the graduate level.

Psychology majors possessing at least a 3.0 quality point index at the end of their third semester are eligible to apply for entrance into the honors program. The program itself consists of two research seminar courses and two semesters of independent research taken in addition to the normal requirements for the psychology major. These requirements are normally met on a one course a semester basis throughout the four semesters of the junior and senior years. The two semesters of independent research are taken consecutively and are devoted to the completion of an honors thesis.

Minor in Psychology

A minor in psychology consists of six courses: General Psychology, Probability and Statistics, Experimental Design and Analysis I, one course from Group A, one course from Group B, and one additional course to be selected by the student.

COURSE DESCRIPTIONS

PC 101 GENERAL PSYCHOLOGY	3 s.h.
An introduction to the scientific study of behavior.	
PC 200 STRESS AND COPING	3 s.h.
Prerequisite: PC 101	
Designed to present fundamental concepts of psychological adjustment. Emphasis on preventive approaches to maladjustment and psychological disorders.	
PC 290 EXPERIMENTAL DESIGN AND ANALYSIS I	4 s.h.
Prerequisites: PC 101, MA 217	
A laboratory course devoted to designing, conducting and evaluating Results of psychological experiments. (3 hours lecture, 2 hours lab)	

- PC 291 EXPERIMENTAL DESIGN AND ANALYSIS II 4 s.h.
Prerequisites: PC 101, 290
A continuation of Experimental Design and Analysis I. (3 hours lecture, 2 hours lab)
- PC 351 INTRODUCTION TO PSYCHOLOGICAL MEASUREMENT 3 s.h.
Prerequisites: PC 101, MA 217
Survey of psychological measurement techniques, with emphasis on theoretical assumptions underlying these techniques and discussion of interpretation and limitations of measuring instruments.
- PC 354 DEVELOPMENTAL PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
Comprehensive study of all factors that contribute to human development from conception to death, particularly as they relate to psychological development of individual. A survey course directed at students not planning to take PC 355, PC 373, PC 374. Credit toward a major or minor in psychology will not be given for both PC 354 and PC 355.
- PC 355 CHILD PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
Study of factors that influence total development and behavior of child. Current theories and research are considered, with focus upon optimum development of individual. Credit toward a major or minor in psychology will not be given for both PC 355 and 354.
- PC 356 PERSONALITY 3 s.h.
Prerequisite: PC 101
Provides comparative analysis of major representative traditional and contemporary theories of personality.
- PC 357 ABNORMAL PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
The description, causes and treatment of behaviors labeled abnormal in our society are studied from experimental and clinical points of view.
- PC 358 SOCIAL PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
The study of the effects of the social environment on human behavior. Topics include perception of person, attitude formation and change, and small group interaction.
- PC 362 PHYSIOLOGICAL PSYCHOLOGY 4 s.h.
Prerequisites: PC 101, 290
Study of relationship between behavior and anatomy and physiology of nervous system. (3 hours lecture, 2 hours lab)
- PC 363 HUMAN COGNITION: PERCEPTION 4 s.h.
Prerequisites: PC 101, 290
Study of perceptual process. Sensory mechanisms for processing information are examined, as well as responses to complex stimuli. (3 hours lecture, 2 hours lab)
- PC 364 PSYCHOPHARMACOLOGY 4 s.h.
Prerequisite: PC 290 or permission
Survey of the theoretical and empirical foundations of psychopharmacology. Topics include discussions of the basic principles of pharmacology, theories of drug action, structure and function of the nervous system with special emphasis on current findings on neurotransmitters and the site of action of psychoactive drugs. (3 hours lecture, 2 lab)
- PC 365 CONDITIONING AND LEARNING 4 s.h.
Prerequisites: PC 101, 290
Examination of basic principles of learning and related phenomena; discussion of classical conditioning, discrimination learning and aversive control of behavior. (3 hours lecture, 2 hours lab)

- PC 366 HUMAN COGNITION: LEARNING 4 s.h.
Prerequisites: PC 101, 290
Study of methods and findings in areas of human memory and human information processing. (3 hours lecture, 2 hours lab)
- PC 367 ANIMAL BEHAVIOR 4 s.h.
Prerequisites: PC 101, 290
Comparative survey of behavioral processes, with emphasis on sensory systems and learning in organisms of different phylogenetic levels. (3 hours lecture, 2 hours lab)
- PC 371 HUMAN MOTIVATION 3 s.h.
Prerequisite: PC 101
Systematic study of how behavior is initiated, sustained, directed and terminated. Current theories in this area are critically reviewed.
- PC 373 ADOLESCENT PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
Study of the adolescent and his world, especially the physical aspects of adolescence, psychological growth patterns, social pressures and adaptation.
- PC 374 ADULT DEVELOPMENT AND AGING 3 s.h.
Prerequisite: PC 101
A survey of physiological, cognitive, emotional and social issues affecting the young adult, the middle-aged and the elderly. Includes an examination of significant adult life crises.
- PC 375 SOCIAL COGNITION 3 s.h.
Prerequisites: PC 101, 358
The application of social psychological research and theory to selected public issues such as racism, aggression, altruism, social injustice and international conflict.
- PC 376 ENVIRONMENTAL PSYCHOLOGY 3 s.h.
Prerequisite: PC 101
The study of the relationship between human behavior and its environmental context. Emphasis on the physical environment, both natural and built.
- PC 377 POLITICAL BEHAVIOR 3 s.h.
Prerequisites: PC 101, PS 111
An interdisciplinary course which investigates the psychological bases of political behavior.
- PC 378 PSYCHOLOGY OF DEATH & DYING 3 s.h.
Prerequisite: PC 101
Theories and research which delineate the psychological factors affecting the dying person as well as those persons close to one who is dying are discussed.
- PC 379 PSYCHOLOGY OF WOMEN 3 s.h.
Prerequisite: PC 101, Junior or Senior standing or permission of the instructor.
A critical examination of the assumptions about women which are held by the discipline of psychology, considering both current research and individual experience. The psychological effects of socialization on sex role identity, achievement, interpersonal power, mental health and critical incidents in female development are discussed in the context of relevant concepts from developmental and social psychology.
- PC 399 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 3 s.h.
Prerequisites: PC 101; MA 217
The study of psychological principles in an organizational setting; application of psychological principles to individual behavior and experience in organizations.

- PC 410 HISTORICAL TRENDS IN PSYCHOLOGY 3 s.h.
 Prerequisite: PC 101
 Comprehensive overview of historical antecedents of contemporary psychology with emphasis on their implications for future developments in the field.
- PC 445 BEHAVIOR MODIFICATION 3 s.h.
 Prerequisites: 12 s.h. of psychology
 Survey of the theoretical and empirical foundations of behavior modification procedures.
- PC 450 INTRODUCTION TO CLINICAL PSYCHOLOGY 3 s.h.
 Prerequisites: PC 101 and department consent
 Overview of clinical psychology, with emphasis upon clinician's use of methods of evaluation, and treatment and modification of behavior.
- PC 480 HONORS SEMINAR PSYCHOLOGY
 Prerequisites: PC 290 and department consent.
- PC 481 SPECIAL TOPICS IN PSYCHOLOGY 2-3 s.h.
 Prerequisites: PC 101 and department consent
 A seminar providing study of selected topics not emphasized in other courses. May be taken more than once to a maximum of 6 semester hours.
- PC 482 INDEPENDENT STUDY IN PSYCHOLOGY 1-3 s.h.
 Prerequisites: PC 101 and department consent
 Individual students pursue their particular interests in psychology in consultation with a member of the staff. May be taken more than once to a maximum of 6 credits.
- PC 489 PSYCHOLOGICAL PRACTICUM 1-12 s.h.
 Prerequisites: PC 101 and department consent
 Under supervision of psychology department, selected students receive experience in application of psychological techniques. May be taken more than once to a maximum of 12 semester hours.

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