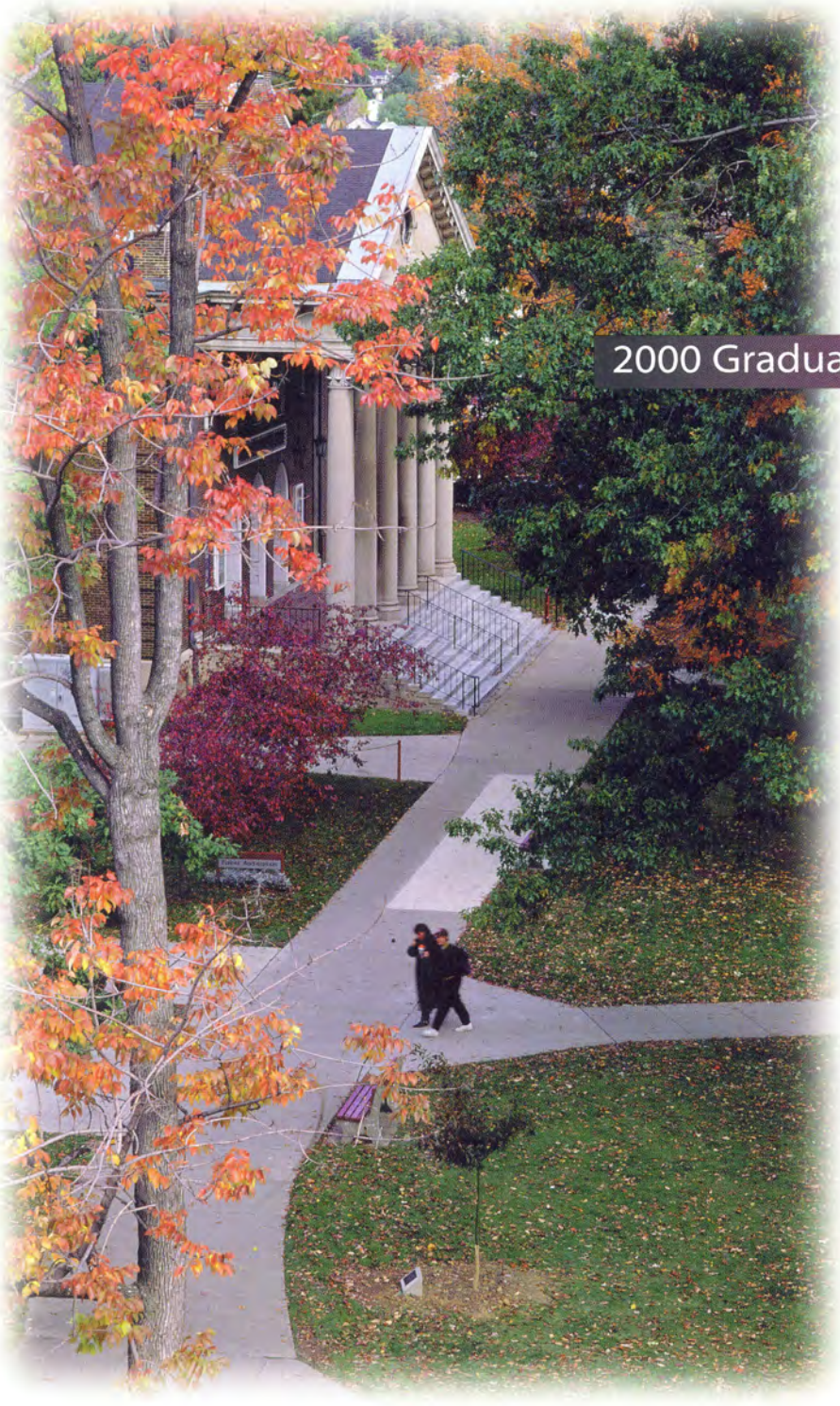


2000 Graduate Catalog

Indiana University of Pennsylvania

University Calendar

Spring Semester, 2000

Registration . . . . . January 17
Classes begin . . . . . January 18
Spring vacation begins . . . . . March 6
Classes resume (8:00 a.m.) . . . . . March 13
Reading Day . . . . . May 2
Final exams . . . . . May 3-11
Commencement . . . . . May 13

Summer Session 1, 2000

Classes begin . . . . . June 5
Holiday (no classes) . . . . . July 4
Session ends . . . . . July 7

Summer Session 2, 2000

Classes begin . . . . . July 10
Classes end . . . . . August 10

Fall Semester, 2000

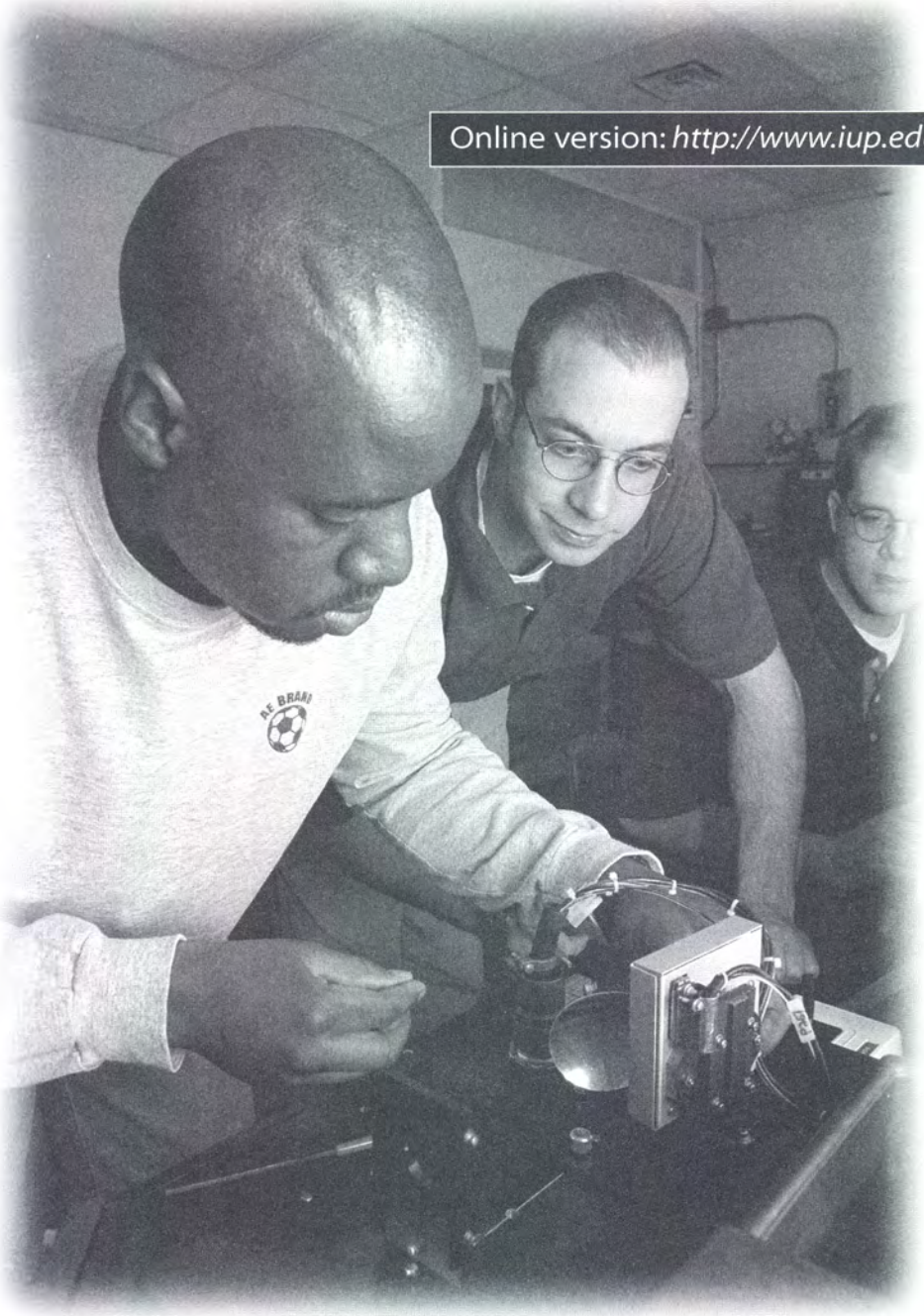
Registration . . . . . August 29
Classes begin . . . . . August 30
Labor Day (no classes) . . . . . September 4
Thanksgiving recess begins at end of night classes . . . . . November 21
Classes resume . . . . . November 27
Reading day . . . . . December 12
Final exams . . . . . December 13-16, 18-20
Commencement . . . . . December 17

Spring Semester, 2001

Registration . . . . . January 16
Classes begin . . . . . January 17
Spring vacation starts . . . . . March 5
Classes resume . . . . . March 12
Classes end . . . . . May 1
Reading Day . . . . . May 2
Final exams . . . . . May 3-5; 7-10
Commencement . . . . . May 12

IUP is the largest member institution of Pennsylvania's State System of Higher Education.

Indiana University of Pennsylvania



Online version: *http://www.iup.edu/gradua/catalog*

The Graduate School and Research
Indiana, Pennsylvania 15705-1081

IUP reserves the right to repeal, change, or amend the policies, regulations, and courses contained in this catalog at any time. Tuition and fees are also subject to change.

Press date: February, 2000

IUP's Statement of Nondiscrimination

Indiana University of Pennsylvania is committed to equal opportunity and affirmative action for its students, employees, and applicants. The university is committed to providing equal educational and employment rights to all persons without regard to race, color, sex, religion, national origin, age, disability, ancestry, or sexual orientation.

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, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991 as well as all applicable federal and state executive orders. This policy extends to disabled veterans and veterans of the Vietnam era.

Please direct all general inquiries regarding equal opportunity and affirmative action to:

Richard L. Horton
Associate Vice President for Human Resources
G-1 John Sutton Hall
Indiana University of Pennsylvania
Indiana, PA 15705

Telephone: (724) 357-2431
TDD: (724) 357-2481
Fax: (724) 357-2685

IUP ensures compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act through the provision of program access accommodations. Please direct inquiries regarding accommodations for persons with disabilities to:

Student Concerns:
Cathy Dugan
Director, Advising and Testing Center/Disability Support Services
504 Coordinator
106 Pratt Hall
Telephone: (724) 357-4067

Employee Concerns:
Helen Soltis
Assistant Director of Human Resources/ Assistant to the President for Social Equity
G-1 John Sutton Hall
Telephone: (724) 357-2431

Specific inquiries regarding Title IX should be directed to:

Rhonda Luckey
Assistant Vice President for Student Affairs
215 John Sutton Hall
Telephone: (724) 357-4040

IUP's Affirmative Action Policy

Indiana University of Pennsylvania affirms the concept of human rights and dignity and is committed to provide leadership in taking affirmative action to assure equal education and employment rights for all persons without regard to race, color, religion, sexual orientation, disability, gender ancestry, national origin, union membership, age, or sex. We believe that respect for the individual in the academic community must not be abridged or abused. Harassment or disregard of a person based on any of these characteristics is particularly intolerable on the university campus.

The university will take affirmative action to insure the implementation of this policy in employment and admissions. This policy and the obligation to provide equal opportunity include the following commitment:

1. To recruit, hire, train, and promote persons for all job classifications and to admit and educate students, without regard to race, color, religion, gender, sexual orientation, disability, ancestry, national origin, age, or sex.
2. To base decisions on selection, employment practices, employee utilization, job training, career mobility, promotion, program operation, and services provided in observance of the principles of equal employment opportunity and affirmative action.
3. To assure that all other personnel actions, such as compensation, benefits, transfers, furloughs, returns from furlough, agency-sponsored training, educational benefits, tuition assistance, social and recreational programs, etc., are administered in keeping with the policy, strategies, objectives, goals, and timetables of the Equal Opportunity Act and the Affirmative Action Plan of the university.
4. To create and maintain a workplace and educational climate that is free from discrimination and harassment, including sexual harassment, of any employee or student.
5. To make every effort to increase employment and educational opportunities for qualified disabled applicants and employees with disabilities.
6. To assure that in offering employment or promotion to persons with disabilities, no reduction in compensation would result because of disability income or other benefits.
7. To assure that reasonable accommodations will be made for the physical disabilities of an applicant or student.

As an equal opportunity/affirmative action institution, the IUP Affirmative Action Plan is applicable to employees/enrollees of Indiana University of Pennsylvania under provisions of federal and state laws including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 503 and 04 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991, as well as all federal and state executive orders. This policy extends to disabled veterans and veterans of the Vietnam era.

The IUP Affirmative Action Plan supersedes the Affirmative Action Plan of 1995-96, the 1983 IUP Plan, the August 8, 1975, Affirmative Action Plan adopted by the Board of Trustees, and the March 31, 1982, Affirmative Action Plan submitted to the U.S. Office for Civil Rights.

Responsibility for the implementation of the IUP Affirmative Action Plan has been assigned to the Associate Vice President for Human Resources.

Any employee having suggestions, problems, or complaints with regard to Equal Employment or Educational Opportunity or Affirmative Action is encouraged to contact the Associate Vice President for Human Resources in G-1 Sutton Hall or by calling (724) 357-2431.

Students with suggestions, problems, or complaints should contact the Office of the Vice President for Student Affairs, 215 Sutton Hall, or by calling (724) 357-4040.

Employees having inquiries regarding accommodations for persons with disabilities should contact the Assistant Director of Human Resources/Assistant to the President for Social Equity, G-1 Sutton Hall, or by calling (724) 357-2431.

Students with inquiries regarding accommodations should contact the 504 Coordinator/ADA Student Concerns, 106 Pratt Hall, or by calling (724) 357-4067.

Specific inquiries regarding Title IX should be directed to the Office of the Vice President for Student Affairs, 215 Sutton Hall or by calling (724) 357-4040.

University Policy on Sexual Harassment

IUP affirms that sexual harassment is a violation of basic human rights, inconsistent with the purpose and principles of an academic community. Sexual harassment of students and employees is unacceptable conduct and will not be tolerated.

Any university community member who engages in sexual harassment is subject to the disciplinary process appropriate to his/her classification as an employee or student.

The right to confidentiality of all parties involved in a sexual harassment complaint

shall be strictly adhered to insofar as it does not interfere with the university's legal obligation to investigate allegations of misconduct and to take appropriate corrective action.

IUP prohibits retaliatory action against individuals filing either informal or formal complaints of sexual harassment. Nothing contained in this policy protects an individual who maliciously makes false accusations. While seeking to protect those whose dignity might be compromised, it must be emphasized that false accusations of sexual harassment will not be tolerated.

Definition: Sexual harassment is a form of sex discrimination that is reprehensible and unlawful. Title IX of the education amendments of 1972 prohibits sex discrimination in employment. Sexual harassment is defined as:

a. making unwelcome sexual advances
b. requesting sexual favors
c. verbal or physical conduct of a sexual nature—which submission to such conduct is made, either explicitly or implicitly, a term or condition of a person's employment or education
d. verbal or physical conduct of a sexual nature—which has the purpose or effect of unreasonably interfering with an individual's academic, personal, or professional performance
e. verbal or physical conduct of a sexual nature—which has the purpose or effect of unreasonably creating an intimidating, hostile, or offensive educational, social, or work environment
f. basing employment or academic decisions upon a person's submission to or rejection of verbal or physical conduct of a sexual nature

Sexual harassment may also involve relationships among equals. In these cases, repeated sexual advances or demeaning verbal behavior have a harmful effect on one's ability to study, live, or work within the academic community.

Questions regarding the Sexual Harassment Policy or complaint procedures may be directed to Richard L. Horton, Associate Vice President for Human Resources, G-1 Sutton Hall, IUP. A complete copy of the policy is available at that location.

Table of Contents

University Calendar ..... inside front cover
The University 5
Student Programs and Services 9
Admission 13
Finances 16
Registration 20
Master's Degree Programs 21
Doctoral Degree Programs 23
General Policies and Procedures 25
Course Prefix Key 35
Graduate Programs and Courses 37-76
The Eberly College of Business and Information Technology 37
Department of Technology Support and Training 39
The College of Education and Educational Technology 40
Department of Adult and Community Education 40
Department of Counseling 41
Department of Educational and School Psychology 43
Department of Professional Studies in Education 45
Department of Special Education and Clinical Services 47
Department of Student Affairs in Higher Education 49
The College of Fine Arts 50
Department of Art 50
Department of Music 51
The College of Health and Human Services 53
Department of Food and Nutrition 53
Department of Health and Physical Education 54
Department of Industrial and Labor Relations 55
Department of Nursing 55
Department of Safety Sciences 56
The College of Humanities and Social Sciences 58
Department of Criminology 58
Department of English 60
Department of Geography and Regional Planning 64
Department of History 65
Department of Political Science 65
Department of Sociology 66
The College of Natural Sciences and Mathematics 69
Department of Biology 69
Department of Chemistry 70
Department of Mathematics 71
Department of Physics 73
Department of Psychology 73
The Graduate School and Research 76
Professional Growth 76
Course Descriptions 77-111
Graduate School Deadlines 112
Board of Governors 113
Council of Trustees 113
Administrative Officers 113
Chairpersons and Graduate Coordinators 114
Faculty 116
Index 125
Telephone Numbers ..... inside back cover

The University

Location

IUP, the largest state-owned university in Pennsylvania's State System of Higher Education, is located in Indiana, Pennsylvania, a community of 28,000 about fifty-five miles northeast of Pittsburgh and thirty miles north of Johnstown. Situated in the Allegheny foothills, Indiana has a moderate climate conducive to study the year round and a wide variety of historical, cultural, and recreational facilities both immediately at hand and in neighboring population centers.

A University Education

As an institution of higher learning, IUP is committed to the preservation, expansion, and transmission of knowledge in all its forms. As a university within the State System of Higher Education, IUP has primary responsibilities of providing high-quality education at a reasonable cost and assessing and responding to the higher educational needs of the commonwealth; as a university, IUP has the responsibility of being concerned with the needs of the nation as a whole and those of the international community at large so far as resources allow.

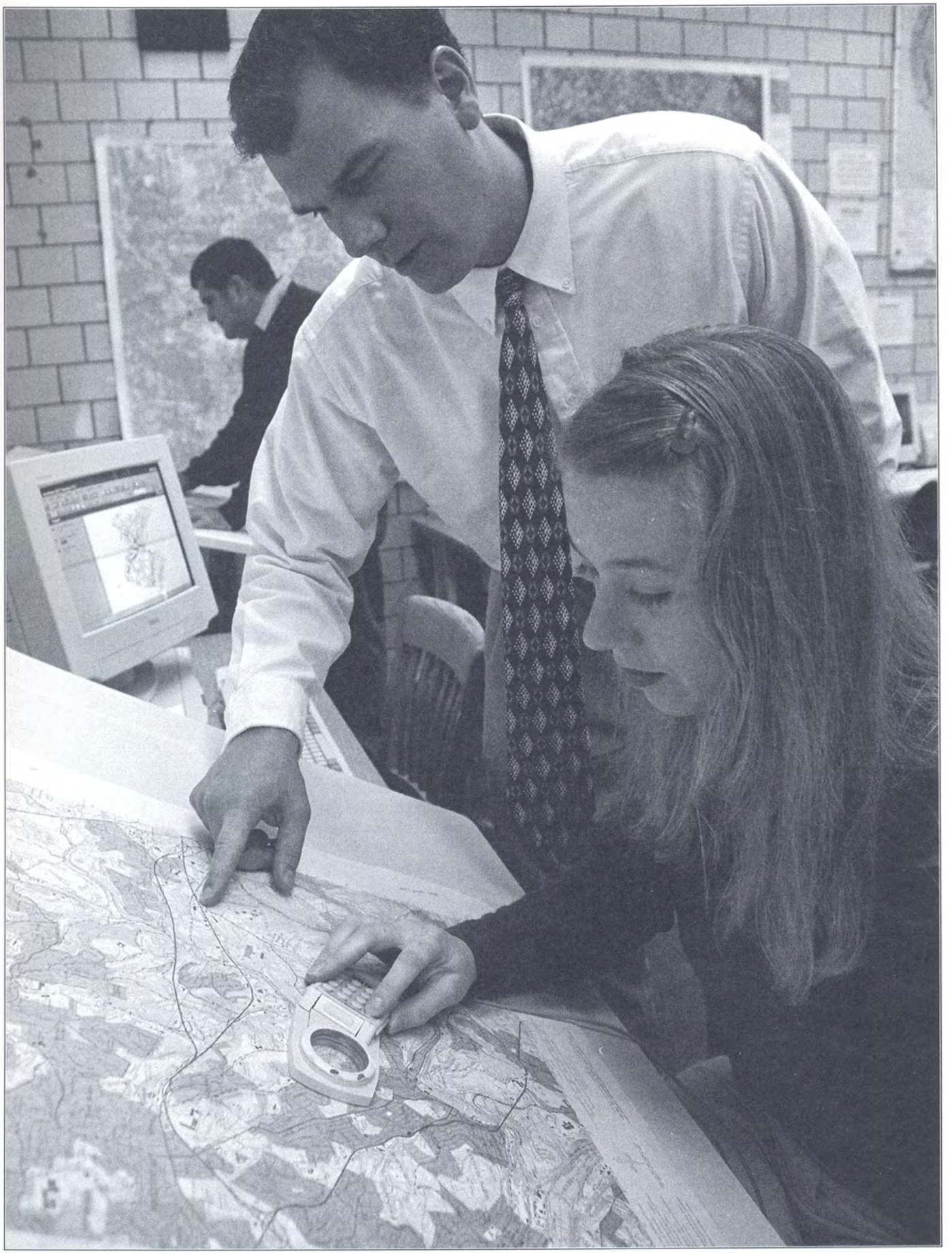
At the graduate level, IUP is committed to encouraging intellectual excellence, research, and scholarship; to providing in-depth study in each student's special field; and to stimulating continued cultural and intellectual growth for faculty and students.

The general mission of doctoral programs is to encourage the pursuit of knowledge through intellectual inquiry. Doctoral offerings will be primarily professional with emphasis on business, education, public policy studies, human services, social sciences, and applied science and technology, while allowing for distinctive, theoretical programs in the arts and sciences. Doctoral programs reflect the special role of IUP in the State System of Higher Education by meeting, in particular, identified state, regional, national, and international needs. IUP is further committed to meeting these needs by offering cooperative programs with other State System institutions. Doctoral programs will be offered in areas of need and when institutional resources allow.

The mission of the master's and specialist/certificate levels is to sustain and to develop programs of similarly high quality while, in general, emphasizing more applicable professional skills. Master's and specialist/certificate programs should be based on institutional strengths and should, in addition to other goals, address state and regional needs.

IUP is committed to conducting and disseminating basic and applied research and expects and encourages such scholarly activity in all forms.

IUP provides continuing education for adults through conferences, workshops, short courses, training programs, and degree programs for part-time students. The university strives to meet the cultural and professional needs of the community through its outreach programs and public service activities.



History of the University

IUP has witnessed a history rich in accomplishment. Since 1875, when it served only 225 students in a single building, it has experienced continuous growth, becoming Pennsylvania's fifth largest university. The current enrollment is over thirteen thousand, with students from thirty-six states and over fifty-five countries.

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. In 1959, the legislature approved a change of name to Indiana State College; in the 1960s there followed a rapid growth in the liberal arts program.

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.

The following publications have all recognized IUP for its high academic standards and competitive costs: *Arco's Dollarwise Guide to American Colleges*; *Barron's 300: Best Buys in College Education*; *The Best Buys in College Education* by Edward Fiske, education editor of the *New York Times*; *Changing Times*; *How to Get an Ivy League Education at a State University* by Martin Nemko; *Money* magazine's *Money Guide*; *Student Guide to America's 100 Best College Buys*; *Two Hundred Most Selective Colleges: The Definitive Guide to America's First-Choice Schools*; and *U.S. News and World Report.*

Graduate Education at IUP

Graduate education was inaugurated at IUP in September, l957. The university currently offers programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Fine Arts, Master of Science, Doctor of Psychology, Doctor of Education, and Doctor of Philosophy degrees. Nondegree programs leading to certification in various teaching and school service fields are also available.

In 1994, the university was granted Doctoral I classification by the Carnegie Foundation for the Advancement of Teaching. This reclassification places IUP in the company of institutions that provide a full range of baccalaureate programs and have a commitment to graduate education through the doctorate degree, awarding at least forty doctoral degrees annually in five or more disciplines.

In all graduate programs the objectives are to (a) encourage excellence and scholarship; (b) provide depth in the student's special field; and (c) stimulate enthusiasm for continued cultural and professional growth on the part of the student.

The Graduate School and Research staff is assisted in its daily functioning by a) the Graduate Committee, a standing committee of the University Senate concerned with graduate program curriculum and policy matters; b) the Graduate Student Assembly, an elected graduate student body representative of all campus academic departments offering graduate programs; and c) the chairpersons and coordinators of departments offering graduate programs.

Accreditation

IUP is accredited by the Middle States Association of Colleges and Secondary Schools, the National Council for Accreditation of Teacher Education, the Pennsylvania Department of Education, the National Association of Schools of Music for its music curriculum, National Association of Schools of Theatre, American Psychological Association for its psychology curriculum, the National Association of School Psychologists for its school psychology curriculum, the Educational Standards Board of the American Speech-Language-Hearing Association for its speech language curriculum, the Accreditation Board for Engineering and Technology for its safety sciences curriculum, and the Commission on Collegiate Nursing Education for its nursing curriculum. The university is a member of the Council of Graduate Schools in the United States and of the Northeast and the Pennsylvania Association of Graduate Schools.

Buildings and Grounds

With the addition in 1995 of 137 acres of undeveloped land from the former Campbell and County farms, the main campus, originally consisting of 12 acres and one building, is now composed of 341 acres on which are located seventy-five buildings owned by the state and seven athletic fields. Two of the buildings, Breezedale and John Sutton Hall, have been entered in the National Register of Historic Places. The Co-op Recreational Park, located a few miles from the campus, consists of 280 acres and several buildings including a lodge. The wooded hillsides offer opportunities for nature study and such outdoor recreational activities as hiking and exercise trails.

Inclement Weather Policy

Indiana University of Pennsylvania is committed to the safety and security of its students, faculty, staff, and visitors. Therefore, the decision as to whether the university should close or remain open during periods of adverse weather conditions is based on the overall concern for the university community. In general, however, IUP's practice will be to remain open and to conduct classes as usual during periods of inclement weather.

Closure of the university: Should adverse weather conditions arise or be anticipated that would make it inadvisable to operate the university on a given day, the president may, at his or her discretion, close the institution (i.e., cancel all classes and on-campus activities at all campuses). In the event of either a full- or partial-day closure, notification will be provided to the following radio and television stations: WDAD Radio (Indiana), WCCS Radio (Homer City), WJAC-TV (Johnstown), KDKA-TV and KDKA Radio-1020 AM (Pittsburgh), and WTAE-TV and WTAE Radio-1250 AM (Pittsburgh).

Cancellation of IUP-Sponsored Activities or Events in the Absence of University Closure: Should adverse weather conditions arise or be anticipated that would make it inadvisable to conduct an IUP-sponsored activity or event on a date when the university otherwise remains open, the sponsoring unit/department has the option to cancel or postpone the function. The sponsoring unit/department also assumes

responsibility for notifying event participants of the cancellation/postponement in an appropriate and timely manner.

Questions regarding the Inclement Weather Policy may be directed to the vice president for Administration, 235 Sutton Hall, IUP. Policy implemented March 6, 1995.

Library and Media Services

The IUP Libraries consist of the Stapleton/Stabley central facility, Cogswell Music Library, campus libraries in Kittanning and Punxsutawney, and the University School Library. Collectively, the University Libraries contain over 740,000 book volumes, 100,000 bound periodicals, 1.7 million items of microforms, 3,900 periodical subscriptions, 35,000 media holdings, and in excess of 24,000 volumes of government publications. (IUP is a designated Select Depository for federal and state publications.) A wide range of resources and services are available to support teaching and research. The University Libraries is an associate member of the Center for Research Libraries and a member of OCLC. Records of holdings in the IUP Libraries are accessible through the Voyager online catalog, which may be accessed via the library's World Wide Web Home Page at *http://www.lib.iup.edu/*.

Additional resources include Interlibrary Loan and online searching in various databases, including Dissertation Abstracts, ERIC, CARL UnCover, SearchBank, and EBSCOhost.

Stapleton Library has a limited number of shared and individual locked carrels for faculty, doctoral, and master's students who are working on research requiring library resources. Application for locked study carrels should be made within the first two weeks of each semester at the Circulation Desk. A $20 key deposit is required.

Room 201 in Stapleton Library has been reserved for use by graduate students. Students wishing to use the room must obtain a key by paying a $20 refundable deposit. The key is given to the student for use during his or her entire graduate career at IUP. The room provides a quiet study environment and is equipped with two Pentium computers.

Stapleton Library is open ninety-two hours per week when classes are in session. Hours are:

Monday-Thursday
7:45 a.m. -11:45 p.m.

Friday
7:45 a.m. -5:00 p.m.

Saturday
9:00 a.m. -5:00 p.m.

Sunday
1:00 p.m. -11:45 p.m.

A current Library Hours schedule may be obtained by calling ext. 357-2197.

Media Services, which produces and duplicates media materials, is located in Stabley 103 and is open 8 a.m. to 4:30 p.m., Monday through Friday. Media Resources (Stabley second floor) and the Reference Desk are open until 10 p.m., Sunday through Thursday and until 5 p.m. on Friday and Saturday. Media Resources is open on Saturdays from noon to 5 p.m. only. Special Collections and Archives is open 9 a.m. through 4:30 p.m., Monday through Friday.

Book loans are made for ninety-day periods to graduate students and faculty; books may be renewed if a "hold" request has not been submitted by another borrower. Materials are subject to recall for the use of other borrowers. Periodicals do not circulate outside the building.

Periodicals, newspapers, microform serials, and the faculty reserve collection are located on the ground floor of Stapleton. Journals are shelved in closed stacks but are accessible to faculty and graduate students.

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 have a representative share in the governance of the university.

Nothing relating to the organization and administration of the University Senate shall be construed so as to limit the authority of the Council 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. The Senate shall also include one Alumni Association representative and four representatives from staff. Faculty, administrative, and staff members must hold full-time contracts at the time of election or appointment, and students must be full-time and in good standing. "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 recognized student association (as defined by Pennsylvania state Act 1982-188) and graduate students through elections arranged by their comparable body. In both cases, the officiating body shall call for and accept voluntary nominations for election to the Senate. Student members of the University Senate serve on most of the Senate committees.

Computing Services

Academic computing support is provided by technical staff assigned to each college. The college staffs provide computational support for undergraduate and graduate students and for faculty and student research. Connectivity for student computers in the residence halls is provided through the Office of Housing and Residence Life. The administrative needs of the university, including the library's information systems, are served by the Technology Services Center.

The university's computing infrastructure consists of a DEC Open VMS cluster, several Unix systems, and a local area network environment. Access to the campus network is provided primarily through ethernet connections utilizing the campus fiberoptic backbone. Terminal access via modem is also available. IUP is connected to the Internet via SSHEnet.

Student access to computing is provided, for the most part, through the public computing laboratories. The primary public labs are strategically placed around campus to maximize their availability and

impact. Several departments maintain computing facilities that are of a focused nature and which are intended to support specific programs. These include several specialized networks to address particular needs.

Through implementation of its strategic computing plan, which is part of the university long-range planning process, the university is committed to providing the level of computing and information technology necessary for a modern institution of higher education. Guidance in this area is provided by both the Academic Computing Policy Advisory Committee and the Administrative Computing Oversight Committee.

Journal Publications

Scholarly journals published at IUP include the following: *Advances in Competitiveness Research; The Benjamin Mays Monograph Series; Competitiveness Review; Criminal Justice Policy Review; Hispanic Journal; International Journal of Commerce and Management; Journal of Global Competitiveness; Journal of Small Business Strategy; PAACE Journal of Lifelong Learning; Studies in the Humanities; The Talking Drum; Works and Days: Essays in the Socio-Historical Dimensions of Literature and the Arts.*

Foundation for IUP

The Foundation for IUP is a nonprofit corporation established in 1967 to work with the university to develop and maintain private support for IUP. It is governed by a twenty-four-member Board of Directors, and the university president and vice president for Institutional Advancement sit on the board as ex officio members. Funds raised through contributions from alumni, friends, faculty and staff, corporations, and foundations are used to support scholarships, academic and athletic enrichment, departmental programs, and other priority needs of the university. A capital campaign in progess from 1993 to 1998 resulted in $25 million for the university, and the assets of the Foundation for IUP now exceed $20 million. The offices of the Foundation for IUP are on the first floor of John Sutton Hall.

IUP Centers and Institutes

Centers and institutes serve a variety of functions. Each center/institute is unique in its focus and is created to meet a specifically identified need. Centers provide an opportunity for faculty members to utilize their expertise through consultation, technical assistance, and research-related activities. Centers/institutes provide excellent opportunities for students to learn, to demonstrate their knowledge and skills, and to become involved in meaningful projects in the community. Centers/institutes strengthen the research and public service missions of the university and, therefore, enhance the quality of education. The area code for all of the telephone numbers listed below (unless otherwise noted) is 724.

Center/Institute	Program Director	Telephone
American Language Institute	Dan Tannacito	357-2402/7675
Biotechnology Institute	Dennis Whitson	357-4593
Business, Industry, and Labor Program	Robert Friday	357-2227
Cardiac Rehabilitation Center	Archie Moore	357-4582
Center for Applied Psychology	Beverly Goodwin	357-2446
	Donald Robertson	
Center for Economic Education	Arthur Martel	357-4775/2640
	Yaw Asamoah	357-2641/2640
Center for Middle Eastern Studies	Gawdat Bahgat	357-2290/2489
Center for Research in Criminology	Rosemary Gido	357-2720
Center for Research in Written Communication and Translation	Malcolm Hayward	357-2322
	Victor Drescher	543-1078
Center for Statistics Education in Pennsylvania at IUP	Jack Shepler	357-3791/6239
	Lawrence Feldman	357-4767
	Isabella Wiggins	357-6239
Center for Teaching Excellence	Mary Ann Cessna	357-7800
Center for Video Technology	David Lind	357-7517
	Mike Bernd	357-2491
Center for Vocational Personnel Preparation	Thomas O'Brien	357-4434
Child Study Center	Victoria Damiani	357-3783
Criminal Justice Training Center	Gary Welsh	357-4054/3989
Highway Safety Center	Allen Robinson	357-3975
Institute for Research and Community Service:	Evelyn Landon	357-2439
Applied Research Lab	Charles Bertness	357-4530
Archaeological Services	Beverly Chiarulli	357-2659
Community Nutrition Services	Susan Dahlheimer	357-4357
Mid-Atlantic Addiction Training Institute	Robert Ackerman	357-4405
	Edward Gondolf	357-4749
Instructional Design Center	Dennis Ausel	357-7636
Intercollegiate Athletic Institute for Sports Camps	Frank Condino	357-2757
IUP Enterprise Center	Feryal Allen	357-3028
Literacy Center	Nedra Nastase	357-2409
Management Services Group	Robert Boldin	357-2465/2179
	Thomas Falcone	357-2549/2179
Center for Family Business	Cindy Iannarelli	357-2106
Government Contracting Assistance Program	Ronald Moreau	357-7824/2179
Small Business Development Center	Anthony Palamone	357-4841/7915
Small Business Incubator	Robert Boldin	357-2465/2179
Small Business Institute	Stephen Osborne	357-5946/5760
	Prashanth Negendra	357-5946/5760
	Joette Wisnieski	357-5946/5760
National Environmental Education and Training Center, Inc.	Kathleen Miezio	357-6484
Pennsylvania Center for the Study Labor Relations	Charles McCollester	357-2645
Pennsylvania/OSHA Consultation Program	Lon Ferguson	357-2561
Spatial Sciences Research Center	Robert Sechrist	357-2251
Speech and Hearing Clinic	Clarice Reber	357-2451
Teacher Education Center for Science, Mathematics, and Technology	Terry Peard	(800) 487-4899



Student Programs and Services

University Testing Services

IUP is formally recognized as an official testing site by several national testing agencies. These include American College Testing, Educational Testing Service, Psychological Corporation, Law School Admissions Council, and College Board. The Office of Career Services sponsors IUP's University Testing Services as part of its comprehensive mission to assist students in finding appropriate occupations and professional and graduate programs. The following are of particular interest to potential students.

The Graduate Record Examination (GRE) General Test is administered only in a computer-adaptive format. The subject examinations are offered in a paper and pencil format only in November, December, and April. Information and registration booklets are available from the Graduate School and Research or from the Office of Career Services. Registration forms must be sent directly to ETS in Princeton, New Jersey.

The Miller Analogies Test (MAT) is administered by University Testing Services monthly. To obtain registration materials, contact the Office of Career Services at (724) 357-2235. All Graduate School and Research applicants with a GPA below 2.6 must take the MAT.

The Graduate Management Admission Test (GMAT) is administered only in a computer-adaptive format. Information on test sites and registration booklets are available from the M.B.A. coordinator in the Eberly College of Business and Information Technology, the Office of Career Services, or the Graduate School and Research.

The Praxis Series (formerly The ***National Teacher Examination*** [NTE]) is administered on six nationally established dates (September, November, January, March, April, and June). These tests are required for teacher certification in Pennsylvania and many other states.

Information on graduate and professional school exams other than those used for IUP Graduate School and Research programs is available through the Office of Career Services. ***Law School Admission Test*** (LSAT) information is also available in the office of the College of Humanities and Social Sciences. Information on the ***Medical College Admission Test*** (MCAT) is available through the dean of the College of Natural Sciences and Mathematics.

Arrangements can be made in advance for the administration of tests adapted to persons with visual, auditory, learning, or physical disabilities by contacting the individual testing program.

University Testing Services is a center for the administration of tests and neither makes testing requirements nor offers interpretations of testing results. Commercial "How to Prepare for . . . " materials are available in the Co-op Store and other local bookstores. Questions regarding test requirements and required scores should be addressed to the Graduate School and Research. Questions regarding specific registration matters and test agency information and registration materials may be directed to the Office of Career Services, 302 Pratt Hall, (724) 357-2235.

Career Services

The Office of Career Services, 302 Pratt Hall, is open to all IUP graduate students and alumni. Resources are available to assist students with their personal career plans, including resume-writing, interviewing skills, and job-hunting techniques. Individual appointments with career counselors are recommended.

Services include on-campus interviews, job fairs, a job hotline, employer directories in print and on CD-ROM, an extensive Career Library, and programs that assist students and alumni in networking.

Publications

The Penn, IUP's campus newspaper, is published three times a week during the fall and spring semesters by students wishing to gain practical newspaper experience. Interested students are advised to attend organizational meetings held at the beginning of each semester.

The Source (IUP student handbook) is distributed to all students, graduate and undergraduate, in an online version. It includes rules and regulations, extracurricular programs, and general information of interest to students.

Thesis/Dissertation Manual is available in the Graduate School and Research to all graduate students and is free of charge. It includes guidelines, deadlines, and forms for students preparing theses or dissertations.

Services for Students with Disabilities

Disability Support Services (a unit of the Advising and Testing Center) is the primary agent for the provision of access for IUP students with documented physical, learning, or other disabilities. Faculty and staff within the office serve to ensure IUP's program access compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Students with disabilities are urged to register with the office. Services provided include, but are not limited to: early registration (when the university needs to provide a service such as a classroom move or assisting with recorded books); equipment loan; test proctoring and reading; note taking; recording of books; NCR paper; liaison with faculty, OVR, and BVS; and general advising and counseling. Further information may be obtained in 106 Pratt Hall or by calling (724) 357-4067 (V/TD).

Speech and Hearing Clinic

The Speech and Hearing Clinic, located in Davis Hall, offers diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy. The clinic also administers the speech and hearing clearance for teacher education programs.

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

Housing for Graduate Students

IUP provides both residence hall and apartment housing suitable for single graduate students. Two floors of Campus Towers are reserved for graduate-level students and consist of two-person, one-bedroom furnished apartments. Cable TV, all utilities, data line hookups, as well as telephone hookup and monthly service fees are included in the apartment fee. IUP will assign roommates to students who do not self-select roommates.

Residence hall rooms, including single-occupancy rooms, are available in McCarthy Hall on a first-come basis.

There is no housing on campus that meets the requirements of families; however, information about privately owned apartment units suitable for families is available from the Office of Housing and Residence Life.

Information may be obtained Monday through Friday from 8 a.m. to 5 p.m. at (724) 357-2696, by fax at (724) 357-5762, or by e-mail at *iup-ohrl@grove.iup.edu*. Visit our housing Web page at *http://www.iup/edu/house/*.

Dining On Campus

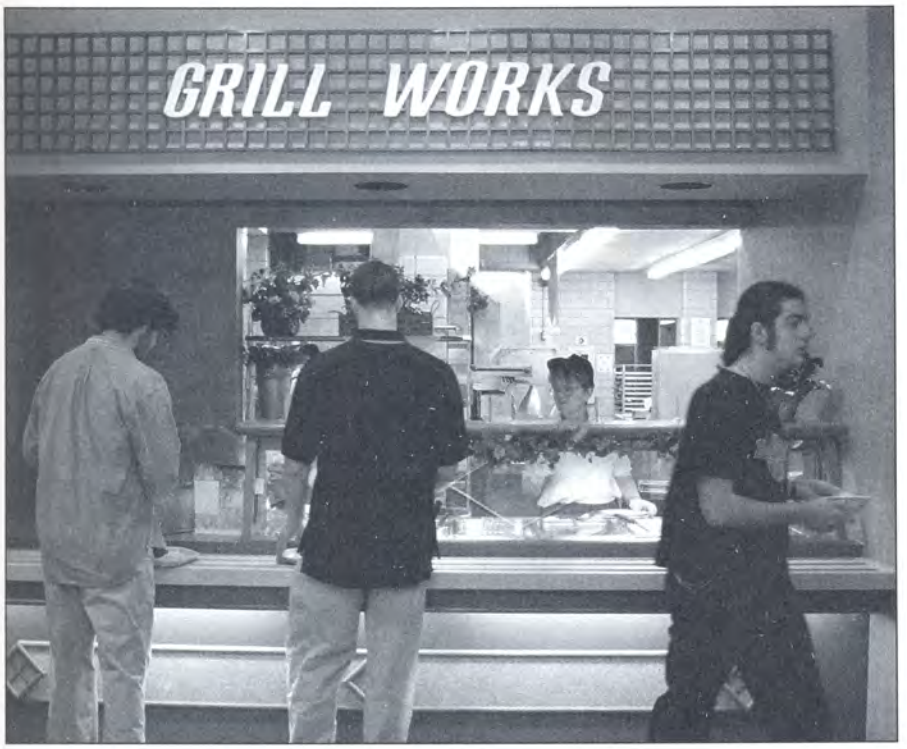
For students interested in eating on the Indiana campus, there are five locations:

- Foster Dining Hall, which is the "all-you-can-eat" location, has a food court concept
- Papertime, formerly the Underground Express, located on the lower level of Foster Hall, features *Umberto's Oven*, a Healthy Choice deli with some San Francisco-style sandwiches; *Market Market* with a rotating menu that features exhibition cooking; *Frite Street* offers hand-cut fries with assorted toppings and a variety of chicken favorites; *Badlands* has an expanded menu of Southwestern entrees. *Bene Pizzeria* is located in the rear of Papertime.
- The HUB Rock Café, located in the Hadley Union Building, features Healthy Choice sandwiches and hoagies, pizza, calzones, hamburgers, and other grill items.
- Folger Food Court features Burger King; Cranberry Farms chicken and turkey specialties; The Pasta Kitchen with "cooked to order" gourmet pastas; Bagelworks fresh-made bagels (with spreads or luncheon meats); and The Avalanche Ice Cream Bar—handdipped ice cream in a variety of cones or in a bowl.
- The Oak Room, open for lunch only, provides a luncheon buffet that includes soup, sandwiches, two hot specialties, and desserts.

There are eleven meal plans from which to choose, some with Flex Dollars (a declining balance account). The meal plans provide access to Foster, the HUB Rock Café (cash equivalency), and Papertime, formerly the Underground Express (cash equivalency). Flex Dollars and cash are accepted in all dining facilities. The new "Smart Chip" is accepted in Folger Food Court and the HUB Rock Café. A MAC debit card is accepted at Folger Food Court only.

The Meal Plan choices and 1999-2000 prices for students living in residence halls are:

- 19 meals per week plus $100 Flex for $827
- 19 meals per week for $727
- any 240 meals per semester for $737
- any 14 meals per week plus $150 Flex for $841
- any 14 meals per week for $691
- any 165 meals per semester for $660
- any 10 meals per week plus $150 for $768



Off-campus students or those living in an on-campus apartment, can choose from any of the meals plans listed above or one of the following:

- any 10 meals per week for $618
- any 75 meals per semester for $397
- any 5 meals per week plus $150 Flex for $550
- any 5 meals per week for $400

Visit the dining Web page at *http://www.iup.edu/house/dining/ds.htm.*

Automobiles

Students, faculty, and staff members who park vehicles in campus parking areas must register their vehicles with the Campus Police Office. Resident students will be issued parking permits for the following reasons: medical necessity, student teaching, or other academic need for a vehicle. A written application must be submitted to and approved by the Parking Authority Review Board. Parking will be available, for a fee, to resident students not meeting the aforementioned criteria to park in the Robertshaw lot. The Campus Police Office is located in Sutton Hall and can be contacted for information on parking as well as for copies of the current rules and regulations.

Religious Life

The spiritual needs of graduate students can be served by a variety of recognized religious student organizations at IUP. These campus ministries offer opportunities both on campus and in the community for worship, fellowship, theological and denominational studies, retreats, religious dialogues, and personal counseling.

University Health Service (Pechan Health Center)

The University Health Service operates an outpatient clinic which is open seven days a week during the fall and spring semesters. Appointments are available Monday through Friday and can be scheduled by calling (724) 357-2551. In addition to health care, the University Health Service provides a variety of health and wellness programs and services.

Full-time graduate students living off campus must pay a mandatory health fee, Plan C, which covers health and wellness programs and services including flu shots, self-care cold clinic, and TB testing. Full-time graduate students living on campus must pay a health fee called Plan A. Plan A covers routine visits, limited laboratory tests, and a variety of procedures. An optional Plan B that supplies prescription medications that are stocked at the health center and ordered by a health center medical provider is also available. Full-time graduate students have the option of upgrading their health plan to Plan A or Plan B.

Part-time graduate students are not required to pay a health fee but have the option of purchasing any of the plans. Spouses of students may also purchase any of the plans. For more information about the availability of health care plans, call (724) 357-6475.

Students are encouraged to obtain health insurance to cover the cost of care not provided at the Pechan Health Center.

For more information about the University Health Service, call (724) 357-2550/6475 or e-mail *health-inquiry@grove.iup.edu.*

Counseling and Student Development Center

The Counseling and Student Development Center is composed of two parts: counseling services and student development programs.

The counseling services department is composed of faculty psychologists and doctoral interns from the Department of Psychology. These professionals facilitate the personal and emotional growth of students by offering prevention, confidential intervention, and consultation services on an individual and small-group basis. Beyond the Health Services fee, additional fees are not charged for counseling services.

Student Development Programs is staffed by one faculty member, a graduate assistant, and an undergraduate assistant. Together they provide the following programs: summer orientation for parents of incoming freshmen, orientation for entering students immediately prior to the beginning of classes, the Six O'Clock Series, and various research projects regarding student opinions and/or satisfaction.

Guidelines for Student Conduct

IUP is an academic community within the society at large. As a community, 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 one's behavior and the consequences of such behavior. As a member of the academic community and of the larger society, a student 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 educational system is to create a positive behavioral change in the students while also protecting the rights of the members of the university community. The system will hold students accountable for their actions when regulations or statutes have been violated. A complete statement of regulations is available in the student handbook at *www.iup.edu/stuaff/source/*.

Student Cooperative Association

The Student Cooperative Association has played a broad role in the cocurricular life of the university for more than sixty years. All students, faculty, and staff who pay the Activity Fee are members of the association. Virtually all campuswide activities outside 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 programs. The student's I-Card will admit him/her free of charge or at a reduced fee to university social, cultural, and athletic events. Other income for the association comes from the profits of the Co-op Store and from events sponsored by the association.

The Student Cooperative Association operates the Hadley Union Building (HUB), which houses the Co-op Store, and the Co-op Recreational Park. The HUB, built by association members through the Activity Fee, offers many facilities for use by the university community.

The Co-op Recreational Park comprises 280 acres of wooded hillsides and fields. Included are a lodge building which will accommodate groups of up to two hundred people, a ski hut, an eighteen-station exercise course, cross-country skiing and hiking trails, picnic shelter, archery range, golf driving range, two ballfields, and a batting cage.

Cocurricular Activities and Student Organizations

As participating members of the IUP community, students occupy a responsible role in governance of the campus. Since a valuable part of education lies in participation in groups in which the need for experience in leadership, social and community responsibility, intellectual curiosity, and religious interests can be met, participation in varied organizations is available and encouraged.

There are currently more than one hundred eighty active student organizations at IUP advised by faculty or staff members selected by the students. Students are also encouraged to initiate and support new groups which reflect interests not represented by existing organizations.

Graduate Student Assembly

Each IUP department offering a graduate program is required to establish a graduate committee and is urged, but not required, to form an association for its graduate students. On a universitywide basis, the Graduate Student Assembly (GSA) is the graduate students' organization. The GSA is composed of two representatives (and frequently an alternate) elected by the full-time and part-time graduate students of the department. It serves graduate students through voting representation on the Senate Graduate Committee and the University Senate, by making recommendations about graduate student affairs to the Graduate Committee and/or the dean of the Graduate School and Research, and by working through other university committees and channels to improve the social, intellectual, and cultural life of graduate students. All graduate students are encouraged and welcome to participate in the GSA.



Admission

Requirements

1. An applicant must have a bachelor's degree from a regionally accredited college or university.
2. The applicant's cumulative undergraduate grade point average must be at least a 2.6 if the bachelor's degree was earned within the past five years. If the bachelor's degree is older than five years, the minimum cumulative grade point average required is 2.4. Applicants whose cumulative undergraduate grade point average does not meet minimum standards will be required to submit a Miller Analogies Test (MAT) score of not less than 47.
3. Graduate Record Examination (GRE) scores or Graduate Management Admissions Test (GMAT) scores must be submitted prior to admission as required by individual departments. Please refer to the section the Graduate Management Admission Test booklet for further details concerning test scores for the GMAT.

Procedures

1. Each applicant must file a completed application form. All application forms are contained in the application packet received from the Graduate School and Research. (The admissions packets sent to Doctor of Psychology and M.B.A Executive Track applicants differ somewhat from the regular packet.)
2. The application should be accompanied by official transcripts from each undergraduate and graduate institution attended, regardless of whether or not a degree was earned. These transcripts must be sealed by the registrar and remain sealed until their arrival at the Graduate School and Research. If the course(s) or the degree was completed at IUP, the applicant is not required to secure the transcript, nor is a transcript fee assessed.
3. Two letters of recommendation are required of each applicant.
4. A goal statement, dated and signed, is an important component of the application process, as it reflects the applicant's career and academic goals.
5. A nonrefundable one-time-only application fee in the amount of $30 must accompany the application. The application cannot be processed without this fee. Please pay by check (indicating your Social Security number) and make the check payable to IUP.

Admission Classifications

Applicants for admission to the Graduate School and Research are notified of their admission status by the dean of the Graduate School and Research prior to the beginning of the term of planned study. Applications must be complete before an admissions decision can be determined. Classifications are as follows:

1. **Precandidacy Status.** Granted to an applicant who plans to work toward a graduate degree and whose application materials meet admission requirements as set forth by the Graduate School and Research and the academic department.
2. **Probationary Admission.** With departmental recommendation, applicants not meeting minimum admissions criteria may be considered for one probationary semester of enrollment. The letter at admission may include additional criteria (e.g., course prerequisites) as defined by the academic department that must be fulfilled during the first semester. At the conclusion of the first semester of study, the student's progress will be reviewed by the department to determine if the student will be permitted to continue graduate studies.
3. **Level II/Certification Credits.** Credits taken under the Level II/Certification category are not intended to lead to a degree program. This category is designed to assist teachers pursuing Level II/Certification credits only.
4. **Special Status.** Awarded to an applicant who does not intend to pursue a graduate degree but only to enroll in graduate classes for which he or she is qualified. Students granted Special Status standing who wish at a later time to pursue a graduate degree should request reclassification before the completion of twelve credits. Only under exceptional circumstances will courses taken under Special Status be applicable toward the degree.
5. **One Course Only.** It is possible to take a graduate course by registering and paying for it after filing a One Course Only application. Full application to the Graduate School and Research is not required. One Course Only forms are available from the Graduate School and Research office, Stright 101, 210 South Tenth Street. Students who use this form to take their first course must apply and be admitted to the Graduate School and Research before taking additional courses.
6. **Off-Campus Program Admission.** Admission standards and processes for off-campus programs are the same as for those offered on the IUP campus. The sole exception is that students admitted under the "One Course Only" category may take two courses in their initial semester if applying to an off-campus program which utilizes the cohort model.
7. **Admission Denied.** Applicants denied admission to the Graduate School and Research will receive a letter from the dean of the Graduate School and Research indicating the reason for the denial.
8. **Inactive Standing.** Applicants who do not begin course work within one year from the date of admission are classified as Inactive. Should an Inactive student later decide to commence course work, it will be necessary to reapply for admission.

Application Deadlines

The Graduate School and Research operates under a "rolling admissions" process. This means that applications are reviewed throughout the year and that admission decisions are made daily. Some programs have specific application deadlines, and these are enumerated below.

Art (M.A. and M.F.A.) March 15
June 15

Clinical Psychology (Psy.D.) January 10

Counseling Services (M.A.) and Counselor Education (M.Ed.)
Summer admission: Two weeks before the first Friday in May
Fall admission: Two weeks before the first Friday in July
Spring admission: Two weeks before the first Friday in December

Curriculum and Instruction (D.Ed.) March 15

Education of Exceptional Persons (M.Ed.) March 1

Educational Psychology (M.Ed.) March 1

Post-Master's Certification March 1

Principal Certification (Cohort Groups)
Summer admission March 1
Fall admission May 1
Spring admission November 1

School Psychology (D.Ed.) March 1

Speech-Language Pathology (M.S.) March 1

Student Affairs in Higher Education (M.A.) March 1

Cohort Beginning Terms

Main Campus Only

Administration and Leadership Studies, Education Track (D.Ed.)
Summer, Every two years (even years)

Administration and Leadership Studies, Human Services Track (Ph.D.)
Summer, Every two years (even years); Application deadline January 15

Monroeville Only

Industrial and Labor Relations (M.A.)
Spring, Every two years (odd years)

Master of Business Administration, Executive Track (M.B.A.)
Spring, Every two years (even years)

Masters in Education (M.Ed.) Fall

Johnstown Only

Early Childhood Education (M.Ed.) Fall

Master of Business Administration, Executive Track (M.B.A.)
Fall, Every two years (odd years)

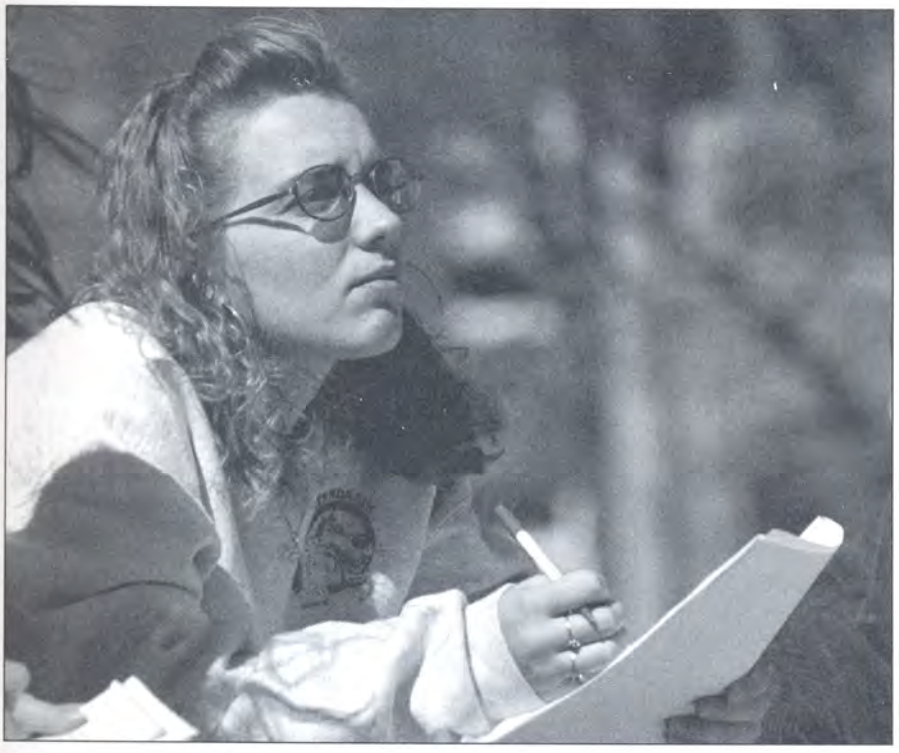
Harrisburg Only

Safety Sciences (M.S.) Fall

International Student Applicants

In addition to fulfilling the general application procedure, international applicants must present evidence of fluency in English. Applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL). The Graduate School and Research will not process applications from international applicants until TOEFL scores are on file in the Graduate School and Research. While the Graduate School and Research sets a minimum score standard of 500, some departments have higher requirements. Please consult the department for details. (Students requesting information about the TOEFL should write to TOEFL, Educational Testing Service, Princeton, NJ 08540, U.S.A.)

International applicants must also complete a Foreign Student Financial Statement, included in the application packet. The applicant must demonstrate sufficient financial resources to meet the cost of living in the United States, the cost of travel to and from the student's



native country, and the cost of graduate education at IUP (if living outside the U.S., $13,000 is needed; if living inside the U.S., $10,000 is needed). Applications will not be processed without an acceptable financial statement and application fee.

International students must submit official English translations of their transcripts. These documents must bear the official seal of the issuing college or university.

If the international applicant is admitted to the university, the Graduate School and Research will notify the Office of International Affairs at IUP. The Office of International Affairs will mail information on housing, arrival dates, and other general information about the university. Questions concerning certificates of eligibility (I-20) and other legal matters should be addressed directly to Office of International Affairs, 343 Sutton Hall, 1011 South Drive, IUP, Indiana, PA 15705-1081, U.S.A.

Applicants for Specialist, Administrative Certification, and Letter of Eligibility Programs from the Pennsylvania State Department of Education

The IUP College of Education and Educational Technology offers state-approved programs leading to specialist and administrative certificate programs in Elementary School Counseling, Secondary School Counseling (Counseling Department), School Psychology (Educational and School Psychology Department), Reading Specialist (Professional Studies in Education Department), and Elementary or Secondary School Principal (Professional Studies in Education). The program for preparation for school superintendency is an integral part of the doctoral program in Administration and Leadership (in the Department of Professional Studies in Education). This doctoral program includes the requirements for a Pennsylvania letter of eligibility to become a school superintendent.

Applicants for these programs should follow the same procedures for admission, programming, and registration as described in this catalog. Interested applicants should check with the department chair or graduate coordinator responsible for the specialized program for information before beginning the admissions process.

Principal Certification

IUP offers a performance-based school principal certification program in elementary and secondary education. Those who wish to pursue this program must first be granted admission to the Graduate School and Research. Before applying, however, interested applicants should consult with the director of the principal's certification program (Dr. Cathy Kaufman, Professional Studies in Education Department, 305 Davis Hall; [724] 357-2400).

Examination Requirements

Graduate Record Examination (GRE)

The following departments require the submission of official GRE scores (general test) prior to admission:

Administration and Leadership Studies, Human Services (Ph.D.)
Criminology (Ph.D.)
Educational Psychology (M.Ed.)
Food and Nutrition
Geography
History
Political Science
Psychology (Psy.D.)
School Psychology (D.Ed.)
Sociology

In addition to the general test, the Clinical Psychology and School Psychology progams require the Psychology subject test.

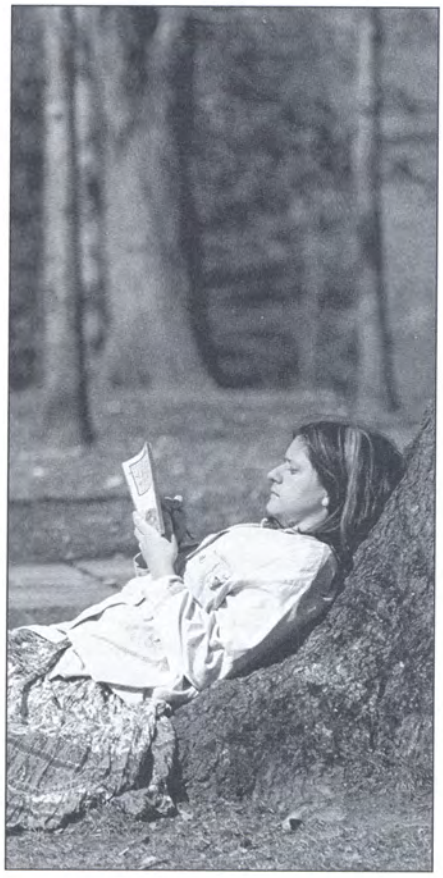
Graduate Management Admission Test (GMAT)

Applicants to the M.B.A. or M.B.A.—Executive Track program are required to submit GMAT scores of not less than 450 prior to admission as part of their application process.

Miller Analogies Test (MAT)

Applicants with cumulative undergraduate GPAs below the minimum requirements of 2.6 will be required to submit MAT scores of not less than 47 as part of their application process.

Specific information regarding test registration and availability can be obtained from the Office of Career Services, 302 Pratt Hall, (724) 357-2235. Applicants should request that their scores be sent to the Graduate School and Research at IUP.



Finances

Tuition and Fees

Fees for the 1999-2000 academic year include the following charges, which are subject to change at any time. A full-time graduate student is one who is carrying at least nine graduate credits per semester, while a part-time graduate student carries 8 credit hours per semester or less. Students must be enrolled in a degree program for at least 4.5 hours per semester to be considered for financial aid.

Tuition—Fall, 1999, and Spring, 2000

Pa. resident full-time	$1,890 per semester
Pa. resident part-time	$210 per credit
Non-Pa. resident full-time	$3,305 per semester
Non-Pa. resident part-time	$ 367 per credit hour

Tuition—Summer Session (2000)

Pa. resident	$210 per credit hour
Non-Pa. resident	$367 per credit hour

Health Fee

Plan A	$72—all services except prescription medication
Plan B	$83—all services including a variety of prescription medications
Plan C	$31—health and wellness programs and services
Full-time student	full fee
Part-time student	half of full fee (optional)
Summer Session, 1999	$28 per session

The Student Health Fee is waived for students commuting from a distance outside a sixty-mile radius of Indiana, for students having an internship which is more than thirty miles from Indiana, and for students taking fewer than nine credits per semester. The summer session fee is required of all full- and part-time students. Questions about the residency classification should be directed to the Residency Classification office, Clark Hall, (724) 357-2217.

Student Cooperative Activity Fee

Full-time student	$60.50 per semester
Part-time student	$26.00 per semester
Summer Session	$38.50 per session

Exceptions to Activity Fees: Exceptions to this fee structure are available to students who reside and hold internships or student teaching assignments outside a twenty-mile radius of campus and for those who are part-time. Contact the Student Cooperative Association at (724) 463-8541 for details.

Educational Services Fee (Mandatory)

Full-time student	$75 per semester
Part-time student	$35 per semester
Summer Session	$35 per session

Facilities Fee

Full-time student	$106 per semester
Part-time student	$53 per semester
Summer Session	$53 per session

Application Fee $30 (nonrefundable)

Late Registration Fee

On Late Registration Day	$50
After Late Registration Day	$100

Audit Fee (Same as Tuition)

Graduation Fee $30

Master's or Doctoral Cap, Hood, and Gown Fee $40

Please note: Registration for undergraduate courses is billed at the undergraduate rate.

Special Fees

Damage Fee

Students are responsible for damage, breakage, loss, or delayed return of university property.

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. Full name and Social Security number as of graduation or termination of enrollment at IUP. (Please note any name changes since graduation.)
2. Present address.
3. Whether the request is for a transcript of undergraduate and/or graduate work.
4. Date of graduation or, if none, when enrolled.
5. The full and clearly printed name(s) and address(es) of person(s) to whom the transcript(s) should be sent.

The transcript fee is $5 for each copy requested. (Checks or money orders should be made payable to Indiana University of Pennsylvania.) An additional charge of $4 will be assessed for express transcript service for a total of $9. An additional charge of $4 will be assessed for a single fax followed by a mailed official transcript for a total of $13. Multiple transcripts are $5 for the first copy and $4 for additional copies.

Any requests that 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.

If additional information is needed concerning fees, please call Student Financial Services at (724) 357-2207.

All fees are subject to change without notice.

Grades and transcripts may be withheld by IUP if a student is delinquent in paying any bill owed to the university. Payment of the bill or establishment of a payment plan satisfactory to the university will be required for release of grades and/or transcripts.

University Refund Policy

The university employs faculty, assigns residence hall space, and arranges for dining services in advance of each term based on the number of students who plan to enroll. A student who withdraws from the university creates vacancies that may not be filled and incurs obligations for compensation and services that must be honored.

The refund policy at Indiana University of Pennsylvania applies to all students, both full- and part-time, enrolled in programs for credit at the university, its branches, the Regional Police Academy, and the Academy of Culinary Arts. A student canceling or withdrawing from his/her first semester/session should refer to Section IIC.

The current refund policy can be obtained from the Student Financial Services office or from the web page: *www.iup.edu/stufin*.

Other Provisions

Formal withdrawal procedures must be initiated through the Graduate School and Research at the point of withdrawal. A written and dated notice is required by the student or the student's family in special circumstances, such as sickness, within thirty days of the student's withdrawal. In order to receive a reduction in fees for individual course withdrawal, documentation must be submitted to the Accounts Receivable Office prior to the close of the semester/session in which the course was offered.

Students who are suspended from classes, residence halls, and/or dining service will receive a reduction of fees in accordance with the refund policy.

Student military reservists or members of the National Guard who are ordered to active military service by the President of the United States will receive a full reduction in tuition. Other fees will be prorated.

Examples of refund calculations are available upon request from the Student Accounts Receivable Office, Clark Hall, which is responsible for implementing the refund policy. Students may appeal the decision rendered by the Accounts Receivable Office to the university treasurer.

Discrete Course Withdrawal

During the fall and spring semesters, graduate students may withdraw from a graduate course during the first two-thirds of the semester without prejudice and with the grade of "W" by using TERMREG. Following the close of the established withdrawal period, the student will need to petition the dean of the Graduate School and Research as determined by the published university calendar. The request must first be endorsed by the course instructor and the student's department chair or graduate studies coordinator, in that order.

For summer classes and labs, withdrawals must be processed within the first six days for each of the summer sessions.

Financial Aid

The Financial Aid Office, located in Clark 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 and educational loans.

The *Free Application for Federal Student Aid* (FAFSA) is used to determine eligibility for federal and state financial assistance. The filing deadline is April 15 of each year.

Graduate students attending IUP on at least a half-time basis (4.5 credit hours or more) will be awarded assistance based on demonstrated eligibility. To be eligible for continued funding, applicants must remain in satisfactory academic standing at the university and show continued academic progress.

The cost of attending IUP and the university's refund policy are listed in this catalog.

Assistantships

IUP offers both half-time assistantships (20 hours per week of assistantship service) and quarter-time assistantships (ten hours per week of assistantship service) to full-time graduate students. Half-time assistantships currently pay a stipend of $4,740 to $6,330 for two semesters plus a waiver of tuition for graduate course work (see details below). Duties will vary somewhat from assistant to assistant and may include supervised

teaching, research or assistance with research, and university service activities. Duties are under the supervision of a faculty member or administrator. Assistantships are looked upon as an encouragement or reward for academic excellence rather than as a means to relieve financial need.

Half-time assistantships carry a full tuition waiver for the two semesters of the assistantship and the following summer. With some exceptions, quarter-time assistantships carry one-half tuition waiver for the two semesters of the assistantship and a six semester-hour waiver for the following summer.

Since stipends for assistantships may change from year to year, potential applicants should check with the Graduate School and Research for current stipend levels.

The deadline for applying for a fall assistantship is March 15 of the same calendar year. Applications and further information are available at the office of the assistant dean of the Graduate School and Research.

Graduate Scholars Program

The Graduate Scholars Program at IUP is a resource committed to the education of graduate students of minority heritage. The Graduate Scholars Program provides financial aid in the form of graduate assistantships. The terms of the graduate assistantships are as follows: (1) an academic year stipend of $4,740 to $6,330, depending on the department and level of study; (2) tuition waiver during the academic year; and (3) tuition waiver for both sessions the following summer. Graduate assistants work 20 hours per week during the academic year but have no work assignments during the summer. Assistantship assignments are in academic departments or other academic units and are designed to be a valuable part of students' educations.

All American citizens of racial minority heritage (African American, Hispanic, Asian American, American Indian) are invited to apply for entrance to the Graduate Scholars Program. A minimum cumulative undergraduate grade point average of 2.6 is required; 3.0 is preferred. An undergraduate degree from an accredited institution must be completed prior to the beginning of graduate work at IUP. Prospective Graduate Scholars should write for an admissions packet to the Graduate Scholars Program, the Graduate School and Research, 210 South Tenth Street, IUP, Indiana, PA 15705-1081.

Teaching Associates

Each year, the Graduate School and Research offers a limited number of teaching associate positions to qualified doctoral students. Usually, an associate teaches six credit hours of undergraduate courses, but other teaching-related service is sometimes assigned in lieu of teaching. These positions carry a stipend and require the associate to be enrolled for graduate credit during each semester of the appointment. During the summer following the appointment, a tuition waiver of up to nine hours of graduate credit is awarded. Activity and health fees, as well as tuition during the fall and spring semesters, must be paid by the associate.

Minimum requirements: Associates must hold a master's degree or have completed 36 graduate semester hours prior to the appointment and must be enrolled in an IUP doctoral program and remain in good standing during the term of the appointment. Departments may have additional requirements.

For further information, contact the director of Doctoral Studies in the department offering your doctoral program.

Fellowship and Scholarship Information

Julius Filcik Doctoral Fellowship—This fellowship was made possible by an endowment established by Shirley U. Filcik and her family in memory of her husband, Julius, a member of the Class of 1953. The fellowship provides students with a financial award of $5,000.

IUP Foundation Fellowships—Foundation Fellowships are awarded to students who have demonstrated merit and the potential for academic excellence in their doctoral studies. These fellowships provide students with a financial award of $5,000 and should be combined with either a half-time graduate assistantship or a teaching associate position.

To be considered for either fellowship, the student must be nominated by his or her academic department. In addition to a completed admissions application, the nominee must provide the Graduate School and Research with a one-page prospectus of the research or clinical interests he or she intends to pursue in a doctoral program and a one-page statement of his or her qualifications for the award. All IUP fellowship nominees must be admitted to a doctoral program and must have received either a graduate assistantship or teaching associate position. Awards will be announced by June 1. For further information, please contact the Assistant Dean, the Graduate School and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Margaret Flegal Harte Scholarships—Two $450 scholarships are awarded yearly to new full-time graduate students. All new Graduate School and Research applicants except for those who receive other IUP scholarships are considered for the Margaret Flegal Harte Scholarships based on academic records and financial need. No application forms for the scholarships are required; the Free Application for Federal Student Aid (FAFSA) serves as the document for needs assessment. A FAFSA may be obtained from the Financial Aid Office. Interested students may contact the Assistant Dean, the Graduate School and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Graduate Merit Scholarships—Funding for this scholarship is made possible by the IUP Foundation Unrestricted Endowment Fund. The scholarship offers $500 awards to a small number of students who are entering a graduate program (master's or doctoral) for the first time. Merit scholars must have a strong academic background and must have been granted an assistantship. To be considered for either fellowship, eligible students must be nominated by their academic department. For further information, please contact the Assistant Dean, the Graduate School and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Employment Programs

Federal Work Study Program (FWSP)—The Federal Work Study Program provides an opportunity for graduate students enrolled in a degree-granting program of study to earn money to help finance educational expenses. Students may be employed on campus for up to 20 hours per week when classes are in session and 40 hours per week during vacation periods. Federal Work Study jobs not only help to defray the cost of education but can add valuable practical experience accompanying the student's graduate education. Eligibility is based on financial need as determined by the *Free Application for Federal Student Aid* (FAFSA). The FAFSA is available in the Financial Aid Office along with the institutional application for Federal Work Study. Students are responsible for securing their own positions on campus.

Community Service Federal Work Study Program—For students who would like to be of service to the community through participation in the activities of selected nonprofit agencies, a number of employment opportunities are available through the Community Service FWS program. Contact the Student Community Services Office located in 103 Pratt Hall at (724) 357-5657 for additional information.

University Employment (UE)—The University Employment Program provides an opportunity for graduate students to work as an accompaniment to their studies program. Maximum UE hours are 20 hours per week when classes are in session and 40 hours per week during vacation periods. No application is necessary. This employment program is not based on financial need. Employment provisions are similar to the Federal Work Study Program.

Special Funded Grant Employment—Grant employment opportunities are also available to graduate students from time to time. Interested students should check with the Assistant Dean, the Graduate School and Research, 124 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Student Loan Programs

Federal Stafford Loan—The Federal Stafford Loan provides the potential for graduate students to borrow up to $18,500 per academic year. At least $10,000 of this amount must be in unsubsidized funds on which interest must be paid by the student during the in-school and grace periods. Principal and interest on a subsidized Federal Stafford Loan are deferred while the student is enrolled on at least a half-time basis and during a six-month grace period. Eligibility for the interest subsidy is based upon financial need as determined by the FAFSA. Interest is at a variable rate not to exceed 8.25 percent.

All Federal Stafford Loans are disbursed in two equal installments, and students are required to attend a Federal Stafford Loan Entrance Interview before receiving funds for the first time at IUP.

Repayment of principal and interest on a subsidized loan begins six months after you cease half-time enrollment. You must pay the interest during the in-school and grace periods on an unsubsidized loan according to a schedule set by your lender. Principal payments begin six months after you cease half-time enrollment. There are some deferment options available after you leave school.

Private, Nonprofit Loans

There are a number of privately funded loan programs which provide funds to creditworthy students. Although the interest rates and terms are not as generous as the Federal Stafford Loan, some students may be interested in this type of borrowing opportunity. Additional information is available in the Financial Aid Office.

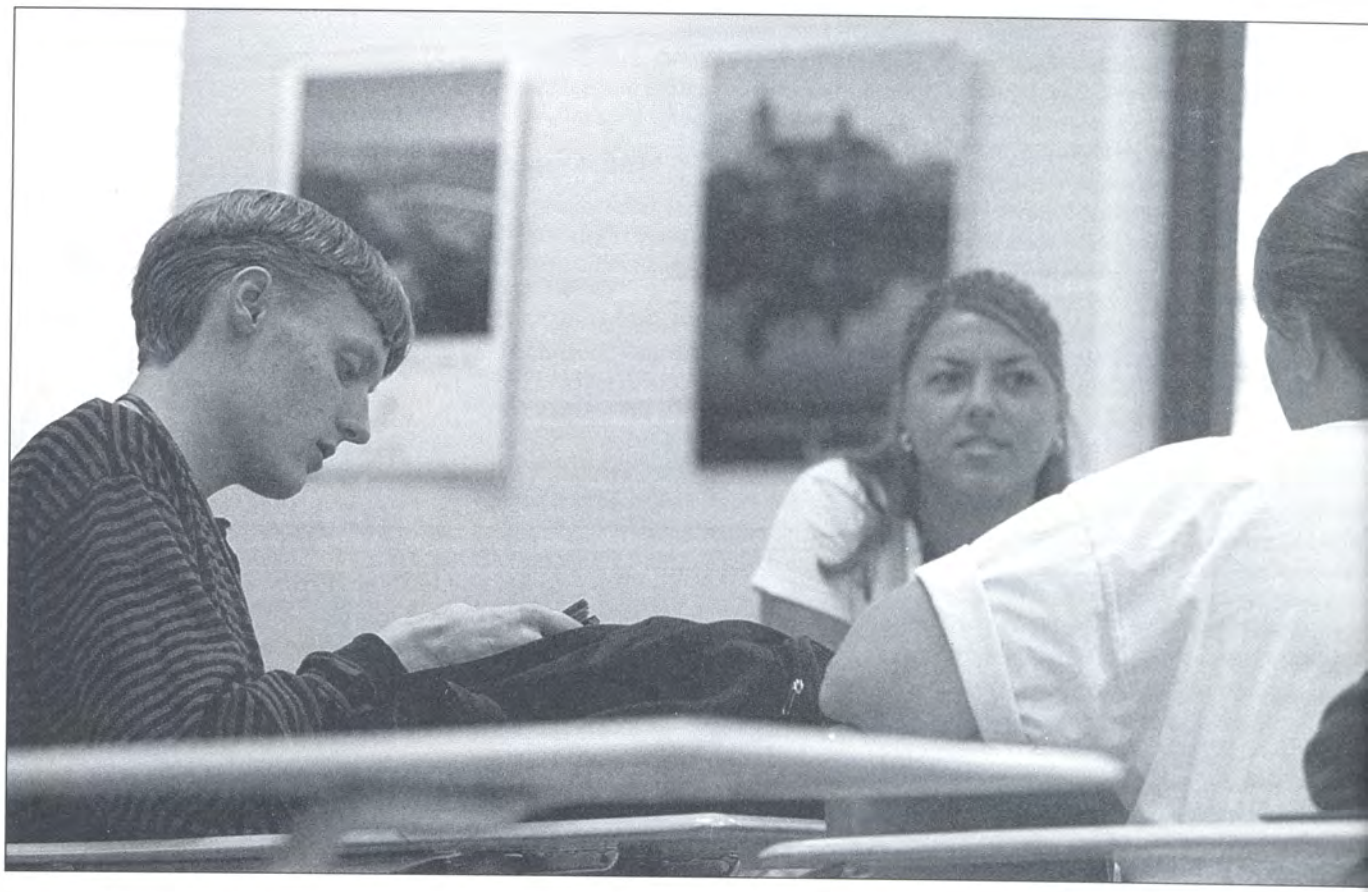
Veterans

IUP is approved to offer training under the various G.I. Bills. Students who are entitled to training under one of these bills should contact the veterans counselor immediately after being accepted for admission to IUP in order to secure additional instructions. This procedure is necessary so veterans may be included on the monthly payrolls. The Office of the Veterans Counselor is in Clark Hall, (724) 357-3009.

Further Information

For further information on financial aid, please contact:

Financial Aid Office
Indiana University of Pennsylvania
Clark Hall
Indiana, Pennsylvania 15705-1093
(724) 357-2218
E-mail: *financial-aid@grove.iup.edu*
http://www.iup.edu/finaid/



Registration

Advisement

Immediately after a student has been admitted to the Graduate School and Research, he/she should consult the department chairperson or coordinator of graduate studies in his/her intended field of study regarding a program of courses. If the student is a special status admittee, consultation should be with the assistant dean of the Graduate School and Research. Many departments believe strongly that their students should be advised well before registration for each semester or summer term; these departments are identified each term in the schedule of graduate course offerings. Students are responsible for knowing their department's scheduling advisement rules.

Telephone Registration (TELREG) and Terminal Registration (TERMREG)

To facilitate graduate student registration in classes, the Graduate School and Research offers telephone registration (TELREG) and terminal registration (TERMREG). TELREG gives graduate students the opportunity to register for classes without attending an on-campus registration. Details on TELREG and TERMREG are provided in each semester schedule mailed in the preceding semester.

Billing

After students have registered through TELREG and TERMREG, they will receive from the Accounts Receivable Office a bill for tuition and fees.

Continuous Registration

For the complete policy, see *Continuous Dissertation* under the section in this catalog entitled *Doctoral Degree Programs.*

Schedule Adjustment and Drop/Add Policy

During graduate TELREG/TERMREG, students have the opportunity to make adjustments to their schedules any time after the original registration date. Please consult course schedules for appropriate dates and times.

At the beginning of each semester, a few days are set aside for dropping and adding courses. The Drop/Add period was established to permit enrolled students to make schedule adjustments, not to allow unregistered students to build schedules. Students using the Drop/Add period for anything other than schedule adjustments will be charged a late registration fee. Drop/Add dates are set at the beginning of each semester, and students should check with their departments to learn the dates, times, and procedures for dropping and adding courses.



Master's Degree Programs

The Graduate School and Research offers Master of Arts and Master of Science degrees in most academic fields plus the professional degrees Master of Business Administration, Master of Education, and Master of Fine Arts. (See below for specific degree fields.) All students working toward a master's degree must satisfy the Graduate School and Research policies set forth in this catalog and any additional special program requirements imposed by a department.

Under certain circumstances, a specific Graduate School and Research requirement for the master's degree may be satisfied by means of substitution. In no case are requirements waived. Requests for substitutions must be made by petition to the dean of the Graduate School and Research after approval by the student's department.

Master of Arts degrees are offered in the following:

- Adult/Community Education
  - Adult Education and Communications Technology Track
- Art
- Chemistry
- Counseling Services
- Criminology
- English:
  - Generalist
  - Literature
  - Teaching English
  - TESOL
- Geography
- History
- Industrial and Labor Relations
- Music
- Physics
- Public Affairs
- Sociology
- Student Affairs in Higher Education

Master of Science degrees are offered in the following:

- Applied Mathematics
- Biology
- Chemistry
- Food and Nutrition
- Geography
- Nursing
- Physics
- Safety Sciences
- Speech-Language Pathology
- Sport Sciences

A Master of Business Administration degree (M.B.A.) and a Master of Fine Arts degree (M.F.A.) are also offered.

Master of Education degrees are offered in the following:

- Business
- Early Childhood Education
- Education of Exceptional Persons
- Educational Psychology
- Elementary or Secondary School Counseling
- Elementary and Middle School Mathematics Education
- Mathematics
- Masters in Education
- Literacy

Transfer Credits

Up to six credits of graduate work taken as a graduate student at another institution may, with written approval, be incorporated as part of the graduate student's program at IUP. These courses must have been completed at a regionally accredited institution, within the past five years, and the grade earned must be a "B" or its equivalent or better. The time limitation rule and residency requirements (cited later in this catalog) pertain without modification to transfer credits.

To request the transfer of credits, the student must provide the Graduate School and Research with a written request indicating the course to be considered. Accompanying the request must be a catalog course description or course syllabus. *An official graduate transcript* showing the earned credits must be provided by the school at which the credits were taken. To be considered official, the transcript must arrive in a sealed envelope bearing the official seal of the issuing institution. The request is reviewed in the Graduate School and Research and the academic department. After a decision is rendered, the Registrar's Office, student's department, and the student are notified of the transfer decision.

Students wishing to transfer credits from another institution while enrolled at IUP must receive advance written authorization for credit acceptance from the Graduate School and Research and the academic department. The review process is as described in the preceding paragraph.

If transfer credits are approved, only the credit, not the grade or accompanying quality points, will appear on the student's IUP transcript.

Transfer credits are not posted to the student's IUP graduate record until the student has been admitted to degree candidacy.

Degree Candidacy

Students are reviewed for degree candidacy the semester following the completion of 12 hours of graduate credits. (Some departments require more than twelve credits for candidacy.) Students must be enrolled in course work to be considered for candidacy status. To be admitted to candidacy, students must have achieved a cumulative grade point average of 3.0 or higher in all graduate course work and must have met all program requirements to the satisfaction of the department.

Students who are not granted candidacy after completing twelve graduate credits must satisfy all candidacy requirements during the next semester. At the end of this additional term, students will be granted candidacy or may be asked to leave the master's degree program.

Students with especially strong credentials may be granted candidacy upon admission to the Graduate School and Research if recommended by the academic department and if their files are complete in every respect.

Residency

Master's degree candidates have no formal residency requirements, but all credits applied toward the degree (except a possible transfer of six credits) must be taken through IUP. In addition, all candidates must complete their program's final six credits of graduate work in courses offered by IUP. (The equivalent of two academic years of full-time study is required to meet requirements for graduation from the Student Affairs in Higher Education [SAHE] program.)

Graduation

Early in their final semester or summer session, students must file an application for graduation. Forms are available in the Graduate School and Research and in the academic departments. Applications must be filed by the following deadlines: March 1 for May, June 1 for August, and October 1 for December. If all requirements have been met, the degree will be awarded at the next established diploma-award date.



Doctoral Degree Programs

The Graduate School and Research offers work leading to the doctorate through the following departments: Criminology, Educational and School Psychology (School Psychology), Professional Studies in Education (Curriculum and Instruction, Administration and Leadership Studies), English (Literature and Criticism, Rhetoric and Linguistics), Psychology (Clinical Psychology), and Sociology (Administration and Leadership Studies).

Applicants should keep in mind that the doctorate is conferred for distinguished achievement in a particular field of scholarship and for demonstrated ability to perform independent research and/or professional practice in an area of that field. No specific number of course credits entitles a student to the degree.

Those interested in any of the doctoral programs should read the descriptions provided by sponsoring departments later in this catalog. Deadlines for submitting applications and supporting documents vary from program to program, as do degree requirements. Therefore, it is important for students to check with the sponsoring department at the very start of the application process.

The following doctorates are offered:

- Doctor of Education in Administration and Leadership Studies
- Doctor of Philosophy in Administration and Leadership Studies
- Doctor of Psychology in Clinical Psychology
- Doctor of Philosophy in Criminology
- Doctor of Education in Curriculum and Instruction
- Doctor of Philosophy in English
- Doctor of Education in School Psychology

The doctoral program in curriculum and instruction maintains cooperative arrangements with other universities in the State System of Higher Education, whereby some part of the requirements may be fulfilled at these schools.

Requirements for the Doctoral Degree

Students seeking a doctoral degree must satisfy the minimum Graduate School and Research requirements described below. Sponsoring departments have additional requirements which are equally binding.

Under certain circumstances, Graduate School and Research requirements for the doctoral degree may be satisfied by means of substitution. Requests for the acceptance of substitutions should be made in the form of a petition to the dean of the Graduate School and Research, after first obtaining the approval of the student's department.

Credit Requirement

A minimum of sixty graduate semester credits, exclusive of dissertation credits, must be earned beyond the bachelor's degree for any of the doctorates offered at IUP.

Residency Requirements

Doctoral candidates will find that residency requirements vary from doctoral program to doctoral program. Doctoral students should check with their departments to learn which of the following residency options apply to their specific doctoral program: completion of a minimum of nine graduate credits at IUP in each of at least two consecutive semesters; completion of a minimum of nine graduate credits at IUP for at least one semester immediately preceding or following a summer of nine-hour study; completion at IUP of at least nine graduate credits in each of two consecutive summers plus six graduate credits during the intervening academic year; or completion of twelve graduate credits at IUP in each of two consecutive summers.

Transfer Credit

Transfer credit is limited to the credit equivalent of a recognized master's degree, except in those special cases recommended by the student's department and approved by the dean of the Graduate School and Research, and up to twelve graduate credits through approved interinstitutional agreements. These courses must have been completed at a regionally accredited institution, within the past five years, and the grade earned must be a "B" or its equivalent or better.

To request the transfer of credits, the student is to provide the Graduate School and Research with a written request indicating the course to be considered. Accompanying the request must be a catalog course description or course syllabus and an official graduate transcript showing the earned credits. To be considered official, the transcript must arrive in a sealed envelope bearing the official seal of the issuing institution. The request is reviewed in the Graduate School and Research and the academic department. After a decision is rendered, the Registrar's Office, student's department, and the student are notified of the transfer decision.

Students wishing to transfer credits from another institution while enrolled at IUP must receive advance written authorization for credit acceptance from the Graduate School and Research and the academic department.

If transfer credits are approved, only the credit, not the grade or accompanying quality points, will appear on the student's IUP transcript.

Transfer credits are not posted to the student's IUP graduate record until the student has been admitted to degree candidacy.

Degree Candidacy
Each student admitted to a doctoral program must receive doctoral degree candidacy after completing at IUP no less than nine nor more than fifteen graduate credits beyond the master's degree (some departments have additional requirements for candidacy; consult the program's coordinator). The student's minimum grade point average for degree candidacy may be set higher than the foregoing Graduate School and Research requirement by the program's sponsoring department, but in no case may it be lower.

Candidacy Examination
In departments which require it, the candidacy examination is administered by the department in the student's field of specialization. The examination may be written, oral, or both, as determined by the sponsoring department, and may also serve as the final examination for the master's degree if a department so prescribes. The examination may not be taken until the student has completed at least one year of study beyond the bachelor's degree.

Comprehensive Examination
This examination is given, usually upon the candidate's completion of course work, to determine the student's progress in the degree field and fields related to it and the student's likelihood of success in his or her research-dissertation phase. The examination may be written, oral, or both and is not necessarily limited to areas in which the candidate has taken course work.

Reexamination
A student who fails the candidacy examination, or any part of the comprehensive examination, qualifying examination, or any of the examinations in foreign languages and/or computer language, may request reexamination not earlier than one semester following the time of failure, nor later than one year after that date. No student is permitted a third examination without a recommendation to that effect from the degree program's sponsoring department and the approval of the Senate Graduate Committee. Exceptions to this policy for programs can be made only with the approval of the Senate Graduate Committee.

Foreign Language/Research Tool Options
Foreign language and/or research tool requirements for doctoral degrees vary from program to program. In most cases, programs offer options for meeting these requirements. Students should consult with the department sponsoring the degree for specific information and guidance on meeting these requirements.

Dissertation
A dissertation is required of all doctoral candidates and must demonstrate the candidate's mastery of his/her research and reflect the results of an original investigation in the principal field of study. The goal should be to make a definite original contribution to knowledge in the field.

Dissertation Committee
The dissertation committee may supervise several aspects of the student's degree program from the point at which he/she is admitted to doctoral degree candidacy through defense of the dissertation. Students must consult with the sponsoring department to determine which supervisory roles apply. The committee may approve the student's plan of study; arrange for the candidacy examination; arrange for the comprehensive examination; and oversee the candidate's general supervision related to research, the dissertation, and the general meeting of degree requirements.

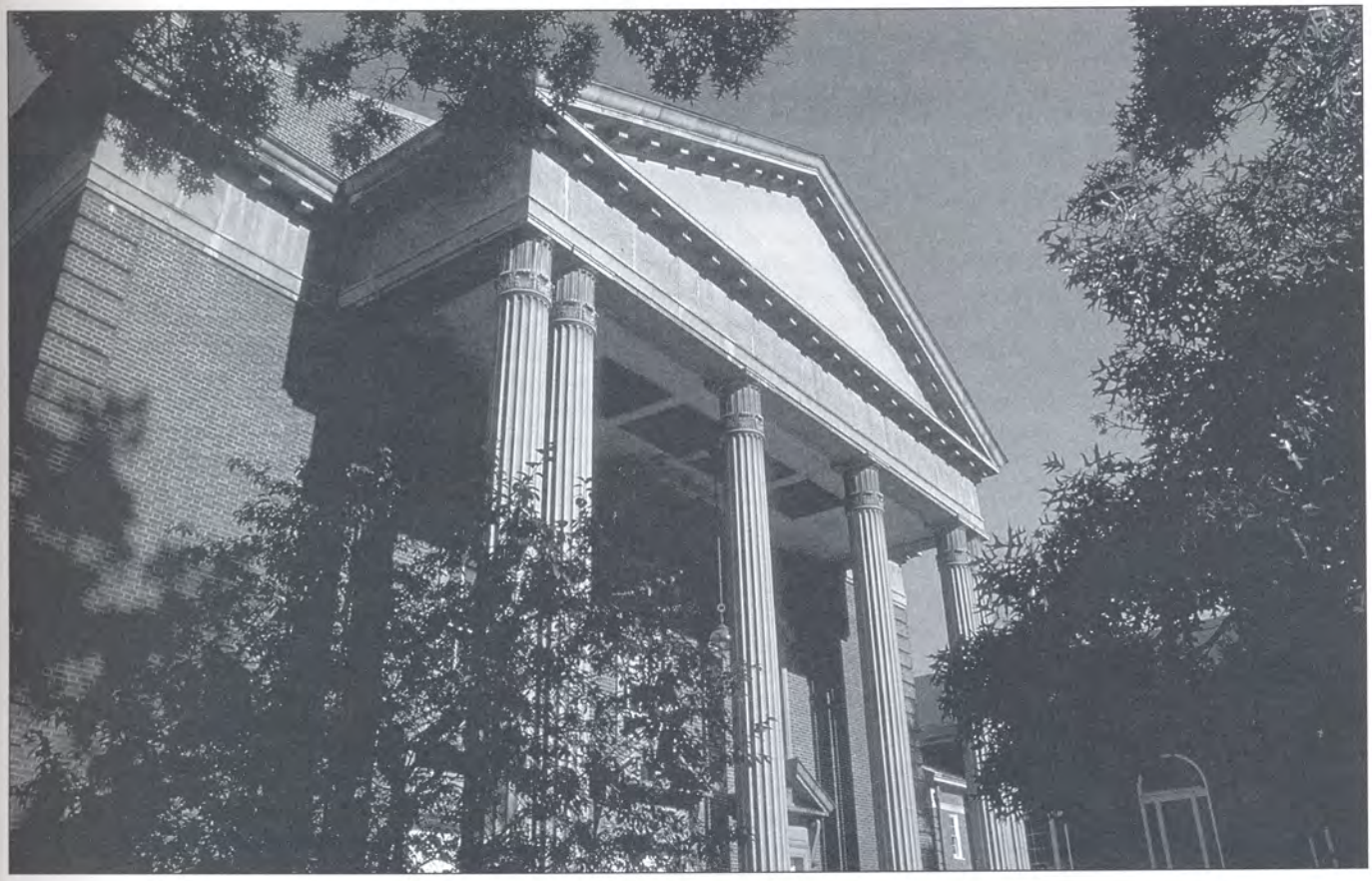
Research Proposal
After the candidate has passed the comprehensive examination and has done extensive preliminary proposal research, he/she must present and defend a research proposal before the dissertation committee and the academic community. A copy of the proposal must be placed in the hands of all committee members at least two weeks in advance of the scheduled meeting. The proposal must be found satisfactory by all members of the committee before the candidate may proceed with the dissertation. The *Thesis/Dissertation Manual* outlines this procedure and is available from the Graduate School and Research.

Dissertation Process
Upon acceptance of the dissertation by the candidate's advisor, the candidate must follow procedures acceptable to his/her department and dean in providing copies for review by the dissertation committee, college dean, and doctoral coordinator. The candidate shall then request a formal meeting of the dissertation committee, at a time convenient to all members, to secure dissertation approval. The dissertation must be approved in writing by each member of the committee, as well as the associate dean for research of the Graduate School and Research.

Publication of the Dissertation
Following approval of the dissertation by the committee, three copies of the dissertation and two copies of an abstract must be submitted to the Graduate School and Research's associate dean for research. The program's sponsoring department may also require a copy for its archives. The dissertation must be microfilmed according to the plan provided by University Microfilm, Ann Arbor, Michigan. Guidelines are provided in the *Thesis/Dissertation Manual*, which is available from the Graduate School and Research.

Application for Graduation
Applications for graduation must be filed by the following deadline dates: March 1 for May, June 1 for August, and October 1 for December. Deadline dates are also available in the *Thesis/Dissertation Manual*, as well as in each semester's schedule of classes.

Continuous Dissertation
For all doctoral students admitted or commencing course work during the Fall, 1990, semester and thereafter, the following policy is binding. Following completion of all course requirements and of the comprehensive examination requirement, doctoral students must enroll for at least one credit of dissertation or continuous dissertation every semester (Fall and Spring) annually through the defense of the dissertation. The university will provide the tuition for continuous dissertation credits. University fees will not be waived. Upon successful defense, the grade assigned by the dissertation director will apply to all registered dissertation credits.



General Policies and Procedures

Graduate students are expected to assume full responsibility for knowing graduate program procedures and regulations. General Graduate School and Research requirements are set forth in this catalog; a description of special departmental degree requirements is available in each department sponsoring the specific degree or certification program. Requests for exceptions to policy are given consideration when unique circumstances exist; questions concerning the proper routing of such requests should be addressed to the dean of the Graduate School and Research.

Academic Credits and Student Status

Although many graduate students work part-time or full-time, such work must not interfere with academic achievement. Graduate education at IUP is offered only to students in a position to benefit from it, and students are expected to maintain a sensible balance between graduate program commitments and outside commitments.

Students may schedule full-time academic loads in most graduate programs. Full-time graduate student status is defined as 9 to 15 semester hours of graduate credits per semester, while part-time status is defined as 8 or fewer semester hours per semester. Graduate assistants may not register for more than 12 total hours in any semester and must maintain full-time status throughout the time of their assistantship award.

Academic Good Standing

IUP master's students must maintain a minimum of 3.0 ("B") cumulative graduate quality point average to be in good standing academically. Students who fall below good standing are placed on probation for their next active semester or summer term, during which the cumulative average must be raised to 3.0. Students who fail to raise their cumulative averages to at least 3.0 during their probation period will be dropped from degree programs and Graduate School and Research rolls and will not be permitted to register for further courses. A student must be in good standing to be admitted to degree candidacy and to graduate. This policy remains the same for students pursuing a graduate degree at the doctoral level, except the required minimum grade point average is between 3.0 and 3.5, depending upon the program.

Course Auditing

Auditing is not permitted in a graduate course unless the student has been admitted to the Graduate School and Research, has received permission to audit from the course's instructor, and has been approved for course enrollment by the dean of the Graduate School and Research. Auditors must pay normal tuition and related fees. An auditor will, with permission from the instructor, participate in class discussion, do practicum work, take examinations, and share generally in the privileges of a class member. If the student completes all course requirements, an "audit" notation is posted to the student's academic record. No student who is required to carry a certain number of credits may count among those credits the credit for an audited course.

Class Cancellation
(see Inclement Weather Policy)

Course Numbering
All dual-level courses, open to enrollment by both graduate and qualified undergraduate students, carry 500-599 course numbers; all courses open only to graduate students carry 600-series and above numbers.

Dual-Level Courses
The number of 500-599 course credits applicable to a degree program shall be a maximum of 50 percent of the credits required for that degree. Some programs may call for less than 50 percent. Students should check this requirement with their advisors.

Graduate students who enroll in dual-level courses should be aware that dual-level courses commonly impose greater obligations on graduate students than on undergraduate students taking the same courses.

Course Overlaps in Degree Programs
Within set limits, a student may use the same course to count in two different master's degree programs, if the course is acceptable in both programs. However, the number of overlap credits counted toward a second master's degree will be limited to 20 percent of the credits in the second master's degree program.

Course Repeat Policy
No graduate credit is given for "F" grades, and graduate grading policy does not permit "D" grades. Students may repeat "C" or "F" grades according to the following policy:

1. Only one course can be repeated for each graduate degree program the student attempts or completes.
2. This one course can be repeated up to two times, for a total of three attempts (the original registration for the course plus two repeat attempts).

Semester hours for repeated courses will be counted only once for all attempts made, and the hours and grade earned when the course was last taken will be used to compute the grade point average. However, all attempts and the original grade(s) will continue to appear on the graduate transcript.

Graduate Course Scheduling by Undergraduates
IUP undergraduate students with an academic grade point average of at least 2.6 who are within 32 semester hours of graduation are permitted, after receiving appropriate approvals, to take up to 6 semester hours of graduate work whether or not they have applied for acceptance into an IUP graduate program. Graduate hours so earned have no necessary bearing upon the meeting of undergraduate degree requirements, and no assurance is given or implied as to their later applicability toward graduate degrees should the students be admitted to IUP graduate programs. Should these credits later be approved toward a graduate degree program, they will be treated as transfer credits.

Final Credits Policy
All degree candidates must complete their program's final six credits of graduate work in courses offered by IUP. Under unique circumstances, appropriate substitutions may be authorized by petitioning the dean of the Graduate School and Research after obtaining departmental approval.

Degree Eligibility of IUP Teaching Staff
Members of the faculty at IUP with a rank of assistant professor or above (or equivalent) may not receive a graduate degree from this institution. This regulation applies also to any faculty member employed at this institution full-time at the instructor rank unless such an individual is already an approved candidate for a degree in the Graduate School and Research of IUP at the time he or she is given full-time employment as an instructor. Faculty members may, however, register for work in the Graduate School and Research and apply the credits earned toward graduate degrees to be conferred by other institutions. Special cases will come before the Senate Graduate Committee.

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—Fair
F—Failure
I—Incomplete
R—Research in Progress
W—Withdrawal
L—Late Grade; Continuing Course

No "D" grade is recognized in IUP graduate work but may be earned by a graduate student enrolled in an undergraduate course.

Quality points are assigned as follows: A - 4; B - 3; C - 2. No quality points are carried by the notations F, I, R, and W.

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. "I" grades must be converted no later than the final day of classes in the next regular (fall/spring) semester after the "I" grade was assigned. The dean of the college in which the course is offered may approve an extension, provided the faculty member concurs. A faculty member assigning an "I" grade must complete a form indicating the work to be completed, deadlines for completion (it is not necessary to allow the maximum allowable time), and guidelines to establish the final grade. Copies of the completed form will be sent to the department chairperson, to the dean of the college in which the course is taught, and to the student receiving the "I" grade. The "R" notation pertains only to thesis and dissertation research credits when such research is in progress as a semester or summer session ends. All "R" grades are replaced by the grade eventually assigned when the research is completed. The "W" notation applies to certain withdrawals from courses. Withdrawals from the university and discrete course withdrawals are discussed in other sections of this catalog. Note that an "F" is entered in the student's permanent academic record if a withdrawal of either type has not been processed in accordance with established procedures.

The grade of "L" is appropriate for cases in which the student's work is expected to extend beyond a given semester/session. "L" grades may be used for internships, practicums, field experience courses, workshops, and independent studies that, by design, extend beyond the normal end of the grading period. Unless an exemption is obtained from the dean of the college in which the grade was given, an "L" grade unresolved at the end of one year will be converted to an "F." If a student withdraws from the university before the year has elapsed, outstanding "L" grades will be converted to "W" grades. If, for a graduate student, the maximum number of years allotted to

complete the graduate degree runs out before the year has elapsed, outstanding "L" grades will be converted to "W" grades.

Graduate Study Beyond the Master's Degree

It is not unusual to find graduate students enrolling in more courses than they need to meet the requirements of a master's degree. Such action can be beneficial beyond the personal satisfactions which accrue, because the added studies may be well received by employers whether in business, government, or the school system in such matters as certification. However, students should understand that most graduate schools have residency requirements at the doctoral as well as master's level and frequently will accept no more than 30 graduate semester hours earned elsewhere as applicable to a doctorate.

Independent Study

(see Workshops and Special Credits)

Internship Policy

To qualify for a graduate internship appointment, the graduate student must have a minimum of twelve IUP graduate credits earned and a minimum 3.0 grade point average; must have been in full-time enrollment (nine graduate credits or more) during the semester or summer sessions (the latter taken as a whole) immediately preceding the academic period for which internship is requested;* and must meet departmental internship criteria. No more than six internship credits may apply to a graduate degree unless written approval of the student's department chair or graduate coordinator and the dean of the Graduate School and Research (in that order) is obtained. Continuation in an internship experience by a given graduate student is contingent upon the student's maintenance of satisfactory performance in all aspects of his/her degree program. Programmatic exceptions to the foregoing policy can be made only with the approval of the Graduate Committee.

*For graduate students active during summers only, or during fall-spring semesters only, the phrase "immediately preceding the academic period," etc., refers to the student's last preceding active semester or summer session.

Computer Software Policy

It is the policy of IUP that contractually protected and/or copyrighted computer software shall not be improperly copied, distributed, or used by its employees, students, or affiliated organizations. It is the responsibility of each member of the university community to adhere to this policy and to enforce it with regard to those he or she supervises. If any member of the community has a question regarding the propriety of using software, he/she is responsible for contacting his/her supervisor for direction. The supervisor may in turn refer the questions to the director of Academic Computing of the Technology Services Center for a decision on what constitutes proper use. The full text of the policy adopted by University Senate and Council of Trustees in May, 1988, is available in the computer laboratories and from the director of Academic Computing.

Program Changes

To insure their quality and relevance, graduate programs at IUP are subject to review and change by duly appointed and responsible university groups. Because of this, the university recognizes that provisions must be made to prevent hardship to students already enrolled in programs if changes later occur in specific or general program requirements. Students affected by changes in programs, policies, and regulations are therefore given the option of following those requirements in effect when the student was first enrolled in the program or those in effect at the time of expected graduation. The student cannot, of course, combine chosen elements of the two. Should a question of rule interpretation arise with respect to changes, the student, the student's advisor, or both should petition the dean of the Graduate School and Research for a decision about which requirements apply.

Student Rights and Responsibilities

Upon admission to the Graduate School and Research, students assume responsibility for knowing program requirements and following departmental advising requirements when selecting and registering for courses. Students are also responsible for knowing the procedures for paying fees, processing class drop-adds and withdrawals, and applying for and meeting all requirements for graduation. Conversely, students have the right to expect that program requirements will be made clear, that course requirements--including grading criteria and procedures--will be made known early in a course, and that course grades will represent the instructor's professional and objective evaluation of performance. Students have the right to instruction that encourages the free and open discussion of ideas and that respects reasonable student needs and aspirations. Students share with instructors the responsibility for creating a classroom atmosphere that encourages maximum learning and exhibits a more intense scholarly zeal than that expected in undergraduate studies.

Teacher Certification

Ordinarily, students with a previously earned baccalaureate degree will enroll as second degree undergraduate students in the program for which they wish to earn Pennsylvania teacher certification. Admission is through the dean of the School of Continuing Education. Program details are found in the IUP *Undergraduate Catalog*. There are a few programs in which special adaptations permit candidates for initial certification to be candidates for graduate degrees. The current list of these programs is available in the office of the associate dean for Educational College-School Partnerships in the College of Education and Educational Technology. Call (724) 357-2485.

Candidates for second certification are admitted through the School of Continuing Education. Applicants who already hold one Pennsylvania teaching certificate and desire to add another instructional certificate must consult both the associate dean for Educational College-School Partnerships and the program coordinator in the subject area department for assistance in developing an individually planned program of study. Typically, second or additional certifications involve study only at the undergraduate level. Occasionally, work toward a second certification can be combined with work towards a graduate degree.

Time Limitations

Program credits earned at IUP or accepted by transfer are applicable to IUP master's degrees over a period not to exceed five years from the date of their earning unless the period is extended through student petition approved by the

student's department and the dean of the Graduate School and Research. Doctoral candidates must complete degree requirements no later than seven years after beginning IUP doctoral program course work. No time extensions are considered for doctoral students unless all degree requirements other than the dissertation have been completed by the expiration of the seven-year time limit.

Workshops and Special Credits

The following policy governing workshop and other special-offering credits was passed by the University Senate on May 8, 1979:

> "The Graduate Program approved in each specific department constitutes a rationally structured and well-defined body of information and techniques deemed appropriate to the discipline. For that reason, the individual master's degree candidate may submit for credit for his degree no more than six (6) semester hours of workshop and other special-credit offerings approved by the department offering the degree. Doctoral candidates may submit (a further) six (6) semester hours of such work beyond the master's or its equivalent if approved by the degree-granting department. Should the workshop(s) or special credit offering(s) later become a catalog-listed course which is part of the degree program, while the student is still working toward his/her degree, the student may request of the department a retroactive reclassification of credits so earned and upon approval may again submit up to the maximum of such reclassified credits workshop or special-offering credit as initially stipulated above." Special-offering credits are defined as those credits earned through Independent Study, Individualized Instruction, Special Topics, workshops, or any combination therein.

Student Grade Appeal Policy

Grade Review Policy

If a student disagrees with the evaluation of his/her work by the instructor but has no basis for a charge of "discrimination" or "capricious evaluation," the student should discuss the matter directly with the instructor and, if unsatisfied, with the department chairperson and, if still unsatisfied, with the dean of the college in which the course was offered. In such cases, the decision of the instructor shall be final.

If a student believes that an improper grade has been assigned, an appeal may be filed on the following grounds:

1. **Discrimination:** On the basis of race, religion, national origin, sex, age, ancestry, handicapped status, affectional or lifestyle preference, or political affiliation.
2. **Capricious Evaluation:** Significant and unwarranted deviation from grading procedures and course outlines set at the beginning of the course (ordinarily in a written statement during the first week of the course) or grade assigned arbitrarily on the basis of whim or impulse. The student may not claim capriciousness if he or she disagrees with the subjective professional evaluation of the instructor.

Procedures of Appeal

Level I: Informal Resolution

Every effort should be made to resolve the disagreement at Level I. The student must first seek a resolution to the disagreement with the instructor either in person or in writing. If the student is not satisfied with the results, the student must then speak with the chairperson of the department that offers the course. If still unsatisfied, the student must discuss the matter with the dean of the college in which the course is offered. A Student Congress member may accompany and advise the student during the Level I procedures. Only after all attempts for resolution at Level I have been exhausted may the student initiate Level II.

Level II: Appeal Screening

A. **Composition:** Each year there shall be appointed a Grade Appeals Committee to determine the existence of the substantive basis for appeal. The committee will be composed of seven voting members: three faculty members appointed by APSCUF, three members elected by and from the Senate Academic Committee (one faculty member, one administrator, one student), and one student appointed by the Student Congress. A quorum consists of a majority of the committee. To take action, a majority of those present must be faculty members.

B. **Procedure to Initiate Appeal:** To initiate Level II of the appeal, the student must file an appeal form with the Provost's Office. This form must be filed within sixty (60) calendar days of the beginning of the semester immediately following the semester in which the grade was received. The Provost's Office may extend the sixty-day limit only in unusual circumstances when equity demands and when the student's own procrastination or misunderstanding did not substantially contribute to the delay. (Note: Grade appeals will not generally be processed during the summer. Therefore, the appeal of any grade received in the spring or summer sessions normally will be processed in the fall. A review will be scheduled in the summer only when the student's academic eligibility is jeopardized by the grade in question or when the student is a graduating senior.) The Provost's Office will notify the appropriate dean, department chairperson, and faculty member and the Student Congress president of the student's initiation of the Level II process.

C. **Procedure to Process Appeal:** The student will be expected to submit written documentation of his/her complaint, and the faculty member will be expected to submit in writing the course grading procedure and any other pertinent information. Appeals based on discrimination will be reviewed according to current standards of nondiscriminatory action. Appeals based on capriciousness will be reviewed in light of the faculty member's announced evaluation and grading system. The committee will review the materials to deny or confirm appeal continuance. Denial of appeal continuance must be by a negative vote of four members of the committee. This committee will inform the Provost's Office of its findings. Within five (5) class days of the receipt of the committee's report, the provost or designee will notify the student and the faculty member of the findings. If the basis for appeal is determined to be substantive, the provost or designee will schedule a Grade Review Panel within fifteen (15) class days to be convened prior to the conclusion of the semester.

Level III: Appeal Review

A. **Composition:** The Grade Review Panel will consist of five voting members: one academic dean or associate dean and four faculty members. Four-fifths of the voting members will be a quorum. The Student Congress Academic Affairs Committee chairperson may advise as requested by the student. The affirmative action officer will advise in appeals based on discrimination. The panel will be constituted from the Grade Review Pool by random selection. The panel chairperson will be elected by and from the panel before each review.

B. **Membership:** The Grade Review Pool will be established in the spring term to serve for the following academic year. The pool and rotational order within the pool will be established by the Provost's Office. A pool of three deans or associate deans and twelve full-time faculty members will be maintained. In establishing the membership for each review panel, prior to each review the names of those designated as primary members of the specific panel and available as alternates will be supplied to all parties involved. A panel member may request (to the provost or designee) disqualification due to a conflict of interest. The student and the faculty member may eliminate names in proportion to the composition of the panel. Each may eliminate only one dean/associate dean and four faculty members. The instructor and the student will be supplied a list of all primary and secondary pool members. The opportunity to disqualify panel members will take place only once. Resulting vacancies will be filled from the appropriate pool of alternates so that the panel will be composed of one dean/associate dean and four faculty members. If through self-disqualification and challenges a panel cannot be constituted from the pool, then the Provost's Office will supplement the pool using appropriate random selection methods.

C. **Procedure:**
   1. Both the student and the instructor will have the right to appear before the panel, present witnesses, and offer evidence. In addition to those specified in Level III, Section A, each may also bring one observer, with whom he or she may consult but who may not participate in the review.
   2. The panel shall determine its rules of order for internal operation. After hearing the evidence brought forth, the panel will privately deliberate and render a decision. If the grade appeal is upheld, the panel will constitute a committee of three appropriate faculty members (ordinarily faculty members from the department in which the course is offered) who will review the student's work and determine the appropriate grade or suitable remedy. The panel will incorporate this information in the determination which it then forwards to the Provost's Office for implementation. (The panel may recommend or the department may deem it appropriate that the grades of other students in the class also be reviewed.)
   3. The written report sent to the Provost's Office will state whether the student's appeal is upheld or denied; if upheld, the committee's evaluation and remedy will be included. All documents supporting the report will be sealed and kept only as long as necessary to insure the appropriate action is taken (normally one year) before being destroyed or returned to the individual presenting the evidence.

Implementation

A. **Faculty Compensation:** If a Review Panel (hearing) is scheduled at a time in the summer when any faculty member involved is not under contract, the faculty member will be compensated under terms mutually agreed upon at Meet-and-Discuss.

B. **Continuing Rights:** This appeal does not supplant any legal rights afforded by the Commonwealth of Pennsylvania and/or the Government of the United States. Nothing in this policy abrogates or modifies any provisions of or rights under the Collective Bargaining Agreement.

C. **Intended Purpose:** The grade appeal procedures are designed simply as a means to resolve differences between students and faculty related to grading. Under no circumstances should the results of a grade appeal be used for disciplinary action or personnel.

D. ***Amendment:** Amendments may be implemented upon concurrence by University Senate, APSCUF Representative Council, and Meet-and-Discuss.

*Note: In the amendment process above, specification of University Senate implies the Council of Trustees' role in approving Senate actions and recognizes the Council of Trustees' final action to change policy.

This policy replaces the policy originally effective at the beginning of the Spring Semester, 1986. Approved: University Senate, May 2, 1989; Council of Trustees, May 19, 1989.

Academic Integrity Policy and Procedures

IUP is an academic community within the society at large. All members within this community are expected to accept the responsibility for academic integrity and honesty. Academic dishonesty seriously erodes the quality of educational pursuits and is unacceptable at IUP. The following policies and procedures have been established to preserve the academic integrity of the university community, while also providing a process that protects the rights of students who allegedly violate these policies.

Policy

A. Types of Violations. Violations of academic integrity include, but are not limited to, the following:
   1. Providing or receiving unauthorized assistance in coursework, with lab work, theses, dissertations, or during examinations (including qualifying and comprehensive exams) or quizzes.
   2. Using unauthorized materials or devices, such as crib notes, during examinations or quizzes.
   3. Plagiarizing papers, theses, dissertations, essays, reports, speeches and oral presentations, take-home examinations, computer projects, or other academic exercises by misrepresenting or passing off the

ideas, words, formulas, or data of another as one's own. Plagiarism is dishonest and illegal. Writers are indebted to authors from whom they borrow exact words, ideas, theories, opinions, statistics, illustrative material, or facts (beyond common knowledge). Writers are also indebted *if they summarize or paraphrase in their own words* material from sources. All quoted material requires the acknowledgement of the source by the use of quotation marks or indentation (if exact wording is incorporated). In addition, both directly quoted and summarized material must be acknowledged by use of a note or parenthetical citation that indicates the author and/or date of publication and page number or numbers. If the writer indents a quotation, it must be clearly set off from the body of the text and must be documented in the aforesaid manner. To verify the various documentation procedures, writers should consult the style sheet in the particular discipline for which they are preparing the assignment (MLA, APA, Chicago, BC, etc.).

4. Using the same paper or work more than once without authorization of the faculty member(s) to whom the work is being submitted.
5. Possessing course examination materials before the administration of the exam, without the prior knowledge or consent of the instructor.
6. Intentionally evading IUP academic policies and procedures; for example, improperly processing course withdrawals, grade changes, or other academic procedures.
7. Falsifying information, including falsification/fabrication of research data and/or statistical analyses, forging signatures on various forms and documents, or altering or adding answers on academic exercises or exams after work has been graded.
8. Computer dishonesty, including: tampering with or making unauthorized change to another person's or the university's computer system, illegally copying computer software, personal use of another individual's computer account, unauthorized activity involving another individual's personal computer system or any system belonging to the university, and other unauthorized use or violations involving computer use.
9. Noncompliance: failure to follow through with sanction(s) imposed as a result of an academic violation.

The university reserves the right to discipline any student for any action that an ordinary, reasonable, intelligent college student knows or should know might lead to the issuance of discipline. This means the university maintains the right to issue discipline for reasonable cause.

Charges of academic integrity violations may be brought by faculty members or administrators. Students who observe or become aware of a violation of academic integrity by another student are strongly encouraged to report it to a university official. A faculty member/administrator who believes that a student has violated an academic policy may elect to resolve the matter by Informal Resolution, by Documented Agreement, or by Formal Adjudication. *Sanction(s) may not be imposed upon a student believed to have violated an academic policy without following one of these three procedures.*

If charges are brought, the accused student(s) shall have a fair and reasonable opportunity to answer, explain, and defend against the charges. The university shall have the burden of proof in all cases. Hearsay should not be used as the sole evidence to establish any fact necessary to establish guilt or innocence.

Procedures

A. Faculty/administrators must use one of the following options to resolve alleged violations of academic integrity.

1. **Option I:** Informal Resolution. The faculty member/administrator and student may meet informally, normally within seven class days of the observation or discovery of the incident, and agree to resolve the issue without submitting any formal documentation. If the violation pertains to work being judged by a committee (examples might include dissertations and comprehensive examinations, both oral and written), the meeting must involve a majority of the committee and the resolution must be agreed to by a majority of the committee. It is in the interest of both the faculty member/administrator and student to complete a statement that summarizes the incident, conference, and agreed-upon resolution. This factual statement should be signed by both parties and copies provided to the student and the faculty member/administrator. If agreement cannot be reached, or at the discretion of the faculty member/administrator, a more formal process as outlined in this policy may be initiated.
2. **Option II:** Resolution by Documented Agreement
   a. The faculty member/administrator may schedule a conference with the student in an attempt to agree on the facts of the case and to reach a mutually agreeable resolution. This meeting must normally be scheduled/requested within seven class days of the observation or discovery of the alleged violation or of the failure of resolution by Option I. If an agreement is reached, the faculty member/administrator must complete a Documented Agreement Form outlining the agreement and have it signed by both parties: faculty member/administrator and student. If the violation pertains to work such as a thesis or comprehensive examination being judged by a committee, the meeting must involve a majority of the committee and the Documented Agreement Form must be agreed to and signed by a majority of the committee. Copies are distributed to the student, the faculty member(s)/administrator filing the agreement, and the department chair, who must also electronically record the information for subsequent

entry into the computer database. The form must normally be filed within seven class days of the conference.

b. If an agreement is reached and the form is filed, the matter is closed unless the student has a prior academic violation(s) on record. By signing off on the agreement, the student waives the right to appeal the sanctions agreed upon in the conference. If the student fails to fulfill the written agreement, the faculty member/administrator may file an academic integrity referral against the student for noncompliance.

c. If a prior academic integrity violation(s) for the student is on record, the matter will be referred to an Academic Integrity Board (AIB). The AIB will review the case to determine if more severe sanctions are warranted (see Section D, Multiple Violations).

d. If a documented agreement is not reached, the faculty member/administrator should initiate the formal adjudication process by filing an academic integrity referral form with the department chair, normally within seven class days of the conference with the student.

3. **Option III:** Resolution by Formal Adjudication. A faculty member/administrator should pursue formal adjudication if:
   - he/she cannot reach or chooses not to attempt a mutually agreeable resolution with the student regarding the facts of the case or sanctions to be imposed,
   - he/she believes that the violation is so severe that it warrants a sanction of expulsion, suspension, involuntary withdrawal from part of IUP's academic or other programs, or awarding a failing grade on a project or examination (such as a graduate qualifying or comprehensive examination or dissertation) when resubmitting the project or retaking the examination is not possible.

a. The faculty member/administrator should file an academic integrity referral form with the department chair, normally within seven class days of the observation or discovery of the violation or within seven class days of the failure to reach a resolution through Option I or Option II. If the violation pertains to work being judged by a committee, the form must be signed by a majority of the committee. The form will contain a description of the alleged violation, including the time, date, and place of occurrence, and the recommended sanction(s) if the student is found to have violated this policy.

b. The department chair will forward a copy of the academic integrity referral to the student, normally within seven class days of receiving notification of the allegation, and contact the student to schedule a hearing to review the facts surrounding the allegation and recommended sanctions if the student is determined to have committed a violation.

c. The hearing should be scheduled so as to allow the student a reasonable time to prepare a defense (normally within seven class days of being notified of the allegation by the department chair).

d. This hearing will involve the student, the department chair, and the faculty member/administrator(s); the department chair may invite others with pertinent information. All parties must be given the opportunity to submit written, physical, and testimonial evidence, and for reasonable questioning of witnesses.

e. The accused student may identify an advisor, who may be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.

f. The student may waive his/her right to a hearing in writing. If so, the sanction recommended by the person filing the referral will be imposed. If the student fails to appear when a hearing has been scheduled, the hearing will be held in the student's absence and the department chair will render a decision based upon factual information presented by the faculty member/administrator.

g. Following the hearing, the department chair will render a determination based on the information presented at the hearing. Normally within seven class days of the hearing, the department chair will forward a written report summarizing the hearing that includes the outcome, the factual basis for the determinations reached, the sanction(s) to be issued, and appeal procedures. Copies of this report will be sent to the student, the faculty member/administrator, and the provost/designee. The department chair will retain a copy for departmental files and electronically record the information for subsequent entry into the computer database.

h. In the event that a department chair cannot or will not fulfill the above role, or in the event that the person filing the referral is an administrator or department chair, the provost or designee will determine the appropriate individual to fulfill the department chair's role and inform the student and the faculty member/administrator filing charges.

i. If a prior academic violation(s) for the student is on record, the case must be referred to the Academic

Integrity Board which will consider more severe sanctions (see Section D, Multiple Violations). Otherwise, if there is no appeal, the recommended sanction will be imposed.

B. Academic Integrity Board (AIB). The AIB will hear all cases in which appeals to the chair's decision are accepted by the provost/designee *(see Appeals section C.1. and C.2.)*. The AIB will also review sanctions in cases of multiple violations *(see Section D)*.

1. The AIB will be made up of four faculty members, one of whom will chair the board, and two students. A quorum requires the presence of four persons, at least one of whom must be a student. All members, including the chair, are voting members.
2. When an AIB hearing is called for, the AIB will be convened by the provost/designee (currently the assistant to the vice president for Student Affairs). The accused student shall be notified of the time, date, and place of the hearing and the names of those AIB members scheduled to review his/her case. If the hearing is an appeal, this notification will also include details of the charges, including the time, date, and place of the alleged offense(s) and the recommended sanction(s). If the hearing is a review of sanctions in a multiple violation case (see Section D), the notification should also indicate that more severe sanctions might be imposed. The hearing should be scheduled so as to allow the student reasonable time to prepare a defense.
3. Prior to the hearing a student appearing before an AIB may, with good cause, challenge any member on the board sitting in judgment of his/her particular case. When such a challenge is made, an alternate member will be appointed to the AIB.
4. The AIB will review all material and hear all evidence pertinent to the case from the accused and all witnesses. Members of the AIB shall be free to ask relevant questions to clarify information or resulting issues.
5. The student shall have a fair and reasonable opportunity to answer, explain, and defend against information and witnesses presented at the hearing, to submit written, physical, and testimonial evidence, and to call relevant witnesses on his/her behalf.
6. The accused student may identify an advisor, who may be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.
7. After hearing all evidence, the AIB will privately make its decision based reasonably upon the evidence presented. A majority vote of the AIB shall be required for any decision. If the AIB finds the student to have committed the misconduct or infraction, and the student has no prior academic violation(s) on record, it may accept, reduce (but not increase), or modify the recommended sanction. If the student does have a prior academic violation(s) on record, the AIB may increase the recommended sanction *(see Section D, Multiple Violations)*.
8. If the student waives his/her right to a hearing in writing, or chooses not to appear at the AIB hearing, the case will be adjudicated based upon the evidence presented at the scheduled hearing.
9. All hearings are closed unless the student requests an open hearing in writing. The AIB chair has the authority to make the final decision regarding access of spectators at the hearing.
10. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty member/administrator, department chair, and provost/designee, who will electronically record the information for subsequent entry into the computer database.

C. Appeals. These appeal procedures apply to cases resolved through formal adjudication. Cases of academic integrity that are resolved through informal resolution or documented agreement cannot be appealed, as the facts of the case, the decision, and sanction(s) have been agreed to by the student and the individual making the charge.

1. If, after receiving the departmental chair's report on the outcome of the hearing, the faculty/administrator or the student disagrees with either the decision, the sanction, or both, he/she may appeal to the provost/designee, normally within seven class days of receiving the report. This appeal must be in writing and must describe in detail the grounds for the appeal. These reasons may include the following:
   a. Denial of a fair and reasonable hearing
   b. New evidence (applies when there is an acceptable reason why the information was not presented at the original hearing)
   c. Excessively harsh sanctions. Students cannot appeal on the basis of excessively harsh sanctions if the sanctions are specified on the course syllabus, have the prior approval of the department, and apply only to the specific course in which the alleged violation occurred.
2. The provost/designee may deny the appeal or direct the appeal to be heard by an AIB within seven class days. All appeals involving sanctions of involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion will be heard by an AIB.
3. Unless the recommended sanction is suspension or expulsion, the decision of the AIB is final and will be implemented by the provost/designee, who will electronically record the information for subsequent entry into the computer database.
4. Suspension or expulsion may be recommended by the AIB but can only be implemented by the vice president for Student Affairs (the president's designee for suspension and expulsion), who is responsible for verifying that due process was followed.

D. Multiple Violations

1. Students with multiple academic violations of record will be subject to additional sanctions, including possible suspension or expulsion from the university.
2. Information about prior violations is not relevant to determining whether a student has violated this policy. However, such information is pertinent in determining the appropriate sanction.
3. If a student found in violation of this policy through either Resolution by Documented Agreement or Resolution by Formal Adjudication has a prior academic integrity violation of record, the case will be referred to an AIB.
4. For cases previously resolved by Documented Agreement or through Formal Adjudication at the department chair's level, the AIB will schedule a new hearing. This hearing will review all information pertinent to the determination of an appropriate sanction but will not reconsider the issue of whether the policy violation occurred. After considering the severity of the current and prior violations, the AIB may determine that a more severe sanction is appropriate.
5. For cases being heard by an AIB, the AIB should request information on prior violations only after determining that a violation has occurred. Information on prior violations should be used in determining the appropriate sanction.
6. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty/administrator, department chair, and provost/designee who will electronically record the information for subsequent entry into the computer database.
7. The student may appeal any new sanction(s) to the provost/designee. The provost/designee may deny the appeal or, on the basis of denial of a fair and reasonable hearing, new evidence, or excessively harsh sanctions, direct the appeal to be heard by the second AIB. The provost/designee will electronically record the information for subsequent entry into the computer database.

E. Sanctions

1. The following sanctions may be agreed upon by the student and faculty member/administrator through informal resolution or documented agreement. All grade reductions require the approval of the instructor of record. If the work is graded by a committee, a grade reduction requires the approval of the majority of the committee.
   a. **Single Grade Reduction:** Reduction of grade or failure on project, examination, quiz, or other academic exercise on which the student is alleged to have cheated.
   b. **Course Grade Reduction:** Reduction of course grade or failure in the course. If the violation involves a project spanning multiple courses (such as a dissertation or multiple semester internship), the grade reduction may apply to all courses involved.
   c. **Constructive or Educational Task:** A task which requires the student to examine his/her dishonest behavior and which may benefit the student, campus, or community.
   d. **Other:** Sanctions deemed appropriate and tailored to a specific violation as determined by the faculty member/administrator. Any reasonable sanction or combination of sanctions for a given violation may be agreed upon by the student and faculty member/administrator.
2. In addition to the above, the following sanctions might be imposed through formal adjudication.
   a. **Letter of Warning:** A warning letter may be issued indicating that the student has been found in violation of an academic policy and that failure to comply with policies in the future may result in further disciplinary action to be handled as a second offense. The letter of warning will remain in effect for a period of time as specified by the individual or board hearing the case.
   b. **Disciplinary Probation:** Disciplinary probation, which is for a period of time specified by the individual or board hearing the case, is an indication that a student's status at the university is seriously jeopardized. If the student is found in violation of another IUP policy during the probationary period, a more serious sanction will be levied, including possible involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion from the university.
   c. **Involuntary withdrawal from part of IUP's academic or other programs:** A student may be denied the right to participate in some segment of IUP's programs. Such involuntary withdrawal might be imposed on either a temporary or permanent basis.
   d. **Suspension:** A student may be suspended from the university for a specified period of time, not to be less than the remainder of the current semester. Suspension requires that a student remove him/herself from university premises, not attend classes or social activities, and not be present on university or Student Cooperative Association property during the period of suspension.
   e. **Expulsion:** Expulsion may be considered under any of the following circumstances: when there is a very serious violation of the academic integrity policy, when a student is proven to have violated the academic integrity policy on more than one occasion, or when a student appears before the board after already having been suspended. Expulsion from the institution is

permanent. Appeals to the sanction of expulsion must be submitted to the Office of the President. If necessary, the president will consult with legal counsel in these cases.

Suspension and expulsion can be *recommended* by a faculty member/administrator, department chair, and AIB but can be imposed only by the president's designee for suspension and expulsion (currently the vice president for Student Affairs), who is responsible for verifying that due process was followed.

F. Records and Recordkeeping

1. **Records of Informal Resolution.** Although no official forms are filed at this level of resolution, it is *strongly recommended* that a faculty member/administrator and student who reach an informal agreement put the agreement in writing with a copy to each participant. This protects each party in the event of any future attempt at renegotiation.
2. **Records of Resolution by Documented Agreement.** Documented agreement resolutions are recorded on the computer database of disciplinary files maintained by the assistant to the vice president for Student Affairs. They are not considered formal disciplinary records until and unless the student is found in violation of this policy a second time. They are internal university records used for monitoring students for multiple violations only. If a second documented agreement form is filed or a student is found in violation of the policy through formal adjudication, the student will then have a formal disciplinary record which includes records of both violations. This formal record is maintained according to the IUP judicial system recordkeeping policies.
3. **Records of Formal Adjudication.** Records of academic integrity cases resolved through formal adjudication are recorded on the computer database of disciplinary files maintained by the Office of the Assistant to the Vice President of Student Affairs. They are maintained as formal disciplinary records in accordance with IUP judicial system recordkeeping policies. Records of cases involving suspension or expulsion must be maintained for a minimum of two years.

G. Operational Notes

1. In cases where a violation is alleged at or near the end of the semester and resolution by informal resolution, documented agreement, or formal adjudication cannot be completed before grades are submitted, the faculty member should submit a designation of "Incomplete" (I) for the student. The "I" designation will remain on the student's record until the case has been resolved. Once the case has been resolved, the "I" designation will be replaced with the appropriate grade
2. If the violation is alleged during the semester when classes are in session, the accused student should continue attending all classes and continue to complete course requirements during the resolution of the academic integrity case.
3. The provost/designee may extend any deadline which cannot be met for what he/she deems legitimate reason.
4. Requests to constitute the AIB for hearings will be directed to the provost/designee (currently the assistant to the vice president for Student Affairs).
5. The university may withhold transcripts, grades, diplomas, or other official records pending the disposition of cases, if such action is reasonably necessary to preserve its ability to enforce its rules.
6. The provost/designee may modify the procedural provisions of these rules by the issuance of written orders to deal with particular unusual procedural situations, so long as no order shall contradict the rules of the Board of Governors of the State System of Higher Education governing due process for students, and no such rule shall deny fundamental fairness to students by, for example, effectively constituting a denial notice or opportunity to be heard.
7. This policy will be reviewed b the Senate Academic Committ after five years.

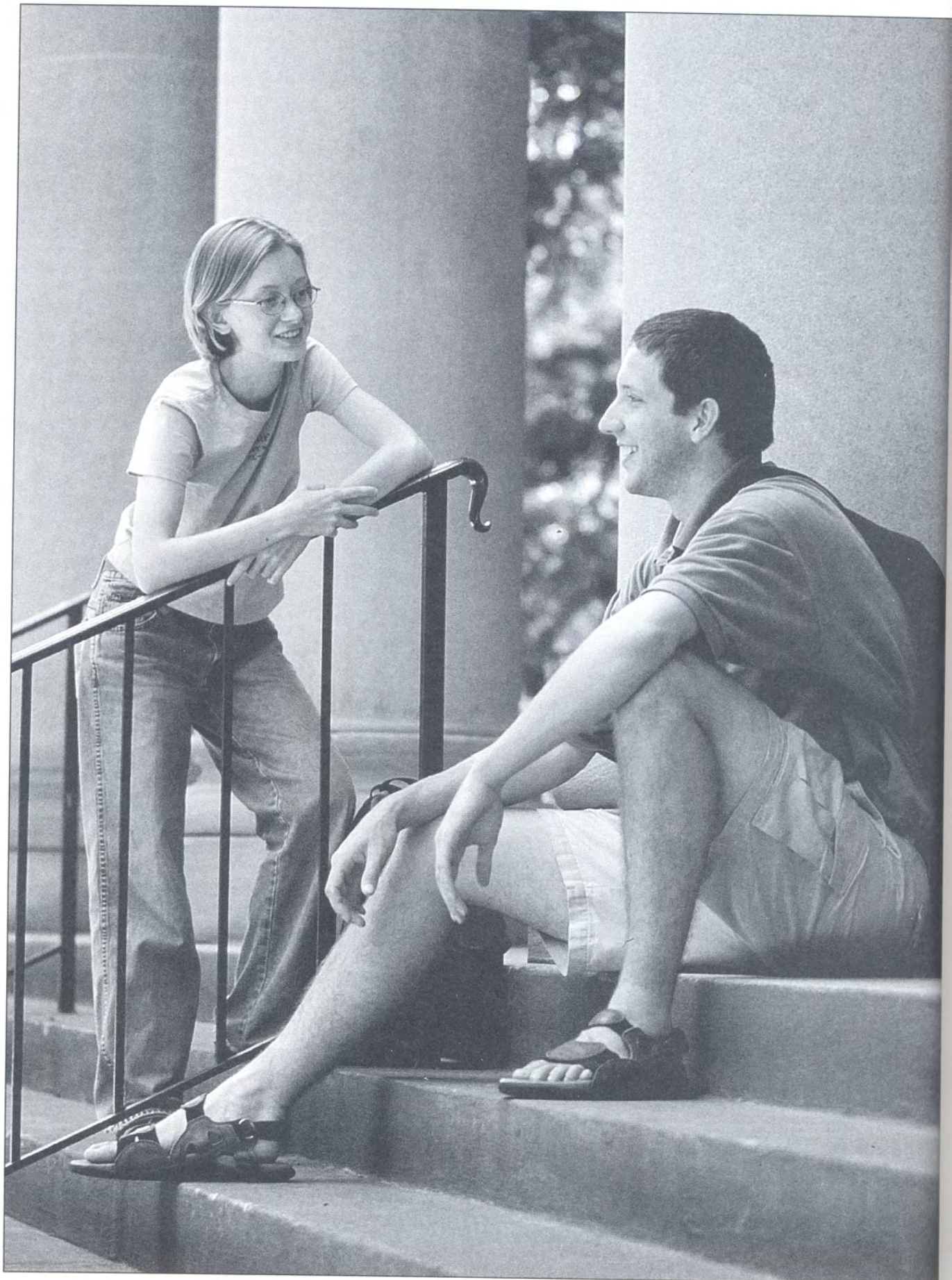
The various forms described in this policy are available from the assistant v president for Student Affairs, 215A Sutton Hall, deans' offices, or departm chairs. Questions concerning the Academic Integrity Policy and Procedures can be directed to the assistant vice president for Student Affairs, 215A Sutton Hall.

Approved by Council of Trustees—May 1998

Course Prefix Key

The following departmental abbreviations are used to identify courses referred to in the catalog:

Accounting	AG
Administration and Leadership Studies	LP
Administrative Services	AD
Adult and Community Education	AC
Art History	AH
Applied Music	AM
Anthropology	AN
Art	AR
Biology	BI
Business Education	BE
Business Law	BL
Chemistry	CH
Communications Media	CM
Computer Science	CO
Consumer Services	CS
Counselor Education	CE
Criminology	CR
Curriculum and Instruction	CU
Early Childhood Education	EE
Economics	EC
Education	ED
Education Administration	EA
Educational and School Psychology	EP
Elementary Education	EL
Elementary Mathematics	EM
English	EN
Finance	FI
Food and Nutrition	FN
Foundations of Education	FE
Geography and Regional Planning	GE
Geoscience	GS
Graduate School and Research	GR
Health and Physical Education	HP
History	HI
Home Economics Education	HE
Human Services	HS
Information Management	IM
Literacy	LT
Industrial and Labor Relations	LR
Management	MG
Marine Science	MI
Marketing	MK
Masters in Education	ME
Mathematics	MA
Music History	MH
Music	MU
Nursing	NU
Philosophy	PH
Physics	PY
Political Science (Public Affairs)	PS
Psychology	PC
Quantitative Business	QB
Safety Sciences	SA
Sociology	SO
Special Education	
Education of Exceptional Persons	EX
Speech-Language Pathology	SH
Student Affairs in Higher Education	ST
Theater	TH



Eberly College of Business and Information Technology

The Eberly College of Business and Information Technology offers two graduate programs: the Master of Business Administration (M.B.A.) with full-time, part-time evening, and executive tracks (Pittsburgh area and Johnstown locations) and the Master of Education in Business (M.Ed.).

Master of Business Administration (M.B.A.)

The Master of Business Administration degree program is designed to serve the needs of junior- and intermediate-level business executives who are seeking additional knowledge and skills to do a more efficient job of problem solving and decision making. Also, the program is structured to give recent college graduates advanced training in business management prior to entry into a business career. The M.B.A. may be taken on either a part- or full-time basis. Courses are scheduled for both day and night sessions, including a full schedule of course offerings in the summer.

Core I of the program consists of ten undergraduate prerequisite courses (31 s.h.) that are designed to provide a foundation in the basic concepts and techniques used in today's business world and prepare the student for the graduate courses in business administration.

Core II of the program consists of 33 credit hours in courses that provide advanced knowledge in the functional and applied areas of business. The 33 credit hours consist of eleven graduate courses (eight required courses and three elective courses chosen by the student from an approved list). Students are not required to have a specific major in the M.B.A. program. The objective of the program is to offer the student either the opportunity to sample a variety of fields of business or to develop depth in one special area of interest.

Normally, a student with a recent bachelor's degree in Business Administration from a fully accredited university will have completed all of the Core I courses. This will enable the student to complete the M.B.A. program in one year of full-time study, whereas a nonbusiness major will require two years—one year for the Core I or undergraduate courses and one year for the Core II or graduate course requirements. Part-time students typically require between two and five years to complete the program.

Students who have been admitted to the M.B.A. program and who have Core I prerequisites remaining may receive special permission to take some of the courses elsewhere. Students must receive specific permission for all such courses from the Eberly College of Business and Information Technology graduate coordinator. Also, it is possible to complete some of these courses by examination only. Again, advance permission is required.

Admissions Criteria

In addition to meeting admission requirements of the Graduate School and Research, students seeking enrollment in the M.B.A. program must achieve a satisfactory score on the Graduate Management Admission Test (GMAT) before admission to the degree program. Information about the GMAT can be obtained from the Educational Testing Service, Princeton, NJ 08540 or from IUP University Testing Services, which is located in Career Services (724-357-2235).

Program Requirements

Core I

31 s.h. in the following undergraduate courses with a grade of "C" or better:

AG 201	Accounting Principles I	3 s.h.
AG 202	Accounting Principles II	3 s.h.
BL 235	Introduction to Business Law	3 s.h.
EC 122	Principles of Economics II	3 s.h.
FI 310	Finance I	3 s.h.
IM 300	Information Systems: Theory and Practice	3 s.h.
MA 121	Calculus I for Business, Natural, and Social Sciences	4 s.h.
MG 310	Principles of Management	3 s.h.
MK 320	Principles of Marketing	3 s.h.
QB 215	Business Statistics	3 s.h.

Students will be given credit for Core I undergraduate prerequisite courses taken at IUP or at other appropriate institutions with prior permission. See the IUP *Undergraduate Catalog* for course descriptions.* Students should contact the Eberly College of Business and Information Technology graduate coordinator to ascertain the appropriateness of prior undergraduate work and any special requests for prerequisite waivers. Prior written permission is required to take courses at any other institutions.

*Some of the Core I course requirements may be fulfilled by a successful completion of College Level Examination Program (CLEP) tests in these subjects.

Core II

33 s.h. in the following graduate courses:

A. Required:

AG 607	Management Accounting**	3 s.h.
EC 634	Economics of Corporate Decisions	3 s.h.
FI 630	Financial Management	3 s.h.
IM 640	Management Information Systems	3 s.h.
MG 613	Organizational Analysis	3 s.h.
MG 695	Business Policy	3 s.h.
MK 603	Marketing Management	3 s.h.
QB 601	Quantitative Methods	3 s.h.

**Not open to students who have taken AG 311 Cost Accounting or its equivalent.

B. Three courses chosen by the student in the following elective graduate courses:

Accounting:		
AG 501	Advanced Accounting	3 s.h.
AG 512	Advanced Cost Accounting	3 s.h.
AG 531	Auditing	3 s.h.
AG 608	Seminar in Accounting Issues	3 s.h.
AG 610	Accounting Systems	3 s.h.
AG 612	Advanced Tax Accounting	3 s.h.
AG 613	Financial Statement Analysis	3 s.h.
Administrative Services:		
AD 610	Business Communications and Report Writing	3 s.h.
Business Law:		
BL 633	Case Problems in Business Law	3 s.h.
Finance:		
FI 510	Financial Institutions and Markets	3 s.h.
FI 520	Investment Analysis	3 s.h.
FI 522	Seminar in Finance	3 s.h.
FI 631	Advanced Financial Management	3 s.h.
FI 632	Seminar in Finance	3 s.h.
FI 635	Principles of Investments in Securities	3 s.h.
Management Information Systems:		
IM 550	Database Theory and Application	3 s.h.
IM 551	Systems Analysis	3 s.h.
IM 570	Systems Design	3 s.h.
IM 580	Distributed Business Information Systems	3 s.h.
IM 641	Business Data Processing I	3 s.h.
IM 642	Business Data Processing II	3 s.h.
Management:		
MG 623	Seminar in Personnel	3 s.h.
MG 630	Management Theory	3 s.h.
MG 631	Management Development and Training	3 s.h.
MG 635	Seminar in Management and Organizational Leadership	3 s.h.
MG 636	The Evolution of Management	3 s.h.
MG 642	Organizational Behavior	3 s.h.
MG 645	Case Problems in Business Human Relations	3 s.h.
MG 651	International Management	3 s.h.
MG 652	Comparative Management	3 s.h.
MG 654	Managing Global Competition	3 s.h.
Marketing:		
MK 521	Marketing Research	3 s.h.
MK 530	International Marketing	3 s.h.
MK 531	Industrial Marketing	3 s.h.
MK 610	Marketing Behavior	3 s.h.
MK 611	Marketing Communications	3 s.h.
MK 621	Marketing Research	3 s.h.
Quantitative Business:		
QB 602	Seminar in Management Science	3 s.h.
QB 604	Seminar in Methodology of Business Research	3 s.h.

Other: 581/681 Special Topics courses offered with the following prefixes: AG, BL, FI, IM, MG, MK, and QB; other business-related courses with prior approval of the College of Business graduate coordinator. No more than six credits of Special Topics may apply toward a degree.

Students may take one 500-level course without permission of the Eberly College of Business and Information Technology graduate coordinator. Additional 500-level courses require prior written approval. Students may elect one graduate-level course outside the Eberly College of Business and Information Technology in related fields as an elective with prior approval of the Eberly College of Business and Information Technology graduate coordinator. Examples of such areas may include Labor Relations, Economics, and other related fields.

Master of Business Administration-Executive Track (M.B.A.)

The Master of Business Administration-Executive Track Program is designed to serve the needs of experienced managers from industrial, financial, nonprofit, and small business as well as the public sector and allows them to earn an M.B.A. degree without interrupting their careers. A Saturday-only class format allows participants to complete a master's degree in Business within two years at a convenient time and location. A lock-step format in which members of each class begin the program at the same time, do all the required courses together, and typically complete the program as a group facilitates the formation of long-term study groups and extends a peer group or cohort experience to the participants that becomes a long-lasting network which develops both business and social contacts. Limited class size with careful selection of participants insures a wide variety of professional backgrounds. An opportunity to experience such a learning forum provides exposure to peers from all organizational settings in a cohesive, networking environment.

The M.B.A.-Executive Track program offered by IUP constitutes a demanding experience for participants. The program prepares each individual to accept increased responsibilities in general management. The curriculum offers broad training in foundations of management and basic analytical techniques while exposing students to contemporary management tools and technologies. The prevailing theme of the program is the emphasis on strategic decision making in a changing global environment.

Admissions Criteria

Undergraduate degree (no specific major), official GMAT scores, three or more years of supervisory/managerial/professional experience, and nomination and full sponsorship by an organization (preferred).

Participants who have not had recent academic training are expected to update their mathematical and calculus skills concurrent with or before beginning the M.B.A.-Executive Track Program.

Program Requirements

The program will include a one-day, mandatory, on-campus orientation period for all students. Students will be introduced to graduate faculty members and will be exposed to campus-based facilities and resources. Students will have an opportunity in a social setting to discuss program objectives/characteristics with graduate faculty members and the administration of the college.

Fifty-one semester hours of 500- and 600-level course work (42 semester hours of core courses and 9 semester hours of electives to be chosen by the group) as follows:

A. Required

First Year Fall:

AC 502	Foundations of Financial Accounting	3 s.h.
QB 500	Foundations of Business Statistics	3 s.h.
EC 501	Foundations of Modern Economics	3 s.h.

Spring:

AC 607	Management Accounting	3 s.h.
MG 613	Organizational Analysis	3 s.h.
QB 601	Quantitative Methods	3 s.h.

Summer:

IM 640	Management Information Systems	3 s.h.
MK 603	Marketing Management	3 s.h.
EC 634	Economics of Corporate Decisions	3 s.h.

Second Year Fall:

BL 633	Business Law	3 s.h.
MG 632	Operations Management	3 s.h.
FI 630	Financial Management	3 s.h.

Spring:

MG 651	International Management	3 s.h.
MG 695	Business Policy	3 s.h.
Elective		

Summer:

Two Electives

B. Electives will be chosen by each M.B.A.-Executive Track group from the list of available graduate elective courses in Business Administration or related fields.

Fall, Spring, and Summer semesters all have fourteen weeks.

Students who enter the M.B.A.-Executive Track Program in a fixed cohort group and decide to drop out will be given credit toward the regular M.B.A. course requirements and will be given the opportunity to complete the program in an alternative mode.

Department of Technology Support and Training

Master of Education in Business (M.Ed.)

The Master of Education in Business is designed to allow students to broaden their understanding of business, to study current business education issues, and to update their knowledge of advanced technologies. The program is also intended to prepare individuals for careers in emerging fields including training and development, technology management, workforce development, and education.

Courses can be taken on either a full- or part-time basis with classes offered during the evening. A full schedule of course offerings is available in the summer. Needs of each student are addressed through individual attention, flexible scheduling, and opportunities for original research.

The degree program is appropriate for those desiring careers in technology related fields in education or industry. Individuals with valid business teaching certificates may pursue additional certification areas while working toward the master's degree.

Upon admission to the Graduate School and Research, the student will be assigned an advisor to assist in tailoring the program to individual goals. This flexibility is a key feature of the program.

Admissions Criteria

Students seeking enrollment in the M.Ed. in Business program must meet the regular admission requirements of the Graduate School and Research. In addition, because the program emphasizes research writing, students will be expected to demonstrate strong written communication skills.

Program Requirements

Students must complete 30 semester hours with no less than 50 percent of the courses taken at the 600 level for the degree distributed as follows:

I. Professional Development Area **9 s.h.**

A. Humanistic Studies (3 s.h.) — One of the following:

FE 514	Comparative Foundations of Education	3 s.h.
FE 611	Historical Foundations of Education	3 s.h.
FE 612	Philosophical Foundations of Education	3 s.h.
FE 613	Social Foundations of Education	3 s.h.

B. Behavioral Studies (3 s.h.) — One of the following:

CE 639	Group Procedures	3 s.h.
EP 573	Psychology of Adolescent Education	3 s.h.
EP 576	Behavior Problems	3 s.h.
EP 578	Learning	3 s.h.
EP 604	Advanced Educational Psychology	3 s.h.
EX 650	Exceptional Children and Youth	3 s.h.

C. Research (3 s.h.)

GR 615	Elements of Research	3 s.h.

II. Specialized Core **9 s.h.**

BE 650	Principles and Problems in Business Education	3 s.h.
BE 656	Applied Research in Business Education	3 s.h.
BE 670	Administrative Communications	3 s.h.

III. Subject Area and/or Thesis **12 s.h.**

BE 850 Thesis (3 s.h.) (optional) and/or any additional graduate courses listed in this catalog under AD, AG, BE, FI, IM, MG, MK, BL, or QB. Other related courses may be allowed with the consent of the department's graduate coordinator.

Courses in Specialized Core Area and Subject Area should be scheduled early in the student's program.

**Not open to students who have taken AG 311 Cost Accounting or its equivalent.

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Accounting:		
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Program Requirements

The program will include a one-day, mandatory, on-campus orientation period for all students. Students will be introduced to graduate faculty members and will be exposed to campus-based facilities and resources. Students will have an opportunity in a social setting to discuss program objectives/characteristics with graduate faculty members and the administration of the college.

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The degree program is appropriate for those desiring careers in technology related fields in education or industry. Individuals with valid business teaching certificates may pursue additional certification areas while working toward the master's degree.

Upon admission to the Graduate School and Research, the student will be assigned an advisor to assist in tailoring the program to individual goals. This flexibility is a key feature of the program.

Admissions Criteria

Students seeking enrollment in the M.Ed. in Business program must meet the regular admission requirements of the Graduate School and Research. In addition, because the program emphasizes research writing, students will be expected to demonstrate strong written communication skills.

Program Requirements

Students must complete 30 semester hours with no less than 50 percent of the courses taken at the 600 level for the degree distributed as follows:

I. Professional Development Area **9 s.h.**

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EP 578	Learning	3 s.h.
EP 604	Advanced Educational Psychology	3 s.h.
EX 650	Exceptional Children and Youth	3 s.h.

C. Research (3 s.h.)

GR 615	Elements of Research	3 s.h.

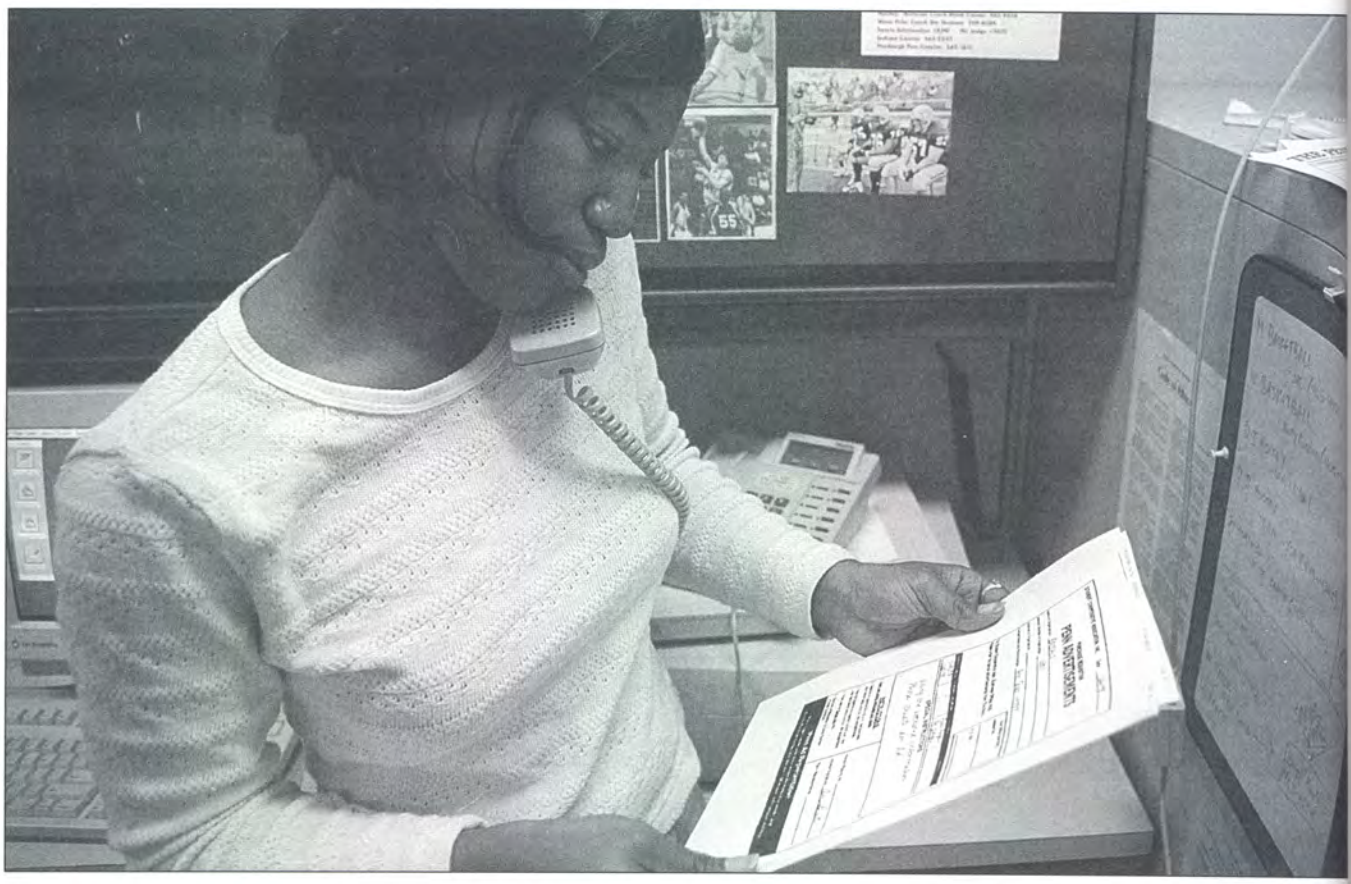
II. Specialized Core **9 s.h.**

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BE 656	Applied Research in Business Education	3 s.h.
BE 670	Administrative Communications	3 s.h.

III. Subject Area and/or Thesis **12 s.h.**

BE 850 Thesis (3 s.h.) (optional) and/or any additional graduate courses listed in this catalog under AD, AG, BE, FI, IM, MG, MK, BL, or QB. Other related courses may be allowed with the consent of the department's graduate coordinator.

Courses in Specialized Core Area and Subject Area should be scheduled early in the student's program.



College of Education and Educational Technology

The College of Education and Educational Technology offers a variety of master's programs and doctorates in School Psychology, Curriculum and Instruction, and Administration and Leadership Studies. Certification programs approved by the Pennsylvania Department of Education are offered for Elementary and Secondary Guidance and Counseling, Reading Specialist, Speech-Language Pathologist, Elementary and Secondary School Principal, School Psychologist, Instructional Technology Specialist, and the letter of eligibility for School Superintendency. Other certification programs are offered at the undergraduate level.

A Performance-Based Principal Certification Program

Each year, approximately twenty students are admitted into this innovative principal certification program. All candidates must schedule an interview with the program director before being recommended for admission into the Graduate School and Research. Once admitted, all candidates attend one class during the summer session here at IUP. The remaining program requirements are completed at the candidate's school throughout the academic year.

Department of Adult and Community Education

Master of Arts in Adult and Community Education

The Master of Arts in Adult and Community Education (ACE) is designed to develop leaders in the fields of adult and community education. Graduates from the program work in business and industry, hospitals and health-related institutions, community agencies, governmental offices and agencies, the military, religious organizations, volunteer associations, and many other human services organizations. The program assists professionals in acquiring skills to develop and implement educational and other programs designed for adults in a wide variety of settings.

The ACE program addresses the needs of each student through individualized programming and flexible scheduling. Students are encouraged to relate theory and course content to their specific areas of interest. The program offers a balance of academic preparation, practical field experience, and individual research and emphasizes the application of theory to practice and the development of theory from practice.

In addition to the regular Graduate School and Research requirements, applicants for the M.A. in Adult and Community Education are required to submit a resume and writing sample as well as participate in an in-depth interview with program faculty. The program can be completed at the IUP Monroeville Center as well as at the IUP main campus in Indiana.

Program Requirements

Program Requirements		Non-Thesis*	Thesis
AC 620	Introduction to Adult and Community Education	3 s.h.	3 s.h.
AC 621	The Adult Learner	3 s.h.	3 s.h.
AC 622	Program and Process Development in ACE	3 s.h.	3 s.h.
AC 623	Organization and Administration in ACE	3 s.h.	3 s.h.
AC 625	Teaching and Learning in ACE	3 s.h.	3 s.h.
AC 735	Seminar in ACE	3 s.h.	3 s.h.
AC 740	Internship in ACE	6 s.h.	6 s.h.
AC 745	Practical Research in ACE	3 s.h.	**3 s.h.
AC 850	Thesis	———	3 s.h.
GR 615	Elements of Research	3 s.h.	3 s.h.
Electives		6 s.h.	3 s.h.
Total		**36 s.h.**	**36 s.h.**

* A comprehensive examination is required for non-thesis option students.

** AC 745 is recommended as an elective for thesis option students.

Master of Arts in Adult Education and Communications Technology Track

Adult education is a fast-growing field which encompasses the development, delivery, and evaluation of education programs in a broad variety of settings, including business and industry, community colleges, health care, community and social agencies, higher education, corrections, and vocational education. Communications Media is the application of current and emerging technologies to enhance and supplement the delivery of educational and informational programs. The combination of the theory and research from Adult Education and the knowledge and skills in the use of technology from Communications Media will place graduates of the program in an advantageous position in the labor market.

Graduates should be competitive for such employment opportunities as human resources developers in business and industry; production positions in education, business, and government; public relations positions in the public, private, and nonprofit sectors; entrepreneurs in the rapidly developing market of external program delivery to government, business, and education; and a variety of other jobs which involve the delivery of education and training and the use of technology.

The purpose of the program is to help students acquire knowledge and skills in theory and research in adult education and in the applications of current and emerging production technologies. Upon completion of the program, students will be able to:

1. understand and apply the dynamics of adult development and learning theory to the design and implementation of educational programs and media selection and use
2. develop needs assessment procedures to make decisions regarding educational programs and media use
3. develop goals and objectives for the design of educational material and the selection and use of media
4. develop plans of action for educational programs and the use of technology
5. select, design, produce, and evaluate target media
6. develop formative and summative evaluation procedures for educational programs and media selection and use
7. design educational experiences using instructional design and other systematic approaches
8. conduct meaningful educational experiences using appropriate adult education methods
9. manage and administer educational and media programs and events

Program Requirements

I. Core Courses			**27 s.h.**
AC 621	The Adult Learner	3 s.h.	
AC 622	Program and Process Development in ACE	3 s.h.	
AC 623	Organization and Administration in ACE	3 s.h.	
AC 625	Facilitating Adult Learning	3 s.h.	
AC 750	Seminar: Technology and Adult Learning	3 s.h.	
CM 600	Instructional Design and Development	3 s.h.	
CM 601	Media Production	3 s.h.	
CM 614	Instructional Computing Basics	3 s.h.	
CM 631	Interactive Multimedia	3 s.h.	
II. Research Requirements			**3 s.h.**
GR 615	Elements of Research	3 s.h.	
III. Either			
A. Thesis Option			**3 s.h.**
AC/CM 850 Thesis		3 s.h.	
or			
B. Non-Thesis Option			**6 s.h.**
(Six credits of the following)			
CM 698	Internship	3-6 s.h.	
Electives (As approved by advisor)		3-6 s.h.	
Total (Thesis Option)			**33 s.h.**
Total (Non-Thesis Option)			**36 s.h.**

Instructional Technology Specialist Certification

Approved by the Pennsylvania Department of Education. Students wishing to apply for certification will complete the regular sequence of courses in the Adult Education and Communications Technology track in the Department of Adult and Community Education. In addition, students wishing certification must complete the following requirements:

1. Students must get Act 34 and Act 151 clearance.
2. Students must complete a restricted internship in a media center in a school district or intermediate unit.
3. Students must complete and submit all required forms and fees to IUP and Pennsylvania Department of Education for certification.

Department of Counseling

Master of Arts in Community Counseling

The Master of Arts degree program in Community Counseling is designed to prepare students to work in a variety of settings, including mental health centers, drug and alcohol treatment programs, specialized community agencies, vocational or rehabilitation programs, correctional institutions, health care settings, social services, and business and industry. The counseling curriculum is based on the educational standards as set forth by the National Board for Certified Counselors

(NBCC). Students who successfully complete their course work will be eligible to take the National Certification Exam. Upon passing the exam, students will be Board Eligible counselors.

Students enrolled in the Master of Arts degree program will complete 45 (plus thesis) or 48 hours of credit for the degree. The program requires the following courses or their equivalents:

Master of Arts in Community Counseling

I. Core Courses			**36 s.h.**
CE 610	Introduction to Community Counseling	3 s.h.	
CE 615	Counseling Across the Life-Span	3 s.h.	
CE 617	Basic Counseling Skills	3 s.h.	
CE 618	Diversity Issues in Counseling	3 s.h.	
CE 634	Mental Health Appraisal	3 s.h.	
CE 636	Career Counseling and Development	3 s.h.	
CE 730	Ethical and Legal Issues in Community Counseling	3 s.h.	
CE 755	Field Experience	3 s.h.	
GR 615	Elements of Research	3 s.h.	
Electives		9 s.h.	
II. Application of Counseling Courses — Based on Client Population			**12 s.h.**
A. Students planning to work primarily with adolescents and/or adults take the following:			
CE 637	Counseling Theory (adolescent/adult)	3 s.h.	
CE 639	Group Counseling (adolescent/adult)	3 s.h.	
CE 657	Individual Counseling Practicum (adolescent/adult)	3 s.h.	
CE 659	Group Counseling Practicum (adolescent/adult)	3 s.h.	
or			
B. Students planning to work primarily with children take the following:			
CE 627	Child Counseling Theory	3 s.h.	
CE 629	Group Procedures (child)	3 s.h.	
CE 667	Individual Counseling Practicum (child)	3 s.h.	
CE 669	Group Counseling Practicum (child)	3 s.h.	
Total			**48 s.h.**

M.A. students will not receive credit for CE 624 Educational Appraisal or CE 720 Ethical and Legal Issues in School Counseling.

Prospective students for the Master of Arts in Community Counseling must meet departmental admissions requirements and procedures in addition to those of the Graduate School and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admission workshop as the final step in the admissions process. Workshops are held three times a year, and applicants should contact the department to obtain the dates of workshops and deadlines for applications to reach the department.

Master of Education in School Counseling Certification

Elementary and Secondary School Counselors — To qualify for institutional endorsement and commonwealth certification, students must complete a 48-credit-hour competency-based program to include a series of counseling skills courses, including individual and group counseling, and complete a field experience under the supervision of a certified school counselor.

While teaching experience is not a prerequisite for admission and school counselor certification in Pennsylvania, students are expected to possess an understanding of educational philosophy and child or adolescent growth and development. They should also understand the basic principles of psychology, sociology, and learning theory. Students lacking prerequisite understandings will be expected to meet these deficiencies during their course of study.

Students seeking commonwealth School Counseling certification will take the following:

I. Core Courses			**36 s.h.**
CE 615	Counseling Across the Life-Span	3 s.h.	
CE 617	Basic Counseling Skills	3 s.h.	
CE 618	Diversity Issues in Counseling	3 s.h.	
CE 621	Introduction to Guidance Services	3 s.h.	
CE 624	Educational Appraisal	3 s.h.	
CE 626	Career Education	3 s.h.	
CE 628	Management of Guidance Services	3 s.h.	
CE 720	Ethical and Legal Issues in School Counseling	3 s.h.	
CE 755	Field Experience	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
or			
FE 612	Philosophical Foundations of Education		
or			
FE 613	Social Foundations of Education		
GR 615	Elements of Research	3 s.h.	
Electives		3 s.h.	
II. Application of Counseling Courses — Based on School Setting			**12 s.h.**
Students planning to work in the secondary school setting and who are seeking secondary school counseling certification will take the following:			
CE 637	Counseling Theory (adolescent/adult)	3 s.h.	
CE 639	Group Counseling (adolescent/adult)	3 s.h.	
CE 657	Individual Counseling Practicum (adolescent/adult)	3 s.h.	
CE 659	Group Counseling Practicum (adolescent/adult)	3 s.h.	
or			
Students planning to work in the elementary school setting and who are seeking elementary school counseling certification will take the following:			
CE 627	Child Counseling Theory	3 s.h.	
CE 629	Group procedures (child)	3 s.h.	
CE 667	Individual Counseling Practicum (child)	3 s.h.	
CE 669	Group Counseling Practicum (child)	3 s.h.	
Total			**48 s.h.**

M.Ed. student will not receive credit for CE 634 Mental Health Appraisal or CE 730 Ethical and Legal Issues in Community Counseling.

Prospective students for the Master of Education and school certification programs must meet departmental admissions requirements and procedures in addition to those of the Graduate School and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admission workshop as the final step in the admissions process. Workshops are held three times a year, and applicants should contact the department to obtain the dates of workshops and deadlines for applications to reach the department.

School Counseling Certification Only

Those students already possessing a master's degree and desiring School Counseling certification (elementary or secondary) may apply to the counseling program for "Certification Only" status. Applicants should contact the school counseling program coordinator to have their graduate transcript(s) evaluated to determine necessary course work to complete commonwealth graduate certification requirements. Applicants for "Certification Only" must meet similar admission requirements as degree-seeking applicants.

License Only Option

The License Only Option for admission is designed for individuals who need additional credits to meet educational standards for licensure. In order to be eligible for the License Only Option individuals need to have completed a minimum of a 36-credit hour master's degree and meet grandparenting criteria as outlined by the licensure board OR individuals need to have completed a minimum of a 48-credit master's degree. Applicants should contact the department to have their transcript(s) evaluated in order to determine in which courses they could enroll. The final determination of course acceptability for licensure is made by the state licensing board. If a student has a question about a course being accepted for licensure or about meeting grandparenting criteria, he or she should contact the licensure board directly. Applicants for the "License Only" status must meet the same admissions requirements as degree-seeking applicants; these requirements include a minimum 3.5 graduate grade point average.

Department of Educational and School Psychology

Program Descriptions

The Master of Education degree in the Educational Psychology Program (33 to 36 semester hours, depending upon choice of thesis or non-thesis option) has been designed to give the interested student a broad theoretical and practical background in the areas of education and psychology. The program will be of interest to those planning to pursue certification in school psychology after the master's degree, to those wishing to broaden their understanding of human development and learning, or to those wishing to learn more about educational evaluation and research.

The school psychology program at Indiana University of Pennsylvania is a multiple-entry-level graduate program culminating with a specialist certificate as a school psychologist in the Commonwealth of Pennsylvania and/or a Doctorate in Education in school psychology. An individual with a bachelor's degree may enter the program as a master's degree candidate and, upon completion of the master's-level course work, may apply for acceptance into the post-master's school psychology certification program. Students showing exceptional potential may be invited, upon completion of their master's degree, to apply directly to the doctoral program, receiving certification as school psychologists as they progress toward the doctorate.

Individuals who already possess a master's degree from an accredited institution may apply directly into the post-master's portion of the program but may be required to make up certain master's degree courses. Completion of the entire doctoral program involves 102-108 semester hours beyond the bachelor's degree with 66-69 semester hours being required for the specialist certificate.

A student who is already certified as a school psychologist, through another fully accredited institution, may apply directly to the doctoral program. The sequence of courses required of these students is determined by a review of their past training and their performance on both a content and practicum competency evaluation. The core program for the doctoral sequence is 33-39 semester hours beyond specialist certification.

Admission into the program at all levels is based upon evidence of previous scholarship and/or potential for academic success, personal and professional qualities deemed necessary to function as a school psychologist, and motivation for professional excellence and leadership in the field. Continuous enrollment of a minimum of 6 credit hours per semester or summer session is required unless waived by the student's advisor and the school psychology committee.

Both the specialist-level and doctoral programs are fully accredited by the National Association of School Psychologists and National Council for Accreditation of Teacher Education.

Master's of Education in Educational Psychology

General Requirements—All students must complete course work in the following areas: Professional Development (9 semester hours), Humanistic Studies (3 semester hours), Behavioral Studies (3 semester hours), Subject Area (6 semester hours), Research (6 semester hours), and Electives (9 semester hours, non-thesis option). All electives must be approved by the student's departmental advisor and may be chosen to enhance the student's interest in school psychology, human development and learning, or educational evaluation and research.

Post-Master's Certification

The post-master's certification requirement of 33 semester hours is designed to provide the student with the specific clinical skills necessary to function as a school psychologist. Courses focus on the role of the psychologist (EP 711), assessment (EP 712, EP 713, EP 763), and biological bases of behavior and exceptionality (EP 742), as well as on consultation and counseling (EP 762, EP 763). Nine hours of practicum are required (EP 749—3 hours, EP 750—6 hours) as well as six hours of internship (EP 751). Specialist-level students are required to complete 1,200 clock hours of internship, half of which must be completed in a school setting on a full-time basis. Grades of "B" or better are required for all certification course work. Courses may be repeated should a student earn a grade below a "B." (Refer to "Course Repeat Policy.")

Doctor of Education in School Psychology

Doctoral students, when their schedule permits, may enroll in selected doctoral required courses as they progress through the certification program. The majority of the doctoral course requirements are completed in the two summers following the specialist-level internship. The courses are designed to enhance the generalist competencies of the school psychologist and to allow him or her to gain advanced skills in research and a specialty in either neuropsychology and learning disorders or family-school relations.

and experience in four areas: educational theory; teacher education; curriculum evaluation; and research methods.

These areas will be developed in pursuit of the overarching goal of promoting the professional development of practitioners in the field of education.

I. Core			**33 s.h.**
CU 705	Curriculum Evaluation	3 s.h.	
CU 710	Advanced Topics in Human Development and Learning	3 s.h.	
CU 725	Critical Analysis of Issues in Education	3 s.h.	
CU 730	Analysis of Effective Instruction	3 s.h.	
CU 735	Education for Cultural Pluralism	3 s.h.	
CU 740	Technology in the Curriculum	3 s.h.	
CU 745	Literacy: Theory, Research, and Practice	3 s.h.	
CU 750	Issues and Processes in Curricular Change	3 s.h.	
CU 755	Doctoral Seminar in Curriculum and Instruction	3 s.h.	
EE 766	Evaluation of Early Childhood Programs (recommended elective)	3 s.h.	
Elective		3 s.h.	
II. Professional Skills			**12 s.h.**
CU 715	Writing for Professional Publication	3 s.h.	
CU 720	Doctoral Seminar in Research Methods	3 s.h.	
EP 715	Doctoral Seminar in Applied Research Methods	3 s.h.	
LP 783	Analysis of Qualitative Data in Leadership Studies	3 s.h.	
III. Internship			**6 s.h.**
CU 798	Doctoral Internship	6 s.h.	
IV. Dissertation			**9 s.h.**
CU 950	Dissertation	9 s.h.	

V. Professional Portfolio

The professional portfolio will be developed during the course of the doctoral program and will be presented in the last course of the program (CU 755 Doctoral Seminar in Curriculum and Instruction). The professional portfolio will be administered by the Dissertation Advisory Committee and will be composed of the following elements:

- Dissertation proposal, consisting of the first three chapters of the dissertation
- Curriculum vitae
- Reprints of papers published and presented
- Internship report

Department of Special Education and Clinical Services

The Department of Special Education and Clinical Services offers two graduate programs: Master of Education degree in Education of Exceptional Persons and the Master of Science degree in Speech-Language Pathology. These programs are in accord with the current national standards of the Council for Exceptional Children and the American Speech-Language-Hearing Association, respectively.

Master of Education
Education of Exceptional Persons

The M.Ed. program is structured to address the educational needs of four types of graduate students: (a) those who hold Pennsylvania Mentally and/or Physically Handicapped certification; (b) those who hold another teaching certificate who wish to obtain special education certification while working toward an M.Ed. degree in Education of Exceptional Persons; (c) those who hold another teaching certificate who wish to obtain special education certification without earning the M.Ed. degree; and (d) those who do not want to qualify for a teaching certificate but who wish to work professionally with persons with disabilities.

Students working toward a master's degree may select a thesis or a non-thesis option at an appropriate point in their program of studies. The department will exercise final judgment over the exact program of studies required for any student. All M.Ed. candidates must successfully complete a comprehensive examination as the terminal experience in their course of studies.

Applications are due by March 1 for consideration for Summer/Fall/Spring acceptance.

M.Ed. Students with Pennsylvania Special Education Certification and M.Ed. Students Not Seeking Pennsylvania Special Education Certification

I. Professional Development Area			**9 s.h.**
A. Humanistic Studies		**3 s.h.**	
Choose one of the following:			
FE 514	Comparative Foundations of Education	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
FE 612	Philosophical Foundations of Education	3 s.h.	
FE 613	Social Foundations of Education	3 s.h.	
B. Behavioral Studies		**3 s.h.**	
Choose one of the following:			
CE 629	Group Procedures	3 s.h.	
CE 639	Group Procedures	3 s.h.	
EP 573	Psychology of Adolescent Education	3 s.h.	
EP 578	Learning	3 s.h.	
EP 604	Advanced Educational Psychology	3 s.h.	
C. Research		**3 s.h.**	
GR 615	Elements of Research	3 s.h.	
II. Specialization Core			**18 s.h.**
EP 576	Behavior Problems	3 s.h.	
EX 651	Vocational Preparation and Transition for Youth with Disabilities	3 s.h.	
EX 652	Assessment of Persons with Disabilities	3 s.h.	
EX 654	Advanced Instructional Design in Special Education	3 s.h.	
EX 655	Professional Collaboration and Team Building for Special Educators	3 s.h.	
EX 685	Practicum and Internship	3 s.h.	
A.			**6 s.h.**
EX 850	Thesis	3 s.h.	
One elective from Approved List		3 s.h.	
or			
B.			**9 s.h.**
EX 653	Research Seminar in Special Education	3 s.h.	
Two Electives from Approved List		6 s.h.	
Total required			**33-36 s.h.**

In addition to seminars in advanced issues in assessment and interventions (EP 764, EP 765), the core courses include two advanced research courses (EP 715, EP 716) and four courses emphasizing applied clinical skills in the above specialty areas. A three-semester-hour practicum, a three-hour specialty internship (300 clock hours), and a nine-semester-hour dissertation are required to complete the doctoral degree. Half of a student's total school psychology internship (1,500 hours) must be completed in a school setting.

Admission to the Master's Program

Individuals seeking initial admission to any departmental program must complete both a Graduate School and Research application and a departmental application. Once all application materials (including completed application forms, two letters of recommendation, transcripts, and GRE scores for the aptitude portion of the exam only) have been received, the school psychology program committee will review applications and select applicants for interviews. Following these interviews, the committee will forward to the Graduate School and Research recommendations regarding admission into the program. The Graduate School and Research, in turn, will communicate an admission decision to the applicant.

Admission to the program is based upon an evaluation of undergraduate and graduate transcripts, recommendations, GRE test scores, work history, professional goals, and personal characteristics as determined in the admission interview. No one criterion dominates in the admission decision, providing there is evidence of the basic ability to do graduate work. Applicants who have cumulative GPAs below 2.6 will be required by the Graduate School and Research to take the Miller Analogies Test as well.

The progress of students entering the master's program is reviewed by the faculty during the first year of course work, and a decision is made on whether to invite students to apply to the doctoral program or support continuation into the specialist certification program. At this point, the student must complete a streamlined application process in either case.

Admission to Summer-Only Doctoral Program (Track B)

Special admission and program planning procedures have been developed so that employed school psychologists, certified through a fully accredited university training program, may be admitted to the doctoral program. In addition to the completed application forms, undergraduate and graduate transcripts, two letters of recommendation, one of which must be from a direct supervisor, and GRE scores for the aptitude and advanced test in psychology, the student must present evidence of being a nationally certified school psychologist.

Upon admission, these Track B students must undergo a transcript review and candidacy exam to evaluate their past training and current competencies. All certified school psychologists entering through the Track B process must enroll in EP 750 Practicum II during their first summer on campus. Based on the transcript review, the candidacy exam, and observation of their clinical skills in Practicum II, a plan of study is developed which includes a core program of 24 semester hours of doctoral coursework, a three-credit-hour internship, and a nine-credit-hour dissertation. Additional courses may be needed to fill gaps in the student's training or competence. All Track B students who have not completed a 1,200-hour internship as part of their certification training must make up this deficiency prior to receiving a full candidacy status.

Master's Degree Program

(M.Ed. in Educational Psychology)
Thesis option, 33 s.h.
Non-Thesis option, 36 s.h.

I. Core Courses			**21 s.h.**
EP 573	Psychology of Adolescent Education	3 s.h.	
EP 576	Behavior Problems	3 s.h.	
EP 578	Learning	3 s.h.	
EP 604	Advanced Educational Psychology	3 s.h.	
EP 618	Interpretation of Educational and Psychological Tests	3 s.h.	
EX 650	Exceptional Children and Youth	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
or			
FE 612	Philosophical Foundations of Education		
or			
FE 613	Social Foundations of Education		
II. Research Requirements			**6 s.h.**
EP 616	Applied Educational Research Methods	3 s.h.	
GR 615	Elements of Research	3 s.h.	
III. Electives or Thesis			**6 or 9 s.h.**
(must be approved by advisor)			
Thesis option		6 s.h.	
or			
Non-thesis option		9 s.h.	
Total			**33 or 36 s.h.**

Post-Master's Certification Program

(Educational Specialist Certificate)

I. Core Courses			
EP 711	Introduction to School Psychology	3 s.h.	
EP 712	Individual Evaluation I	3 s.h.	
EP 713	Individual Evaluation II	3 s.h.	
EP 742	Neuropsychology of Children's Learning Disorders*	3 s.h.	
EP 749	Practicum I	3 s.h.	
EP 750	Practicum II (3 s.h. Spring/3 s.h. Summer)	6 s.h.	
EP 751	Internship (3 s.h. Fall/3 s.h. Spring)	6 s.h.	
EP 762	Crisis Counseling and Consultation in Instructional Settings	3 s.h.	
EP 763	Assessment of Personality and Behavior Problems of Children	3 s.h.	
Total			**33 s.h.**

* (Required for Doctoral Track B entrants)

Doctoral Program

(D.Ed. in School Psychology)

I. Core Courses			**9 s.h.**
EP 764	Seminar in School Psychology I	3 s.h.	
EP 765	Seminar in School Psychology II	3 s.h.	
EP 777	Seminar in Family-School Relations	3 s.h.	
II. Research Requirements			**6 s.h.**
EP 715	Doctoral Seminar in Applied Educational Research	3 s.h.	
EP 716	Doctoral Seminar in Advanced Educational Research	3 s.h.	

III. Neuropsychology and Learning Disorders Specialty (6 s.h.)		**6 s.h.**	
EP 753	Child Neuropsychology	3 s.h.	
EP 766	Doctoral Seminar: Research Issues in Child Neuropsychology	3 s.h.	
or			
IV. Family-School Relations Specialty (6 s.h.)			
PC 634	Family Therapy	3 s.h.	
PC 763	Advanced Family Therapy	3 s.h.	
PC 791	Family and Couples Clinic	3 s.h.	
V. Internship			**3 s.h.**
EP 752	Doctoral Internship	3 s.h.	
VI. Dissertation			**9 s.h.**
EP 950	Dissertation	9 s.h.	
Total			**33 s.h.**

Department of Professional Studies in Education

The Professional Studies in Education Department offers the following graduate degrees: M.Ed. in Education, M.Ed. in Early Childhood Education, M.Ed. in Literacy, a doctorate in Administration and Leadership Studies, and a doctorate in Curriculum and Instruction. A brief description of each degree is presented below. Specific lists of courses and requirements can be obtained from the Professional Studies in Education Department in 303 Davis Hall.

Masters in Education

This thirty-six-credit, team-taught program is structured to address the educational needs of several types of graduate students who enter and proceed through the program as a cohort group. The program's integrated curriculum is designed to prepare educators to be research oriented and to be more effective and innovative in classrooms, in schools, and in communities. The six Thematic Units of six credits each include Community and Culture, Instruction and the Learner, Teacher as Researcher, Curriculum and Instruction, Educational Change and Technology, and Teacher as Leader. The program requires Internet access, which is available at IUP at no charge to students.

I. Required Thematic Units			**36 s.h.**
ME 661	Community and Culture	6 s.h.	
ME 662	Instruction and the Learner	6 s.h.	
ME 663	Teacher as Researcher	6 s.h.	
ME 664	Educational Change and Technology	6 s.h.	
ME 665	Curriculum and Instruction	6 s.h.	
ME 666	Teacher as Leader	6 s.h.	

Master of Education in Early Childhood Education

The 36-semester-hour non-thesis M.Ed. in Early Childhood Education program is offered on site in Johnstown, Pennsylvania. A twenty-four-credit sequence which meets the course work requirements of the Commonwealth of Pennsylvania for an Instructional II Certificate and provides teachers who already hold an Instructional I Certificate in Elementary or a related educational field with a nursery school-third grade endorsement is offered during the first two years. This is a part-time (twelve credits per year), off-campus program for experienced teachers.

Master's Degree Program

(M.Ed. in Early Childhood Education)

I. Foundations of Education			**3 s.h.**
EE 661	History and Philosophy of Early Childhood	3 s.h.	
II. Child Development			**3 s.h.**
EE 665	Developmental Influences on Children's Learning	3 s.h.	
III. Research			**3 s.h.**
GR 615	Elements of Research (early childhood section)	3 s.h.	
IV. Specialization			**27 s.h.**
EE 643	Resource Materials in Elementary Science (early childhood section)	3 s.h.	
EE 660	Child Study and Assessment	3 s.h.	
EE 664	Early Childhood Curriculum	3 s.h.	
EE 665	Issues and Trends in Early Childhood Education	3 s.h.	
(required only for students who lack significant experience with young children)			
EM 655	Mathematics in Early Childhood	3 s.h.	
EX 515	Preschool Education for Children with Disabilities	3 s.h.	
HE 526	Techniques of Parent Education	3 s.h.	
LT 644	Recent Trends in Language Arts (early childhood section)	3 s.h.	
LT 648	Creativity and the Elementary School Child	3 s.h.	
Total			**36 s.h.**

Early Childhood Second Certification Program

(Students must have an initial teaching certificate.)

EE 660	Child Study and Assessment	3 s.h.
EE 664	Early Childhood Curriculum	3 s.h.
EE 665	Issues and Trends in Early Childhood	3 s.h.
EL 643	Resource Materials in Science (early childhood section)	3 s.h.
EL 655	Developmental Influences on Children's Learning	3 s.h.
EM 655	Preschool Mathematics	3 s.h.
LT 648	Creativity and the Elementary School Child	3 s.h.
LT 664	Recent Trends in Language Arts (early childhood section)	3 s.h.
(EE 662 Early Childhood Field Study, 3 s.h., required for students who do not have extensive, supervised early childhood teaching experience)		
Total		**24 s.h.**

M.Ed. in Literacy and/or Reading Specialist Certification

The M.Ed. in Literacy is a graduate program housed in the Department of Professional Studies in Education. This degree is offered to educators certified in teaching who are pursuing graduate studies in reading and literacy theories, research, and instructional practices.

The M.Ed. in Literacy requires thirty-six credits. Students may also receive a Reading Specialist Certification by completion of twenty-seven credits within the master's program from categories A-C.

A. Literacy			**21 s.h.**
LT 600	Foundations of Literacy Instruction	3 s.h.	
LT 601	Assessment and Acceleration	3 s.h.	
LT 602	Reading and Writing in the Content Areas	3 s.h.	
LT 605	Organization and Administration of Reading/Writing Programs	3 s.h.	
LT 644	Issues and Trends in the Language Arts	3 s.h.	
LT 670	Practicum and Seminar for Reading Specialists I	3 s.h.	
LT 671	Practicum and Seminar for Reading Specialists II	3 s.h.	
B. Research			**3 s.h.**
LT 698	Analysis of Research in Literacy *Required for Reading Specialist Certification* *Required for M.Ed. in Literacy if not completing a thesis*	3 s.h.	
C. Related Areas (Select one)			**3 s.h.**
LT 607	Instruction and Learning with Literature	3 s.h.	
EP 573	Psychology of Adolescent Education	3 s.h.	
EN 518	Adolescent Literature	3 s.h.	
D. Research			**3 s.h.**
GR 615	Elements of Research *Required for M.Ed. in Literacy if not completing a thesis*	3 s.h.	
E. Humanistic Studies			**3 s.h.**
FE 514	Comparative Foundations of Education	3 s.h.	
FE 613	Social Foundations of Education	3 s.h.	
	Other graduate courses that address the relationships of social, political, historical, and cultural perspectives of education could be applicable for this section. *Required for M.Ed. in Literacy if not completing a thesis.*		
F. Electives			**3 s.h.**
LT 620	Reading Instruction for the Culturally Different	3 s.h.	
LT 648	Creativity and the Elementary School Child	3 s.h.	
LT 697	Seminar in Reading	3 s.h.	
LT 699	Independent Study in Reading Education	3 s.h.	
EN 690	Writing as a Way of Learning*	3 s.h.	
	Other current graduate courses that address literacy, learning, or reading/writing could be applicable as an elective.		

* With special permission from advisor

Administration and Leadership Studies—D.Ed. Track

The doctoral program in Administration and Leadership Studies is designed to educate future school superintendents and college administrators. The sixty-credit graduate program will admit approximately twenty candidates who will remain together as a cohort group for three years. Classes are scheduled all day Friday and Saturday approximately once a month from 9 a.m. to 4 p.m.

Potential candidates must take part in a one-hour interview at IUP. The interview and writing examination are designed to identify candidates who will be admitted into the three-year program. All applicants should be current or former administrators and have at least two years of administrative experience.

The program focuses on budgeting techniques, communication skills, team building, leadership theory, conflict resolution, implementing change, research, adult development, and case studies. The monthly seminars combine theory with actual projects that candidates are expected to implement in the workplace. The curriculum is designed to accommodate the schedules of working administrators.

Program requirements

Core			**18 s.h.**
CU 710	Advanced Topics in Human Development and Learning	3 s.h.	
ED 650	School and Community	3 s.h.	
LP 701	Leadership Theories	3 s.h.	
LP 702	Leadership: A Case Study Approach	3 s.h.	
LP 703	Leadership: Applied Practice	3 s.h.	
LR 651	Conflict Resolution	3 s.h.	
Research			**18 s.h.**
CU 720	Doctoral Seminar in Research Methods	3 s.h.	
LP 782	Research Instrument Design for Leadership Studies	3 s.h.	
LP 783	Analysis of Qualitative Data in Leadership Studies	3 s.h.	
LP 950	Dissertation	9 s.h.	
Internship			**6 s.h.**
LP 798	Internship in Administration and Leadership Studies	6 s.h.	
Educational Administration			**18 s.h.**
CU 705	Curriculum Evaluation	3 s.h.	
CU 725	Critical Analysis of Issues in Education	3 s.h.	
CU 730	Analysis of Effective Instruction	3 s.h.	
EA 660	School Finance	3 s.h.	
ED 658	School Law and Negotiations	3 s.h.	
Elective		3 s.h.	

Doctorate in Curriculum and Instruction

The Doctor of Education in Curriculum and Instruction is a professional degree conferred upon teacher/scholars who have demonstrated distinguished achievement as practitioners or administrators in the educational field and are prepared to function effectively as teacher educators in college and university settings responsible for preparing future generations of teachers. Successful completion of the doctorate in Curriculum and Instruction acknowledges that the individual has mastered the four components of the program: educational theory, teacher education, curriculum evaluation, and research methods.

The program leading to a Doctor of Education in Curriculum and Instruction is an applied program of courses, experiences, and research for educators currently serving as educators in early childhood, elementary, middle school, or secondary settings. The program intends to serve such educators who are seeking to begin careers in higher education or to become curriculum experts and professional development specialists in public, private, and independent schools.

The doctoral program in Curriculum and Instruction is designed to prepare teacher/scholars who work with pre-service and in-service educators in university and school settings. In fulfilling their role as teacher educators, those who earn the doctoral degree in Curriculum and Instruction will apply their knowledge

and experience in four areas: educational theory; teacher education; curriculum evaluation; and research methods.

These areas will be developed in pursuit of the overarching goal of promoting the professional development of practitioners in the field of education.

I. Core			**33 s.h.**
CU 705	Curriculum Evaluation	3 s.h.	
CU 710	Advanced Topics in Human Development and Learning	3 s.h.	
CU 725	Critical Analysis of Issues in Education	3 s.h.	
CU 730	Analysis of Effective Instruction	3 s.h.	
CU 735	Education for Cultural Pluralism	3 s.h.	
CU 740	Technology in the Curriculum	3 s.h.	
CU 745	Literacy: Theory, Research, and Practice	3 s.h.	
CU 750	Issues and Processes in Curricular Change	3 s.h.	
CU 755	Doctoral Seminar in Curriculum and Instruction	3 s.h.	
EE 766	Evaluation of Early Childhood Programs (recommended elective)	3 s.h.	
Elective		3 s.h.	
II. Professional Skills			**12 s.h.**
CU 715	Writing for Professional Publication	3 s.h.	
CU 720	Doctoral Seminar in Research Methods	3 s.h.	
EP 715	Doctoral Seminar in Applied Research Methods	3 s.h.	
LP 783	Analysis of Qualitative Data in Leadership Studies	3 s.h.	
III. Internship			**6 s.h.**
CU 798	Doctoral Internship	6 s.h.	
IV. Dissertation			**9 s.h.**
CU 950	Dissertation	9 s.h.	

V. Professional Portfolio

The professional portfolio will be developed during the course of the doctoral program and will be presented in the last course of the program (CU 755 Doctoral Seminar in Curriculum and Instruction). The professional portfolio will be administered by the Dissertation Advisory Committee and will be composed of the following elements:

- Dissertation proposal, consisting of the first three chapters of the dissertation
- Curriculum vitae
- Reprints of papers published and presented
- Internship report

Department of Special Education and Clinical Services

The Department of Special Education and Clinical Services offers two graduate programs: Master of Education degree in Education of Exceptional Persons and the Master of Science degree in Speech-Language Pathology. These programs are in accord with the current national standards of the Council for Exceptional Children and the American Speech-Language-Hearing Association, respectively.

Master of Education
Education of Exceptional Persons

The M.Ed. program is structured to address the educational needs of four types of graduate students: (a) those who hold Pennsylvania Mentally and/or Physically Handicapped certification; (b) those who hold another teaching certificate who wish to obtain special education certification while working toward an M.Ed. degree in Education of Exceptional Persons; (c) those who hold another teaching certificate who wish to obtain special education certification without earning the M.Ed. degree; and (d) those who do not want to qualify for a teaching certificate but who wish to work professionally with persons with disabilities.

Students working toward a master's degree may select a thesis or a non-thesis option at an appropriate point in their program of studies. The department will exercise final judgment over the exact program of studies required for any student. All M.Ed. candidates must successfully complete a comprehensive examination as the terminal experience in their course of studies.

Applications are due by March 1 for consideration for Summer/Fall/Spring acceptance.

M.Ed. Students with Pennsylvania Special Education Certification and M.Ed. Students Not Seeking Pennsylvania Special Education Certification

I. Professional Development Area			**9 s.h.**
A. Humanistic Studies		**3 s.h.**	
Choose one of the following:			
FE 514	Comparative Foundations of Education	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
FE 612	Philosophical Foundations of Education	3 s.h.	
FE 613	Social Foundations of Education	3 s.h.	
B. Behavioral Studies		**3 s.h.**	
Choose one of the following:			
CE 629	Group Procedures	3 s.h.	
CE 639	Group Procedures	3 s.h.	
EP 573	Psychology of Adolescent Education	3 s.h.	
EP 578	Learning	3 s.h.	
EP 604	Advanced Educational Psychology	3 s.h.	
C. Research		**3 s.h.**	
GR 615	Elements of Research	3 s.h.	
II. Specialization Core			**18 s.h.**
EP 576	Behavior Problems	3 s.h.	
EX 651	Vocational Preparation and Transition for Youth with Disabilities	3 s.h.	
EX 652	Assessment of Persons with Disabilities	3 s.h.	
EX 654	Advanced Instructional Design in Special Education	3 s.h.	
EX 655	Professional Collaboration and Team Building for Special Educators	3 s.h.	
EX 685	Practicum and Internship	3 s.h.	
A.			**6 s.h.**
EX 850	Thesis	3 s.h.	
One elective from Approved List		3 s.h.	
or			
B.			**9 s.h.**
EX 653	Research Seminar in Special Education	3 s.h.	
Two Electives from Approved List		6 s.h.	
Total required			**33-36 s.h.**

*M.Ed. Students Seeking Pennsylvania Special Education Certification**

I.	**Professional Development Area**		**9 s.h.**
A.	**Humanistic Studies**	**3 s.h.**	
FE 514	Comparative Foundations of Education	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
FE 612	Philosophical Foundations of Education	3 s.h.	
FE 613	Social Foundations of Education	3 s.h.	
B.	**Behavioral Studies**	**3 s.h.**	
CE 629	Group Procedures	3 s.h.	
CE 639	Group Procedures	3 s.h.	
EP 573	Psychology of Adolescent Education	3 s.h.	
EP 578	Learning	3 s.h.	
EP 604	Advanced Educational Psychology	3 s.h.	
C.	**Research**	**3 s.h.**	
GR 615	Elements of Research	3 s.h.	
II.	**Specialization Core**		**21 s.h.**
EP 576	Behavior Problems	3 s.h.	
EX 651	Vocational Preparation and Transition for Youth with Disabilities	3 s.h.	
EX 652	Assessment of Persons with Disabilities	3 s.h.	
EX 654	Advanced Instructional Design in Special Education	3 s.h.	
EX 655	Professional Collaboration and Team Building for Special Educators	3 s.h.	
EX 685	Practicum and Internship1	3 s.h.	
EX 685	Practicum and Internship1	3 s.h.	
A.			
EX 850	Thesis	3 s.h.	
or			
EX 653	Research Seminar	3 s.h.	
and			
B.	**Characteristics Courses**		**15 s.h.**
EX 516	Education of Persons with Emotional or Behavioral Disorders	3 s.h.	
EX 517	Education of Persons with Mental Retardation or Developmental Disabilities	3 s.h.	
EX 518	Education of Persons with Physical or Multiple Disabilities	3 s.h.	
EX 519	Education of Persons with Brain Injuries or Learning Disabilities	3 s.h.	
EX 650	Exceptional Children and Youth	3 s.h.	
Total required			**48 s.h.**

*Students Seeking Pennsylvania Special Education Certification Only**

I.	**Characteristics Courses**		**15 s.h.**
(Unless the requirement has been previously fulfilled)			
EX 516	Education of Persons with Emotional or Behavioral Disorders	3 s.h.	
EX 517	Education of Persons with Mental Retardation or Developmental Disabilities	3 s.h.	
EX 518	Education of Persons with Physical or Multiple Disabilities	3 s.h.	
EX 519	Education of Persons with Brain Injuries or Learning Disabilities	3 s.h.	
EX 650	Exceptional Children and Youth	3 s.h.	
II.	**Specialization Core**		**15 s.h.**
EP 576	Behavior Problems	3 s.h.	
EX 652	Assessment of Persons with Disabilities	3 s.h.	
EX 654	Advanced Instructional Design in Special Education	3 s.h.	
EX 685	Practicum and Internship[1]	3 s.h.	
EX 685	Practicum and Internship[1]	3 s.h.	
Total required			**30 s.h.**

* These are minimum requirements. Additional course work may be required depending on present certification (e.g., applicants with secondary education certification will be required to demonstrate competence in the teaching of reading, language arts, and math to students with disabilities).

1 The first three semester hours of EX 685 focus on mild-moderate disabilities, while the second three semester hours focus on severe-profound disabilities.

Speech-Language Pathology

The Speech-Language Pathology program culminates in a Master of Science degree. IUP is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA). The program provides for the completion of the academic and practicum requirements for the Certificate of Clinical Competence from ASHA, for Pennsylvania Licensure in Speech-Language Pathology, and for Level I Certification in Teaching the Speech and Language Impaired from the Pennsylvania Department of Education. The tripartite role is fulfilled by completion of all the course requirements for the B.S.Ed. and the M.S. degrees. Consequently, applicants who do not meet all of the undergraduate requirements will be asked to complete the significant majority of the deficiencies before registering for graduate courses. Workshops are not to be considered applicable for degree requirements. The thesis option is available with approval of the advisor.

Master of Science in Speech-Language Pathology

Candidates for the Master of Science degree must meet the academic and practicum requirements for the Certificate for Clinical Competence in Speech-Language Pathology awarded by the American Speech-Language-Hearing Association. A minimum of 48-51 hours is required for the degree.

Required Courses:		
SH 600	Neurolinguistics	3 s.h.
SH 604	Diagnostic Methods	3 s.h.
SH 610	Articulation	3 s.h.
SH 616	Stuttering	3 s.h.
SH 618	Voice	3 s.h.
SH 630	Language Disorders of Children	3 s.h.
SH 632	Neurological Communication Disorders	3 s.h.
SH 635	Seminar in Communication (two taken)	6 s.h.
SH 640	Diagnostic Audiology	3 s.h.
SH 661	Advanced Clinical Practicum I	2 s.h.
SH 662	Diagnostic Clinic	1 s.h.
SH 663	Hearing Testing Clinic	1 s.h.
SH 671	Advanced Clinical Practicum II	2 s.h.
Select two of the following:		
SH 696	Internship in Hospitals	6 s.h.
SH 697	Internship in Community Agencies	6 s.h.
SH 698	Internship in Schools	6 s.h.

Admission Policy: The Graduate Admission Committee will review all applicants for admission in terms of courses listed on

the transcript(s) as well as grade point average. Applicants will be informed of any deficiencies when they receive the acceptance letter from the Graduate School and Research. Undergraduate courses in the major with a letter grade below a "C" will not be accepted as a prerequisite to graduate study and will be treated as a course deficiency. The graduate coordinator will advise the person of the procedures to fulfill the deficiencies.

Because the program will always have a limit on the number of applicants that it can accept, first priority for admission will be granted to applicants with at least a grade point average of 3.00 out of 4.00 overall in Speech-Language Pathology and Audiology and strong letters of recommendation from at least two faculty members. Second priority will be given to applicants with grade point averages between 2.80 and 2.99. Applicants with GPAs of 2.60 to 2.79 may be accepted on a conditional basis and, before being considered for candidacy, must complete 12 credit hours of content courses with a grade of "A" or "B" in each course. Registration for clinical practicum experiences will not be permitted until candidacy is achieved. Applicants with a grade point average below 2.60 will not be considered for acceptance.

Applicants for whom English is not the native language must achieve a score at the ninetieth percentile or higher on the oral and written subtests of the TOEFL. If applicants are not graduates of an undergraduate program in Speech-Language Pathology and Audiology, the restrictions relative to completing deficiencies will also apply. Furthermore, the applicant must provide the program's Graduate Admission Committee with an audiotape recording of twenty minutes of free conversation with a colleague and twenty minutes of reading from a professional text. The committee will judge the adequacy of the spoken language; the applicant may be required to successfully complete speech therapy before being allowed to register for clinical practicum experiences.

Observation hours and clinical practicum completed in another country will be accepted when they have been supervised by a speech-language pathologist or an audiologist who holds the appropriate certification from ASHA.

Retention in the Program

No person will be granted a degree who has more than one "C" grade in graduate courses in Speech-Language Pathology. Only one of these courses may be repeated in agreement with the Graduate School and Research procedures. Clinical courses must be completed with a grade of "B" or higher to meet the requirements for graduation. Furthermore, the practicum hours in clinical courses with a grade of "C" or lower will not apply to ASHA certification or state licensure requirements.

National Examination

Prior to receiving their degree, students must complete the National Examination in Speech-Language Pathology and Audiology and provide evidence of the attempt to the graduate coordinator. The examination should be taken during the last semester of enrollment.

Department of Student Affairs in Higher Education

Master of Arts in Student Affairs in Higher Education

The Department of Student Affairs in Higher Education houses one graduate program, offering the M.A. degree in Student Affairs in Higher Education.

Student Affairs is an applied behavioral and social science field and as such offers the following topics areas: personality and human development; research; specific skills and techniques for helping others learn, grow, and develop; organizational and management theory and practice; and practice-oriented experiences.

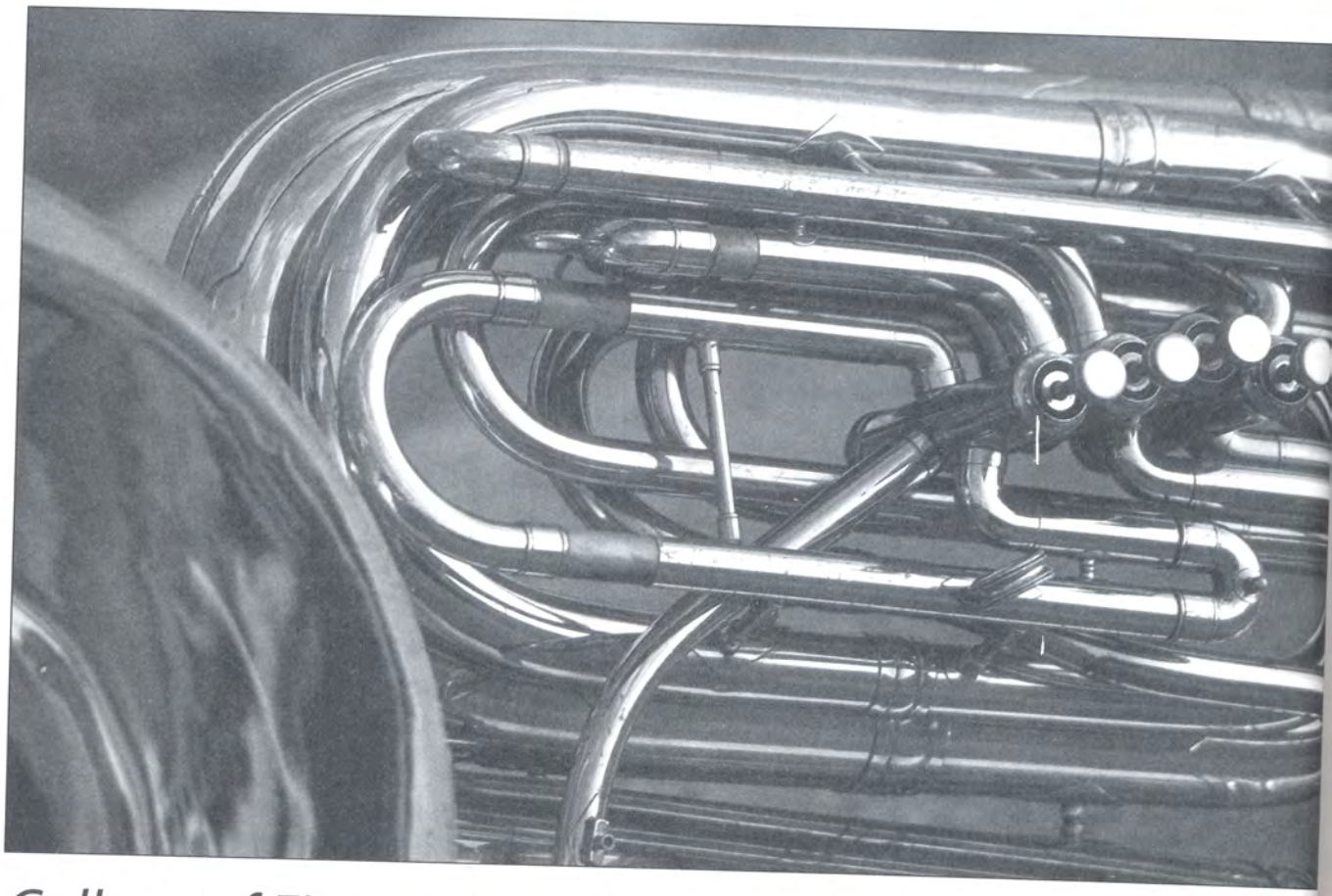
Students in the department prepare to be professional student affairs practitioners in two- and four-year colleges and universities in a variety of administrative areas, i.e., admissions, housing and residence life, student development programs, student activities and organizations, Greek affairs, registration, financial aid, career planning and development, minority affairs programs, health services, athletics, advising and testing, international student services, and counseling programs.

The SAHE program gives its students in-depth exposure to theories and models of human and student development. The emphasis is to provide them with a broad understanding of human behavior and the methods by which psychological theory is translated into practice. In addition, students get hands-on work experience via structured practicums in specific student affairs or related offices.

A minimum of 42 hours plus the passing of a comprehensive exam and the equivalent of two academic years of full-time study are required for the M.A. in Student Affairs in Higher Education. These include a core requirement of 36 hours:

I. Core Courses			**36 s.h.**
GR 615	Elements of Research	3 s.h.	
ST 621	History of Higher Education in the United States	3 s.h.	
ST 624	Student Affairs Functions in Higher Education	3 s.h.	
ST 625	Theories of Personality and Human Development	3 s.h.	
ST 631	Student Development in Higher Education	3 s.h.	
ST 634	Assessment and Evaluation in Student Affairs	3 s.h.	
ST 731	Practicum in Student Affairs (to be taken twice for a total of six credits)	3 s.h.	
ST 733	Management of Organizational Behavior in Higher Education	3 s.h.	
ST 735	Individual and Group Interventions	3 s.h.	
ST 737	The American College Student	3 s.h.	
ST 740	Contemporary Issues in Higher Education	3 s.h.	
II. Thesis or Electives			**6 s.h.**
Thesis Option			
ST 850	Thesis	3 or 6 s.h.	
Electives		3 or 0 s.h.	
or			
Non-Thesis Option			
Electives		6 s.h.	
Total			**42 s.h.**

In addition to graduate school admissions requirements, the SAHE program requires a 2.8 (3.0 is preferred) grade point average (GPA), an updated resume, a typed 200-word writing sample addressing the candidate's reasons for entering the field, and a personal interview. All graduate assistant candidates must come to campus for personal interviews. Admissions interviews can run concurrently with assistantship interviews.



College of Fine Arts

The College of Fine Arts offers graduate degrees in Art and Music. The Department of Art offers Master of Arts and Master of Fine Arts degrees. The Department of Music offers a Master of Arts in Music (Music Education), Master of Arts in Music History-Literature, Master of Arts in Theory and Composition, and Master of Arts in Performance degree.

With one of the largest arts programs in the commonwealth, IUP's College of Fine Arts offers members of both the university and the extended community many opportunities to learn and grow. A 1,600-seat auditorium, two theaters, two art galleries, a university museum, and a recital hall augment dedicated facilities for each department. Typically, the College of Fine Arts sponsors more than 200 arts events annually, including exhibitions of nationally recognized artists, faculty recitals and chamber music concerts, performances of Theater-by-the-Grove, Classical Tracks, Cross Currents, Performance Plus, Music Theater, and other events in IUP's professional "Lively Arts" series. The Department of Art also has an active visiting artists program, and students benefit from the university's proximity to major arts centers of Pittsburgh, Philadelphia, Washington, D.C., and New York City.

Department of Art

The two advanced studio degrees offered by the Department of Art, the Master of Arts and the Master of Fine Arts, focus on breadth and depth of knowledge in the visual arts, emphasize performance and competence as an artist, and foster artistic growth and maturity across a wide range of creative endeavors.

Those students who intend to teach studio in higher education settings, or those who wish to become professional artists, will usually seek admission to the Master of Fine Arts degree. The overall M.F.A. degree program at IUP requires the successful completion of a minimum of sixty credits of course work distributed across several required categories of study. An M.F.A. work exhibition marks the final formal step in degree completion. The Department of Art has structured the overall M.F.A. degree as an initial thirty-credit program (culminating in an M.A. degree in studio) and the final thirty credits focusing on the completion of the terminal degree in the visual arts, the Master of Fine Arts.

The Master of Fine Arts degree program at IUP follows the guidelines and standards that have been adopted by the College Art Association and the National Association of Schools of Art and Design. Nationally, the M.F.A. is used as a guarantee of a high level of professional competence in the visual arts.

Admission Requirements

Individuals seeking admission to graduate study within the Department of Art must meet the general admission standards and adhere to academic policies set by the Graduate School and Research at IUP. The specific policies of the Graduate School and Research are set forth in this catalog.

Standard Departmental Admission Requirements

A. The applicant must either be a graduate of an accredited B.F.A., B.A., or equivalent degree program with a major in one of the studio concentrations offered by IUP or be judged by the Graduate Committee of the Department of Art to possess necessary prerequisite studio proficiency. Admission to study in graduate studio is based upon the nature, extent, and quality of preparation in art history, studio, criticism, and related academic and art-related content areas.

B. If the applicant is deemed to be deficient in a particular area of undergraduate preparation (art history, studio, or a related area), the Graduate Committee of the Department of Art may recommend and require satisfactory completion of undergraduate credits that will eliminate any areas of deficiency. Undergraduate credits will not count toward any segment of graduate course work at either the M.A. or M.F.A. degree levels. The sole purpose of the completion of the recommended undergraduate course work is to ensure entry-level competency and ability to engage in serious scholarly and creative studies.

C. Those seeking admission at either the Master of Arts level or the Master of Fine Arts level must declare upon application the studio areas that will constitute the major and minor areas of studio concentration.

D. A slide portfolio of twenty slides reflecting the best and most recently completed work in the applicant's major and minor areas of concentration must be submitted along with at least three letters of recommendation, transcripts from all previously attended schools (undergraduate or graduate), goal statement, completed application, and application fee. All of the above materials must be received by the Graduate School and Research before a review of materials can take place. There are only two reviews a year:

Review	Date for receipt of materials by the Graduate School and Research
Spring	March 15
Summer	June 15

Please allow ample time for materials to arrive at IUP. If any are missing, the applicant will not be reviewed. Please note dates above are not postmarked dates.

E. A goal statement must be submitted by the applicant specifying the areas of concentration and articulating substantive reasons for seeking a graduate degree in the visual arts at either the M.A. or M.F.A. level.

Master of Arts: Initial Degree

Major Studio Concentration: Minimum	12 s.h.
Minor Studio Concentration: Minimum	6 s.h.
Graduate Seminar (AR 615)	3 s.h.
Art History 3 s.h.	
Elective	3 s.h.
M.A. Thesis/Exhibition (AR 850)	3 s.h.
Total required	**30 s.h.**

Master of Fine Arts: Terminal Degree

Major Concentration: Minimum	15 s.h.
Minor Concentration: Minimum	6 s.h.
Art History	9 s.h.
M.F.A. Exhibition	
Total required	**30 s.h.**

The total minimum number of credits for the M.F.A. degree: 60 semester hours. IUP brackets the (M.A./M.F.A.) as a means of building toward the minimum sixty-credit standard. Those with an M.A. from another accredited institution of higher learning may be considered for the M.F.A. degree at IUP.

Residency Requirement: Master of Fine Arts Degree

The residency requirement for the M.F.A. is the same as that for a student within a doctoral program at IUP. Please refer to that section of the catalog for details.

In addition to the information that appears in this catalog, applicants are advised to request a copy of the Program Overview and Admission Procedures document from the Department of Art that describes in slightly more detail the policies and procedures relative to the Master of Art and Master of Fine Arts degree program.

Department of Music

The graduate program in music provides the student with opportunities to improve skills as teacher, performer, or scholar beyond the bachelor's degree. Upon acceptance by the Graduate School and Research, each student consults the graduate coordinator in music, who assigns advisors, helps plan a course sequence, and oversees the formation of the thesis committee.

The Department of Music offers four graduate degrees: Master of Arts in Music (Music Education), Master of Arts in Music History-Literature, Master of Arts in Theory and Composition, and Master of Arts in Performance.

The Music Education degree offers students a range of experiences in music teaching and learning theory, research, and performance. Students may elect to prepare a research thesis, a recital thesis, or a final project in a chosen area within music education.

The Performance degree introduces students to the world of professional artistry. Students prepare a thesis which consists of a recital and program notes as partial fulfillment of the degree.

The Music History-Literature degree builds a broad foundation in the history and literature of cultivated music from the early middle ages to the modern era. It can serve as a background for careers in music journalism, concert management, and associated fields. Students prepare a thesis that coordinates knowledge of geography, history, foreign language, and music theory with the study of major styles and masterworks.

The Music Composition and Theory degree will expose students to a broad spectrum of musical styles and compositional techniques, as well as experience in composing for solo instruments, chamber groups, and large ensembles. Students prepare a major composition as a thesis or undertake an extensive analysis.

In addition to meeting Graduate School and Research requirements, the applicant must meet Music Department Admission Requirements: a) undergraduate degree with major in music or its demonstrated equivalent; b) undergraduate degree in music education and/or teacher certification for the Music Education degree; c) completion of a satisfactory audition in the applicant's major instrument for the Performance or Music Education degree (specific audition requirements are available upon application); and d) entrance placement exams in theory, music history, and piano proficiency. Applicants requesting admission to the Music Education degree are required to have a Provisional Pennsylvania Teachers Certificate or its equivalent. Music Education applicants who do not already have such certification must complete a planned program leading to certification prior to applying for candidacy at IUP.

Master of Arts in Music Education — *30 s.h.

I. Core Courses — **9 s.h.**

MU 600	Bibliography of Music	3 s.h.
MU 618	Comprehensive Musicianship	3 s.h.
MU 632	Research Techniques in Music	3 s.h.

II. Required Courses — **6 s.h.**

MU 619	Methods for Comprehensive Musicianship	3 s.h.
MU 620	Foundations of Music Education	3 s.h.

III. Music Education Courses — **4-6 s.h.**

Select courses from the following:

MU 501	Advanced Choral Conducting	2 s.h.
MU 502	Advanced Instrumental Conducting	2 s.h.
MU 535	Music for the Exceptional Student	3 s.h.
MU 537	Techniques of the Marching Band	2 s.h.
MU 540-550	Summer Music Workshop	1-3 s.h.
MU 628	Contemporary International Approaches to Elementary Education	2 s.h.
MU 629	Advanced String Pedagogy	2 s.h.
MU 631	Administrative Problems in Music Education	2 s.h.
MU 633	Comparative Choral Methods	2 s.h.
MU 634	Practicum in Instrumental Music	2 s.h.
MU 635	Psychology of Music Education	2 s.h.

IV. Music Theory or History Course — **3 s.h.**

MU 516	Analytical Techniques	3 s.h.
or		
MH 503	Music of the Baroque Era	3 s.h.
MH 504	Music of the Classical Era	3 s.h.
MH 505	Music of the Romantic Era	3 s.h.
MH 507	Music of the Twentieth Century	3 s.h.
MH 508	Music of the Sixteenth Century	3 s.h.

V. Applied Music Courses — **4 s.h.**

AM 601-771		4 s.h.

VI. Thesis — **4 s.h.**

MU 850	Thesis	4 s.h.

Master of Arts in Music History—Literature — *31 s.h.

I. Core Courses — **9 s.h.**

MU 600	Bibliography of Music	3 s.h.
MU 516	Analytical Techniques	3 s.h.
MU 632	Research Techniques in Music	3 s.h.

II. History and Literature Courses — **12 s.h.**

Four courses from the following:

MH 503	Music of the Baroque Era	3 s.h.
MH 504	Music of the Classical Era	3 s.h.
MH 505	Music of the Romantic Era	3 s.h.
MH 507	Music of the Twentieth Century	3 s.h.
MH 508	Music of the Sixteenth Century	3 s.h.

III. Elective — **6 s.h.**

(600-level courses and others as approved by advisor)

IV. Thesis — **4 s.h.**

MU 850	Thesis	4 s.h.

Master of Arts in Theory and Composition — *31 s.h.

I. Core Courses — **9 s.h.**

MU 516	Analytical Techniques	3 s.h.
MU 600	Bibliography of Music	3 s.h.
MU 632	Research Techniques in Music	3 s.h.

II. Theory and Composition Courses — **12 s.h.**

Four courses from the following:

MU 511	Composition	3 s.h.
MU 512	Advanced Orchestration	3 s.h.
MU 513	Advanced Band Scoring	3 s.h.
MU 514	Advanced Choral Arranging	3 s.h.
MU 515	Counterpoint	3 s.h.
MU 618	Comprehensive Musicianship	3 s.h.

III. Electives — **6 s.h.**

(600-level courses and others as approved by advisor)

IV. Thesis — **4 s.h.**

MU 850	Thesis	4 s.h.

Master of Arts in Performance — *31 s.h.

I. Core Courses — **9 s.h.**

MU 516	Analytical Techniques	3 s.h.
MU 600	Bibliography of Music	3 s.h.
MU 632	Research Techniques in Music	3 s.h.

II. Applied Music Courses — **12 s.h.**

AM 601-771		12 s.h.

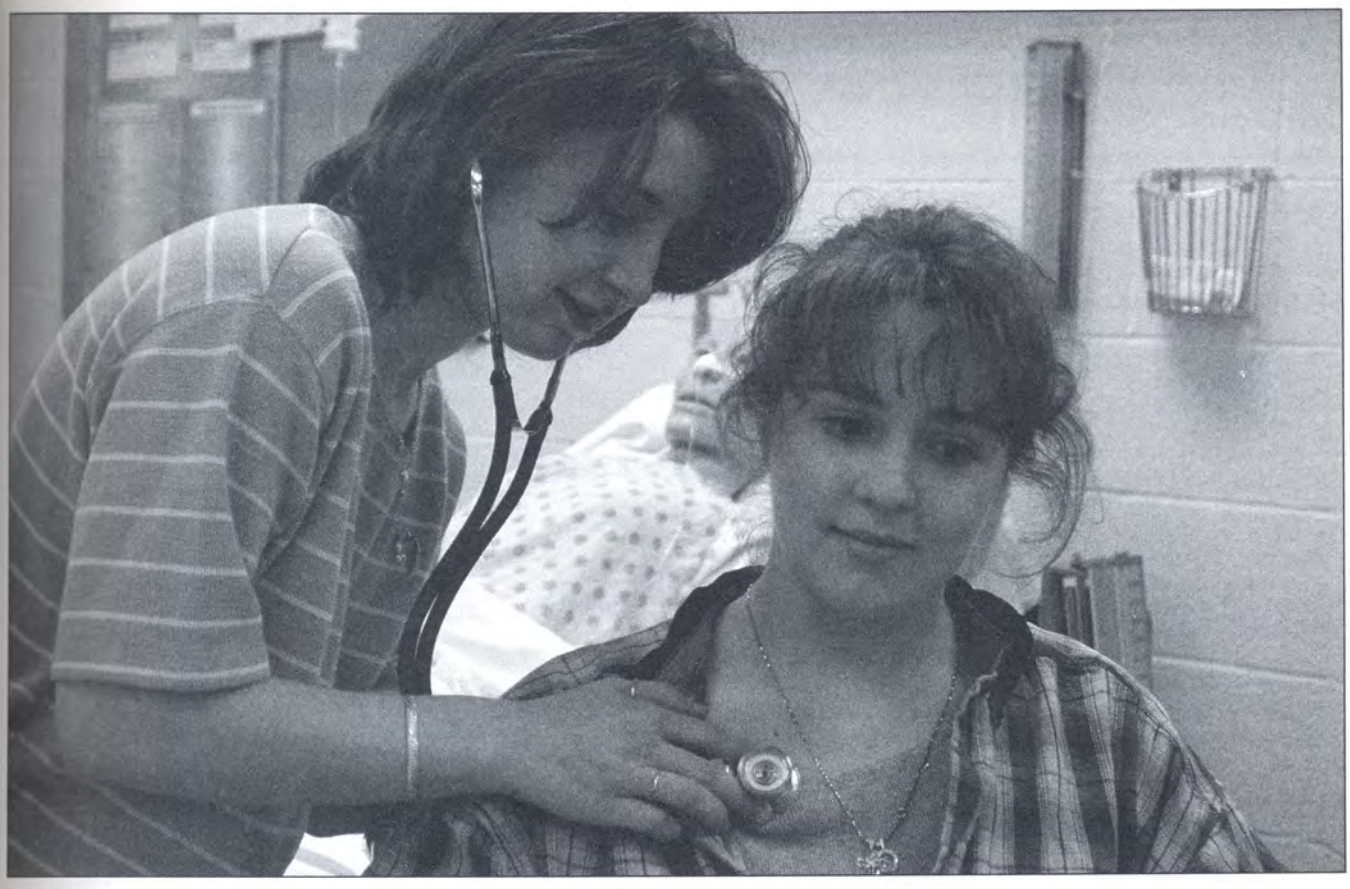
III. Electives — **6 s.h.**

(Music Theory or Music History courses and others as approved by advisor)

IV. Thesis — **4 s.h.**

MU 850	Thesis	4 s.h.

* 50 percent of the courses must be 600 level or above.



College of Health and Human Services

The College of Health and Human Services offers graduate degrees in five different areas of professional practice. The Department of Food and Nutrition offers a Master of Science in Food and Nutrition. The Department of Health and Physical Education offers a Master of Science in Sport Sciences. A Master of Arts is offered by the Department of Industrial and Labor Relations. The Department of Nursing and Allied Health Professions offers a Master of Science in Nursing. A Master of Science is offered by the Department of Safety Sciences.

With diversified offering of graduate programs in professional areas devoted to the betterment and maintenance of the quality of life, the College of Health and Human Services is uniquely positioned to serve its students and the extended community. Most of the programs are accredited by the applicable national boards. With strong academic programs which enjoy national reputations, a professionally renowned faculty, and specialized and dedicated facilities, the college offerings are among the most prestigious available.

Department of Food and Nutrition

The Master of Science degree program is designed to prepare individuals with baccalaureate education in food and nutrition by increasing the depth of their knowledge with respect to food and nutrition, developing research skills, and enhancing their performance skills by specializing in the area of applied human nutrition. Courses in intermediate nutrition (FN 458/558* Advanced Human Nutrition) and biochemistry are required for entrance into the program. Prospective students apply for admission through the Graduate School and Research. Applicants are then referred to the Food and Nutrition Department Graduate Studies Committee for review. All relevant official transcripts, Graduate Record Examination scores, and letters of recommendation must be on file with the Graduate School and Research prior to any department decision. After acceptance, a faculty advisor will be assigned to each student.

*If taken for graduate credit, Advanced Human Nutrition cannot count toward degree credits.

With the successful completion of 15 hours of graduate course work, including BI 602 or GR 516 and GR 615, students will qualify for degree candidacy.

An Accredited American Dietetic Association Dietetic Internship is available in conjunction with the master's program. Admission to this program requires a separate application. Information can be obtained by contacting the Food and Nutrition Dietetic Internship Program Director.

Students may choose a thirty-three-credit degree program to include a four-credit thesis (FN 850) or a thirty-five-credit program with a comprehensive exam.

Thesis Degree Requirements

I. Professional Core Courses **12 s.h.**

BI 602	Biometry	3 s.h.
or		
GR 516	Statistics I	3 s.h.
GR 615	Elements of Research	3 s.h.
FN 713	Seminar	1 s.h.
(to be taken twice for a total of two credits)		
FN 850	Thesis	4 s.h.

II. Department Core Courses **15 s.h.**

Students must elect 15 semester hours (five courses) from the following list. They may choose no more than one 500-level course; course selection must include FN 645 or FN 646 and must include one course in life cycle nutrition such as FN 711.

FN 544	Food Composition and Biochemistry	3 s.h.
FN 547	Nutritional Aspects of Food Technology	3 s.h.
FN 564	Food and Nutrition Research Methods	3 s.h.
FN 612	Administration of Food Service Systems	3 s.h.
FN 641	Eating Behaviors and Food Habits	3 s.h.
FN 642	Contemporary Issues in Food and Nutrition	3 s.h.
FN 645	Proteins, Carbohydrates, and Fats	3 s.h.
FN 646	Vitamins and Minerals	3 s.h.
FN 711	Nutrition in the Life Cycle	3 s.h.
FN 743	Clinical Dietetics	3 s.h.

III. Electives **6 s.h.**

Students will elect additional courses from the *IUP Graduate Catalog* with the approval of their advisor.

Total semester hours **33 s.h.**

Non-Thesis Degree Requirements

I. Professional Core Courses **8 s.h.**

BI 602	Biometry	3 s.h.
or		
GR 516	Statistics I	3 s.h.
GR 615	Elements of Research	3 s.h.
FN 713	Seminar	1 s.h.
(to be taken twice for a total of two credits)		

II. Department Core Courses **15 s.h.**

Students must elect 15 semester hours (five courses) from the following list. They may choose no more than one 500-level course; course selection must include FN 645 or FN 646 and must include one course in life cycle nutrition such as FN 711.

FN 544	Food Composition and Biochemistry	3 s.h.
FN 547	Nutritional Aspects of Food Technology	3 s.h.
FN 564	Food and Nutrition Research Methods	3 s.h.
FN 612	Administration of Food Service Systems	3 s.h.
FN 641	Eating Behaviors and Food Habits	3 s.h.
FN 642	Contemporary Issues in Food and Nutrition	3 s.h.
FN 645	Proteins, Carbohydrates, and Fats	3 s.h.
FN 646	Vitamins and Minerals	3 s.h.
FN 711	Nutrition in the Life Cycle	3 s.h.
FN 743	Clinical Dietetics	3 s.h.

III. Electives **12 s.h.**

Students will elect additional courses from the *IUP Graduate Catalog* with the approval of their advisor.

Total semester hours **35 s.h.**

Suggested Ancillary Courses

FN 562	Advanced Experimental Foods	3 s.h.
FN 698	Internship	1-6 s.h.
AC 620	Introduction to Adult and Community Education	3 s.h.
AC 621	The Adult Learner	3 s.h.
AC 622	Program and Process Development in Adult and Community Education	3 s.h.
AC 623	Organization and Administration in Adult and Community Education	3 s.h.
AC 625	Facilitating Adult Learning	3 s.h.
EP 616	Applied Research Methods	3 s.h.
EP 715	Doctoral Seminar in Applied Educational Research	3 s.h.
GR 517	Statistical Methods II	3 s.h.
HP 510	Exercise Prescription	3 s.h.
HP 512	Physical Activity and Stress Management	3 s.h.
HP 513	Physical Activity and Aging	3 s.h.
HP 601	Sport and Society	3 s.h.
HP 632	Assessment of Human Physiological Functions	3 s.h.
LR 631	Human Resource Management in the Public Sector	3 s.h.
NU 617	Issues in Health Care	3 s.h.

Department of Health and Physical Education

The Master of Science degree in Sport Sciences is designed to attract students from the non-teaching professions, as well as the teaching profession. It is discipline-oriented with provision for the student to choose between two major areas of emphasis: professional specialization and sport studies. Options for professional specialization are provided in sport management, sports information, sports media, and aquatics administration and facilities management. Options in sport studies are interdisciplinary in nature and tailored to meet individual needs and interests.

Requirements for Admission

To be admitted to the Health and Physical Education Department, the applicant must have completed the requirements for a bachelor's degree from an accredited college or university and must fulfill the general requirements for admission to the Graduate School and Research for a master's degree as discussed in this bulletin.

Master of Science in Sport Sciences

Students may choose between a thesis or non-thesis curriculum, depending upon individual preferences and needs.

I. Thesis Degree Requirements *30 s.h.*

A. Core Courses **20-24 s.h.**

HP 600	History of Philosophy of Sport	3 s.h.
HP 601	Sport and Society	3 s.h.
HP 602	Sport Psychology	3 s.h.
HP 603	Physiological Basis of Sport	3 s.h.
GR 516	Statistical Methods I	3 s.h.
GR 615	Elements of Research	3 s.h.
HP 850	Thesis	3-6 s.h.

B. Electives **6-10 s.h.**

Students may, with the advice and consent of the graduate coordinator, select electives from any of the approved graduate-level courses.

II. Non-thesis Degree Requirements			*36 s.h.*
A. Core Courses			**18 s.h.**
HP 600	History of Philosophy of Sport	3 s.h.	
HP 601	Sport and Society	3 s.h.	
HP 602	Sport Psychology	3 s.h.	
HP 603	Physiological Basis of Sport	3 s.h.	
GR 516	Statistical Methods I	3 s.h.	
GR 615	Elements of Research	3 s.h.	
B. Electives			**18 s.h.**
Three semester hours from the following:			
HP 632	Assessment of Human Physiological Functions	3 s.h.	
HP 633	Kinesiological Principles	3 s.h.	
HP 634	Current Literature in Sport	3 s.h.	
HP 635	Sport Management	3 s.h.	
HP 637	Sport Facilities Management	3 s.h.	
HP 680	Seminar	3 s.h.	
HP 681	Special Topics	3 s.h.	

In addition, the student is required to earn 15 semester hours from any approved graduate-level courses with the advice and consent of the graduate coordinator.

Department of Industrial and Labor Relations

The Master of Arts in Industrial and Labor Relations is a multidisciplinary graduate degree program designed to prepare professional practitioners in the field of industrial and labor relations in public and private management, unions, government agencies, and neutral and service organizations. The 42-semester-hour program consists of a required core of 27 semester hours and elective course offerings totaling 15 semester hours.

In consultation with the advisor, each student will individually build the elective sequence of the program of study by choosing 15 elective semester hours from among industrial and labor relations courses and courses approved by the advisor that are offered by other departments.

Students are strongly encouraged to elect an internship to integrate theory and practice in the field. Certain students with exceptional background in relevant work experience or previous course work may qualify for exemption from some courses. As part of their professional growth, students may also participate in the research and training activities of the Pennsylvania Center for the Study of Labor Relations.

Course Requirements for the M.A. Degree

I. Required Core:			**27 s.h.**
LR 610	Employee Rights under Law	3 s.h.	
LR 611	Development and Theories of the Labor Movement	3 s.h.	
LR 612	Labor Relations Practice and Administration	3 s.h.	
LR 613	Fundamentals of American Industrial and Labor Relations	3 s.h.	
LR 615	Dispute Settlement	3 s.h.	
LR 619	Research Methods in Industrial and Labor Relations	3 s.h.	
LR 625	Processes of Collective Bargaining	3 s.h.	
LR 641	Contract Administration	3 s.h.	
EC 530	Labor Economics	3 s.h.	
(or approved substitute)			

II. Elective Area: **15 s.h.**

Fifteen semester hours chosen from other elective courses in industrial and labor relations or from related departments with the approval of student's advisor.

Department of Nursing

The Master of Science degree in Nursing is designed to prepare the graduate for the role of nurse educator or nurse administrator and serves as a foundation for doctoral study. The nurse educator is prepared for a career in a nursing education program or a nursing staff development setting or as a patient educator. The nurse administrator is prepared for management positions in a variety of health care settings. The master's degree program is accredited by the Commission on Collegiate Nursing Education.

The master's program prepares graduates to:

- synthesize knowledge of theories and concepts from the arts, sciences, and nursing to support advanced, competent practice in nursing education and administration
- contribute to nursing science by using a comprehensive knowledge of the research process and skills to investigate problems, participate in conducting research, and promote the use of research findings
- provide leadership, which influences nursing practice and advances the nursing profession
- demonstrate skill in applying advanced holistic nursing assessment to determine appropriate nursing interventions with acutely and chronically ill adults in the role of either nursing educator or nurse administrator

The Adult Health Clinical Component is required of all students. It is designed as an adjunct to the study in leadership, nursing education, and nursing administration. The clinical component builds on the knowledge and skills of baccalaureate nursing education and provides for the attainment of advanced knowledge and related theories in nursing and their application to advanced practice. A variety of primary, secondary, and tertiary health care settings in a wide geographical area are utilized for clinical practice sites.

Admission Requirements

1. Bachelor of Science degree in Nursing from an accredited program
2. Minimum undergraduate QPA of 3.0 or a 4.0 scale
3. Undergraduate courses (separate or integrated) in:
   a. statistics
   b. nursing research
   c. health assessment
4. Registered Nurse license to practice in Pennsylvania
5. Two years of recent clinical nursing experience
6. Statements of strong recommendation from two individuals who are familiar with the applicant's academic background

In addition, prior to courses in which students have clinical experience students must provide evidence of current certification in CPR and specific health screening requirements. Students must also have professional liability insurance.

This forty-five-credit program requires completion of the following four sets of requirements:

I. Leadership Core			**18 s.h.**
GR 516	Statistical Methods I	3 s.h.	
NU 615	Advanced Nursing Research	3 s.h.	
NU 617	Issues in Health Care	3 s.h.	
NU 618	Professional Role Development	3 s.h.	
NU 619	Leadership Strategies in Nursing	3 s.h.	
NU 620	Theoretical Foundation for Nursing	3 s.h.	
II. Adult Health Nursing			**9 s.h.**
NU 640	Dynamics of Health in the Adult	3 s.h.	
NU 641	Nursing Management of Adults Under Stress	3 s.h.	
NU 742	Adult Health Nursing Practicum	3 s.h.	
III. Either			
A. Education Track			**12 s.h.**
NU 724	Curriculum Development for Nursing Programs	3 s.h.	
NU 725	Teaching Strategies for Nursing Curricula	3 s.h.	
NU 726	Clinical Instruction in Nursing	3 s.h.	
NU 741	Education Practicum	3 s.h.	
or			
B. Administration Track			**12 s.h.**
MG 613	Organizational Analysis	3 s.h.	
NU 727	Principles of Nursing Management	3 s.h.	
NU 728	Administration of Nursing Services	3 s.h.	
NU 740	Administration Practicum	3 s.h.	
IV. Either			
A. (Thesis Option)			
NU 850	Thesis	6 s.h.	
or			
B. (Non-thesis Option)			
NU 621	Nursing Inquiry	3 s.h.	
An approved elective		3 s.h.	

All students are required to satisfactorily complete a culminating activity.

Department of Safety Sciences

The Department of Safety Sciences offers a program of studies leading to a Master of Science degree in Safety Sciences. A thesis or non-thesis curriculum is available. The M.S. in Safety Sciences is accredited by the Accreditation Board for Engineering and Technology.

Students have the opportunity to choose from a wide selection of course offerings or select a specialized area. In addition, students may choose elective courses, with approval of advisor, in fields directly related to safety sciences. The program is designed for individuals with relevant experience in safety sciences and those with appropriate undergraduate preparation who are interested in pursuing careers in the profession.

Department Admission Requirements

In addition to meeting the requirements for admission to the Graduate School and Research, a student intending to work toward a Master of Science in Safety Sciences will be required to have the following prerequisite professional preparation:

Entry-level competency in four subdisciplines: Safety Management, Occupational Safety, Occupational Health, and Fire Protection through relevant education, documented work experience, certifications, or other means acceptable to the Safety Sciences Graduate Committee.

The student's undergraduate preparation should include the following:

- Sciences and Mathematics (21 hours). These are typically courses such as calculus, statistics, physics, chemistry, and human physiology and anatomy or biology.
- Engineering/Technology Courses (42 hours). Courses in the Safety Sciences, such as industrial hygiene, systems safety, safety management, fire safety, ergonomics, and environmental safety, as well as a variety of engineering and technology courses.
- Humanities, Communications, and Social Sciences (21 hours). Courses in psychology, speech, and written communications as well as a variety of other social sciences.

When the Safety Sciences Graduate Committee determines that a deficiency in work experience or relevant education exists, a student will be required to complete additional studies to eliminate the deficiency. More information on admissions requirements is available from the Safety Sciences Department.

Master of Science in Safety Sciences

All students are required to take a total of 36 hours, of which 18 hours are core courses. The student must choose the remaining 18 hours in a specialized or generalized option. Students may choose between a thesis or non-thesis curriculum.

A. Required Core Courses			**18 s.h.**
SA 601	Concepts of Risk Assessment	3 s.h.	
SA 602	Quantitative Methods in Safety Management	3 s.h.	
SA 603	Human Relations in Safety Management	3 s.h.	
SA 604	Industrial Toxicology	3 s.h.	
SA 605	Advanced Principles of Safety Engineering	3 s.h.	
SA 606	Hazardous Materials Management	3 s.h.	
B. Additional Requirements			**18 s.h.**
1. Thesis Option			
SA 850	Thesis	3-6 s.h.	
and			
Electives, Specialized Option:			
Two courses in one chosen subdiscipline, from list of Safety Elective Courses (see below)		6-9 s.h. minimum	
Approved electives		6 s.h.	
or			
Electives, Generalist Option:			
At least four courses, one in each subdiscipline, from list of Safety Elective Courses (see below)		12 s.h. minimum	
Approved electives		0-3 s.h.	
2. Non-thesis Option			**18 s.h.**
Electives, Specialized Option:			
Two courses in one chosen subdiscipline from list of Safety Elective Courses (see below)		6 s.h.	
Approved electives		12 s.h.	
or			
Electives, Generalist Option:			
Four courses, one in each subdiscipline, from list of Safety Elective Courses (see below)		12 s.h.	
Approved electives		6 s.h.	

Graduate Elective Courses by Subdiscipline

Safety Management		
SA 620	Safety Data Management	3 s.h.
SA 623	Advanced Safety Administration	3 s.h.
Occupational Health		
SA 561	Air Pollution	3 s.h.
SA 562	Radiological Health	3 s.h.
SA 565	Right-to-Know Legislation	3 s.h.
SA 663	Industrial Hygiene Laboratory Methods	3 s.h.
SA 664	Industrial Noise Control	3 s.h.
Occupational Safety		
SA 541	Accident Investigation	3 s.h.
SA 642	Advanced Mine Safety Engineering	3 s.h.
SA 643	Construction Safety	3 s.h.
SA 644	Preventing Unsafe Acts	3 s.h.
Fire Protection		
SA 672	Process Safety in the Chemical Industries	3 s.h.
SA 673	Disaster Preparedness	3 s.h.
SA 674	Fire Safety in Building Design	3 s.h.



College of Humanities and Social Sciences

The College of Humanities and Social Sciences offers master's degrees in Criminology, English, Geography and Regional Planning, History, Political Science, and Sociology. Doctorates are awarded in Criminology, English (Literature and Criticism, Rhetoric and Linguistics), and Administration and Leadership Studies.

Department of Criminology

The Department of Criminology offers programs of study leading to a Master of Arts and a Doctor of Philosophy degree in Criminology. The programs are designed to prepare graduate students for careers in academia as well as upper-level administrative positions in various fields of justice. The programs allow the student to choose from a wide selection of courses within the Department of Criminology as well as elective courses in related departments.

The Master of Arts program is offered in two locations. The M.A. program on the main campus offers full- or part-time study. A part-time evening program is also offered in the greater Pittsburgh area. The doctoral program is offered on the main campus; full- or part-time study is permitted.

Master of Arts in Criminology

Department Admission Requirements

In addition to meeting the requirements for admission to the Graduate School and Research, a student intending to work toward a Master of Arts in Criminology will be required to have the following prerequisite academic and/or professional preparation:

A. Students should be able to demonstrate a sound understanding of criminological theory and the criminal justice system (generally satisfied by a bachelor's degree in criminology, criminal justice, or related field); or,

B. Students should have knowledge gained through experience within the system of justice system or by specialized training or completed graduate or undergraduate studies in a related field.*

*All applicants for the Master of Arts degree in Criminology must possess the essence of knowledge offered in the undergraduate (B.A.) program core courses. These courses are

CR 102	Survey of Criminology
CR 210	Criminal Law
CR 300	Theory of Complex Criminal Justice Organizations
CR 306	Criminological Research Methods
CR 400	Theoretical Criminology
CR 401	Contemporary Issues in Criminology

If, upon the consideration of the Department of Criminology Graduate Committee, an applicant is deemed to be deficient, the department, through the master's coordinator, will require appropriate undergraduate courses to remove these deficiencies. Students may begin master's studies in either semester or the summer.

Master of Arts in Criminology

Students must choose between a thesis or non-thesis curriculum:

Thesis Degree Requirements —

A total of 36 semester hours is required, including:

CR 600	Criminological Theory	3 s.h.
CR 601	Proseminar	3 s.h.
CR 605	Research Methods	3 s.h.
CR 610	Legal Issues in Criminology	3 s.h.
CR 630	Seminar in Administration and Management in Criminal Justice	3 s.h.
CR 631	System Dynamics in the Administration of Justice	3 s.h.
CR 718	Quantitative Strategies for Criminology	3 s.h.
CR 730	Ethical and Philosophical Issues in Criminology	3 s.h.
CR 850	Thesis	3-6 s.h.
Electives		6 s.h.
Total		**36 s.h.**

Non-Thesis Degree Requirements —

A total of 36 semester hours is required, including:

CR 600	Criminological Theory	3 s.h.
CR 601	Proseminar	3 s.h.
CR 605	Research Methods	3 s.h.
CR 610	Legal Issues in Criminology	3 s.h.
CR 630	Seminar in Administration and Management in Criminal Justice	3 s.h.
CR 631	System Dynamics in the Administration of Justice	3 s.h.
CR 718	Quantitative Strategies for Criminology	3 s.h.
CR 730	Ethical and Philosophical Issues in Criminology	3 s.h.
Electives		12 s.h.
Total		**36 s.h.**

Doctor of Philosophy in Criminology

Department Admission Requirements

It is expected that most students entering the Ph.D. program in Criminology will have already completed a master's degree in either Criminology or a closely related discipline. However, in exceptional cases, a highly qualified applicant may enter the doctoral track with a baccalaureate degree. Such students would obtain the M.A. degree en route to the Ph.D.

Applicants must meet all Graduate School and Research admission requirements. Additionally, the doctoral coordinator, after consulting with the department screening committee, will submit a recommendation regarding applicants to the Graduate School and Research. The following criteria are reviewed:

1. all official college transcripts
2. three letters of recommendation
3. statement of goals
4. example of written work (thesis, articles, reports, etc.)
5. GRE scores (A combined score of 900 on the verbal and quantitative sections is expected. Some flexibility may be granted at the discretion of the screening committee.)
6. skill requirement (foreign language, computer or statistical ability, or other skills approved by the screening committee or the department's graduate curriculum committee)
7. personal interview (may be requested by department screening committee or by applicant)

Curriculum

The Ph.D. program in Criminology requires a minimum of 54 semester hours of acceptable graduate credit. Each student must complete requirements for (a) course work; (b) special proficiency requirements; (c) qualifying examinations; (d) skill requirement; and (e) dissertation.

A. Required Course Work

1. Core Courses (21 semester hours):

CR 710	Advanced Theoretical Criminology	3 s.h.
CR 717	Advanced Qualitative Methods	3 s.h.
CR 718	Quantitative Strategies for Analysis in Criminology	3 s.h.
CR 720	Advanced Quantitative Methods	3 s.h.
CR 730	Ethical and Philosophical Issues in Criminology	3 s.h.
CR 740	Advanced Criminal Justice Policy	3 s.h.
CR 750	Doctoral Colloquium in Criminology	3 s.h.

2. Advanced Applied Research (9 semester hours):

CR 801	Advanced Applied Research I	3 s.h.
CR 802	Advanced Applied Research II	3 s.h.
CR 803	Advanced Applied Research II	3 s.h.

3. Criminology Electives: six semester hours minimum

4. Other Electives: six semester hours from Criminology or related disciplines

B. Qualifying Examination: Upon completion of the core courses a student must arrange with the doctoral coordinator to take the qualifying examination to be based upon the core subject areas. After successful completion, a student may proceed toward fulfillment of remaining degree requirements.

C. Special Proficiency Examination: Areas of Concentration—Each student must decide upon one subspecialty within Criminology. Upon consultation with the student, the student's advisory committee, and the doctoral coordinator, a proficiency exam will be administered.

D. Skill requirement: (0-6 semester hours) This requirement may be fulfilled by demonstrating knowledge in one of the following areas:
- foreign language
- computer
- advanced statistics
- advanced research methods
- other appropriate areas as approved by the doctoral coordinator

Further details regarding any of these skill requirements can be obtained from the doctoral coordinator.

E. Dissertation: In accordance with university guidelines, successful completion of a doctoral dissertation is required (12 semester hours).

Residency

The following options are available to doctoral students for satisfying residency requirements:

1. completion of a minimum of nine graduate credits at IUP in each of at least two consecutive semesters
2. completion of a minimum of nine graduate credits at IUP for at least one semester immediately preceding or following a summer of nine semester hours of study
3. completion at IUP of at least nine graduate credits in each of two consecutive summers plus six graduate credits during the intervening academic year

Part-Time Study

This program may admit each year some students whose intention is to complete the program on a part-time basis.

Course offerings can be expected to fluctuate, especially in the expansion of new course offerings. A complete and updated description of any changes can be obtained from the Department of Criminology.

Department of English

Master of Arts in English

The M.A. in English, revised in 1989, responds to the needs of four groups of students: those interested in gaining a generalist background in graduate English studies, students wanting to concentrate on literature, students seeking secondary English certification or desiring to enhance their existing skills in teaching English, and students who want to teach English to speakers of other languages. Each of the four options for the M.A. requires 36 credit hours, either of course work (twelve courses) or a combination of course work and an internship or thesis. Each option has its own set of requirements for distributing those 36 hours, and each has its own admissions committee. When you apply for admission, you must indicate which degree option you wish to pursue.

The generalist (M.A./GEN) option is designed for students who wish course work in several areas of English to attain a balanced background in the discipline and gain preparation for more advanced doctoral work, for teaching at the community-college level, or for a career in such professional fields as publishing or translation. The literature (M.A./LIT) option is for active professionals who wish to further their expertise in literature and for students who wish to prepare for work on a Ph.D. in British and American literature and criticism. The teaching English (M.A./TE) option is for in-service secondary English teachers who wish advanced in-depth study in the teaching of English and for students with the bachelor's degree in English (or its equivalent) who wish to pursue initial certification. The M.A./TESOL option prepares students in the theory and practice of teaching English to speakers of other languages in a variety of settings within (ESL) and outside (EFL) the United States.

IUP's M.A. in English has courses available in both summer sessions and during the academic year. As there is no specific residency requirement for the M.A. at IUP, students are not required to attend the program full time during the academic year; much of the work may be accomplished over the course of several summers—although certain courses required in several of the programs are offered only during the normal academic year. However, the final six credits must be taken at IUP. Students attending full time can complete the M.A. in English in as little as a single year or may spread their work out over two or three years. Thus, the M.A. in English at IUP offers the advantages of both professional focus and personal flexibility.

M.A. Program Descriptions

M.A./Generalist

The Master of Arts/Generalist (M.A./GEN) option is for students who wish course work in several areas of English. This track provides preparation for more advanced doctoral work, for teaching at the community-college level, or for careers in such professional fields as publishing or translation.

M.A./Generalist Course Requirements

A. Core Courses		15 s.h.
EN 630	Research on the Teaching of Literacy and Literature	3 s.h.
EN 674	Bibliographical Methods in English	3 s.h.
EN 676	Critical Approaches to Literature	3 s.h.
EN 692	American English Grammar	3 s.h.
EN 740	TESL/TEFL Methodology	3 s.h.
B. Literature/Linguistics Electives		12 s.h.
Twelve additional semester hours, selected from the following list and approved by the director of Graduate Studies in Rhetoric and Linguistics and the director of Graduate Studies in Literature:		
EN 675	Literature and the International Student	3 s.h.
EN 720	Linguistics and the English Teacher	3 s.h.
EN 721	Psycholinguistics	3 s.h.
EN 722	Sociolinguistics	3 s.h.
EN 760	Teaching College Literature	3 s.h.
EN 761	Topics in American Literature Before 1870	3 s.h.
EN 762	Topics in American Literature Since 1870	3 s.h.
EN 763	Topics in British Literature Before 1660	3 s.h.
EN 764	Topics in British Literature Since 1660	3 s.h.
EN 765	Topics in Literature as Genre	3 s.h.
EN 766	Topics in Comparative Literature	3 s.h.
EN 771	Topics in Postmodern Literature	3 s.h.
EN 772	Topics in Women's Literature	3 s.h.
EN 773	Topics in American or British Minority Literature	3 s.h.
C. Open Electives		9 s.h.
Nine additional semester hours of electives approved by the director of Graduate Studies in Rhetoric and Linguistics and by the director of Graduate Studies in Literature and Criticism. Up to 6 of these semester hours may be taken outside the English department. In addition, with the approval of a thesis advisor, a student may, as part of this requirement, register for from 1 to 6 hours of EN 850 Thesis.		
Total Credit Hours		36 s.h.

M.A./Literature

The Master of Arts/Literature (M.A./LIT) is designed for active professionals who wish to further their expertise in literature and for students who wish to prepare for work on a Ph.D. in British and American literature and criticism. The M.A./LIT option introduces students to a wide range of critical and theoretical approaches to traditional and nontraditional literary works.

M.A./Literature Course Requirements

A. Core Courses:		6 s.h.
EN 674	Bibliographical Methods in English	3 s.h.
EN 676	Critical Approaches to Literature	3 s.h.
B. Period Courses:		12 s.h.
EN 761	Topics in American Literature Before 1870	3 s.h.
EN 762	Topics in American Literature Since 1870	3 s.h.

EN 763	Topics in British Literature Before 1660	3 s.h.
EN 764	Topics in British Literature Since 1660	3 s.h.

C. Courses in Approaches to the Literary Canon **3 s.h.**

One course from among the following offerings:

EN 766	Topics in Comparative Literature	3 s.h.
EN 771	Topics in Postmodern Literature	3 s.h.
EN 772	Topics in Women's Literature	3 s.h.
EN 773	Topics in American or British Minority Literature	3 s.h.

D. Literature Electives **9 s.h.**

Three courses from among the following:

EN 675	Literature and the International Student	3 s.h.
EN 760	Teaching College Literature	3 s.h.
EN 761	Topics in American Literature Before 1870	3 s.h.
EN 762	Topics in American Literature Since 1870	3 s.h.
EN 763	Topics in British Literature Before 1660	3 s.h.
EN 764	Topics in British Literature Since 1660	3 s.h.
EN 765	Topics in Literature as Genre	3 s.h.
EN 766	Topics in Comparative Literature	3 s.h.
EN 771	Topics in Postmodern Literature	3 s.h.
EN 772	Topics in Women's Literature	3 s.h.
EN 773	Topics in American or British Minority Literature	3 s.h.

E. Open Electives **6 s.h.**

Six semester hours approved by the director of Graduate Studies in Literature from other graduate offerings in Literature, courses in Rhetoric and Linguistics, or courses outside the department in a related and appropriate field. With the approval of a thesis advisor, a student may, as part of this requirement, register for from one to six hours of EN 850 Thesis.

Total Credit Hours **36 s.h.**

M.A./Teaching English

The Master of Arts/Teaching English (M.A./TE) in a 36-semester-hour degree program that involves the study of the research on teaching literature, composition, and language, through both academic coursework and supervised field experiences. The M.A./TE program, which reflects recent studies of teacher development, is designed for in-service secondary English teachers who wish advanced, in-depth study in the teaching of English. Also, it is designed to meet the needs of persons with a bachelor's degree in English (or its equivalent) who wish to pursue initial English teaching certification. In addition to enrolling in the 36 semester hours of course work, students seeking initial certification must complete six semester hours of student teaching and may need an additional three-credit course in Adolescent Literature. Thus, the M.A./TE with certification will entail a total of 42 to 45 semester hours of course work and student teaching.

M.A./Teaching English Course Requirements

A. Core Courses: **18 s.h.**

EN 630	Research on the Teaching of Literacy and Literature	3 s.h.
EN 676	Critical Approaches to Literature	3 s.h.
EN 692	American English Grammar	3 s.h.
EN 693	Seminar in Teaching English in the Secondary School	3 s.h.
EN 730	Teaching Writing	3 s.h.

And one additional course from the following, approved by the director of Graduate Studies in Rhetoric and Linguistics:

EN 762	Topics in American Literature Since 1870	3 s.h.
EN 763	Topics in British Literature Before 1660	3 s.h.
EN 772	Topics in Women's Literature	3 s.h.
EN 773	Topics in American or British Minority Literature*	3 s.h.

*Students seeking initial certification should take EN 773 to assist them in preparing for the Pennsylvania Department of Education Certification Examination.

B. Electives in Teaching, Learning, and Schools **6 s.h.**

Two courses from among the following:

EL 644	Recent Trends in Language Arts	3 s.h.
EP 604	Advanced Educational Psychology	3 s.h.
EP 618	Interpretation of Educational and Psychological Tests	3 s.h.
EX 524	Language Disabilities and the Language Processes	3 s.h.
EX 650	Exceptional Children and Youth	3 s.h.
FE 611	Historical Foundations of Education	3 s.h.
FE 612	Philosophical Foundations of Education	3 s.h.
FE 613	Social Foundation of Education	3 s.h.

Students seeking initial certification as a secondary English teacher must take EX 650, EP 604, EP 618, and FE 611, FE 612, or FE 613 to satisfy Pennsylvania Department of Education certification standards. Since this list constitutes 12 semester hours, no professional electives will remain for these students.

C. Professional Electives **6 s.h.**

Six semester hours to be chosen from graduate courses in the English Department or the College of Education approved by the director of Graduate Studies in Rhetoric and Linguistics after discussion with the student's advisor.

Note: Students who have not taken an undergraduate or graduate course in Adolescent Literature are advised to take EN 518, Adolescent Literature.

D. Professional Practice: **6 s.h.**

EN 694	Observation in Teaching English	3 s.h.
EN 698	Internship	3 s.h.

Students seeking initial certification as secondary English teachers must also student teach as required by the Pennsylvania Department of Education before the director of Graduate Studies in Rhetoric and Linguistics will recommend approval for certification to the certifying officer at IUP, the dean of the College of Education.

Total Credit Hours **36 s.h.**

Total Credit Hours with Initial Certification **42 s.h.**

M.A./Teaching English to Speakers of Other Languages

The Master of Arts/Teaching English to Speakers of Other Languages (M.A./TESOL) is designed to prepare students to teach English as a second or foreign language within the guidelines established by TESOL. The program combines both theory and practice as well as a variety of approaches.

M.A./Teaching English to Speakers of Other Languages Course Requirements

A. Core Courses:			**15 s.h.**
EN 641	Topics in ESL Pedagogy	3 s.h.	
EN 692	American English Grammar	3 s.h.	
EN 694	Observation in Teaching English	3 s.h.	
EN 740	TESL/TEFL Methodology	3 s.h.	
EN 742	Cross-Cultural Communication	3 s.h.	
B. Internship			**3 s.h.**
EN 696	Internship in ESL/EFL	3 s.h.	

This requirement will be waived by the director of Graduate Studies in Rhetoric and Linguistics for experienced TESL/TEFL teachers. Students receiving a waiver for EN 696 must take an additional three semester hours of open electives.

C. Program Electives			**9 s.h.**
Nine semester hours, approved by the director of Graduate Studies in Rhetoric and Linguistics, from the following list:			
EN 720	Linguistics and the English Teacher	3 s.h.	
EN 721	Psycholinguistics	3 s.h.	
EN 722	Sociolinguistics	3 s.h.	
EN 730	Teaching Writing	3 s.h.	
EN 736	Reading Theory and the College English Teacher	3 s.h.	
EN 741	ESL Materials and Media	3 s.h.	
EN 743	Second Language Acquisition	3 s.h.	

D. Open Electives **9 s.h.**

Nine additional semester hours of electives approved by the director of Graduate Studies in Rhetoric and Linguistics. Six of these semester hours may be taken outside the English Department.

Total Credit Hours **36 s.h.**

Doctor of Philosophy Programs

There are two distinct doctoral programs in English, one in Literature and Criticism and one in Rhetoric and Linguistics. Both programs lead to a Doctor of Philosophy in English.

I. Literature and Criticism

The Literature and Criticism Program's Doctor of Philosophy in English is designed for present or future teachers at the college or university level. It features both a regular academic year program and a very active summer program for established teachers who wish to complete their degrees in the summers only. The program develops students' abilities to examine literature critically, to teach literature effectively, and to make professional contributions in the field. Courses emphasize the role of theory in understanding literature, and students are asked to apply theory to their teaching and research in the concluding Advanced Seminars. The Traditional Literature courses reinforce the student's understanding of historical, cultural, and intellectual contexts. The Special Literatures section mirrors the acceptance of new works in the canon. The focus on scholarly skills in the seminars and the mentoring relationships with professors assure that students will acquire a professional competence in literature and critical theory.

The Literature Program has rolling admissions throughout the year. Please note that applications are not encouraged from students who are not already employed in teaching English or who do not have prior teaching experience. Because of the limited opportunity for gaining teaching experience on campus, student classroom teaching experience as part of the degree program cannot be guaranteed.

Early in the program, each doctoral student chooses or is assigned a faculty mentor to provide guidance and advice on becoming professionally active. The main components of the program are course work, a candidacy examination (taken approximately midway in the course work), proof of a language proficiency, the completion of a research skills requirement, comprehensive examinations, and the dissertation.

A minimum of 30 hours of course work (excluding the dissertation and, for certain students, the prerequisite EN 674 Bibliographical Methods in English) is required beyond the M.

Two core courses			**6 s.h**
EN 751	The History and Theory of Criticism	3 s.h.	
EN 752	Literary Theory for the Teacher and Scholarly Writer	3 s.h.	
Six courses may be elected from all 700-level courses in literature			**18 s.h**
(At least two courses must be in Traditional Literatures)			
EN 761	Topics in American Literature Before 1870	3 s.h.	
EN 762	Topics in American Literature Since 1870	3 s.h.	
EN 763	Topics in British Literature Before 1660	3 s.h.	
EN 764	Topics in British Literature Since 1660	3 s.h.	
EN 765	Topics in Literature as Genre	3 s.h.	
EN 766	Topics in Comparative Literature	3 s.h.	
(At least one course must be in Special Literatures)			
EN 771	Topics in Postmodern Literature	3 s.h.	
EN 772	Topics in Women's Literature	3 s.h.	
EN 773	Topics in American or British Minority Literature	3 s.h.	
Two of the three Advanced Seminars			**6 s.h**
EN 783	Seminar: Literary Theory Applied to Major American Author or Theme	3 s.h.	
EN 784	Seminar: Literary Theory Applied to British Author or Theme	3 s.h.	
EN 785	Seminar: Comparative Literary Theory Applied to Traditional and Special Literature	3 s.h.	
Total			**30 s.h**

The program director may permit students with particular programmatic needs to take up to six of the 30 hours in a close related field such as rhetoric and linguistics, history, or philosophy.

After completing 12 to 18 hours of course work, the student m take a generalist literary essay examination for admission to candidacy and permission to take further elective courses and seminars. Candidacy depends upon satisfactory completion of this exam and the fulfillment of a 3.5 grade point average.

Following the completion of the 30 hours of course work, students take written comprehensive examinations in three area (literary theory and practice as applied to a general list of auth

and texts, a broadly defined area of literature, and a narrowly focused field of study), together with an oral defense of the written exams. In addition, the program requires a reading ability in a foreign language and the completion of a research skills requirement (either proficiency in a second foreign language or an additional six hours of graduate course work in a field related to a student's research needs). The final program requirement is the successful defense of dissertation, including registration for twelve dissertation credits. Further and more detailed information about the program is available in the Program Handbook, which may be obtained from the Office of the Director, Graduate Studies in Literature and Criticism, 111 Leonard Hall, 421 North Walk, IUP, Indiana, PA 15705. Phone: (724) 357-2264; fax: (724) 357-3056. The Handbook is also available on the Internet: *http://gradeng.en.iup.edu/*

II. Rhetoric and Linguistics

The Rhetoric and Linguistics track of the Doctor of Philosophy in English is designed for teachers of English in secondary schools and in two- and four-year colleges. Different emphases in the program allow students to focus upon the teaching of composition to native speakers of English or upon the teaching of English as a second or foreign language. Students without demonstrable teaching experience are expected to complete an internship experience in order to demonstrate the ability to teach effectively. Students with teaching experience must file a waiver of this requirement with the director of Graduate Studies in Rhetoric and Linguistics.

Course Work Requirement

To complete the program, all students must take 36 semester hours of academic courses beyond the master's degree (including the Research Skills Requirement). Candidates who do not demonstrate appropriate effective teaching experience must take EN 689, Orientation and Field Experience in the Community College, or a substitute as determined by the director of Graduate Studies in Rhetoric and Linguistics.

Admission to Candidacy

A student is eligible to apply for admission to candidacy in the Rhetoric and Linguistics Program when 9-15 semester hours of graduate credit have been earned.

Residency Requirement

The Rhetoric and Linguistics Graduate Program is committed primarily to serving professionals who are employed or who have strong promise of employment. Graduate students can pursue their studies without interrupting their careers, or they can take advantage of sabbaticals for concentrated and rapid progress toward the degree.

The Residency Requirement may be satisfied in either of two ways:

A. Academic Year or Semester-Plus-Summer: This requirement may be fulfilled by enrolling for a minimum of nine credits for each of two consecutive semesters or for one semester and a summer, provided there is no interruption.
B. Summers Only: This requirement may be fulfilled by (1) enrolling for a minimum of nine credits for each of two consecutive summers and six credit hours during the intervening academic year; or (2) enrolling for 12 credits during each of two consecutive summers.

Research Skills Requirement

Within the 36 s.h. of course work, students must complete a research skills requirement after required courses are completed. Students need to fulfill the Research Skills Requirement before taking the Comprehensive Examination. Four options are available for fulfilling this requirement: the foreign language option, the research methodology/design option, the computer option, and the linguistics option.

The Comprehensive Examination

The doctoral comprehensive examination in Rhetoric and Linguistics consists of three written parts and one oral part. A student selects three fields or areas and the examiner for each area.

The Dissertation

All students must complete a doctoral dissertation which investigates some original application of research in rhetoric and linguistics to the teaching of English.

The following courses are required of all students:

EN 710	Research Methodology in Rhetoric and Linguistics	3 s.h.
EN 720	Linguistics and the English Teacher	3 s.h.
EN 721	Psycholinguistics	3 s.h.
or		
EN 722	Sociolinguistics	3 s.h.
EN 730	Teaching Writing	3 s.h.

Required of all students without demonstrable teaching experience:

EN 689	Orientation and Field Experience in the Community College	3 s.h.

Elective courses include

EN 696	Internship in ESL/EFL	3 s.h.
EN 715	Qualitative Research	3 s.h.
EN 731	Rhetorical Traditions	3 s.h.
EN 732	Advanced Seminar in Composition Theory	3 s.h.
EN 736	Reading Theory and the College English Teacher	3 s.h.
EN 740	TESL/TEFL Methodology	3 s.h.
EN 741	ESL Materials and Media	3 s.h.
EN 743	Second Language Acquisition	3 s.h.

Students are encouraged to plan the remainder of their course work to help develop interdisciplinary interests. In addition to further courses in rhetoric, composition, TESOL, and applied linguistics, students are encouraged to explore literature and criticism, anthropology, psychology, sociology, and communications media among disciplines available at IUP.

Prospective applicants are encouraged to contact the director of Graduate Studies in Rhetoric and Linguistics at 111 Leonard Hall, 421 North Walk, IUP, Indiana, PA 15705 or by telephone: (724) 357-5631 or fax: (724) 357-3056.

Department of Geography and Regional Planning

IUP's Department of Geography and Regional Planning offers graduate programs leading to the degrees of Master of Science and Master of Arts in geography. The M.S. and M.A. programs are designed to prepare students for a variety of careers as geographers in business, government, research, environmental, and planning organizations or for entry to a doctoral program at another university. Emphasis is placed upon developing professional competence in the tools, substance, methodology, and geographic theories.

Graduates of the program are employed by the state and federal government, city, county, and regional planning commissions, private consultant and engineering firms, business and industry, and colleges and universities. Knowledge of environmental processes, the organization and operation of the planning field, and geographic information systems are of value to the graduate in the job search.

Students who enter the program usually hold a bachelor's degree in geography or one of the social sciences. Persons with degrees in education, science, or business also may qualify and often find a degree in geography of value. Applicants need to take the Graduate Record Exam before they will be admitted to precandidacy status.

Master of Arts students may pursue geographic themes of study and research such as population, urban/economic, or cultural/historical. Recent faculty research papers and publications have examined rural planning, Eastern Europe, economic development, geographic information systems, regional input-output analysis, population patterns, religious landscapes, microcomputers, and geographic education. Faculty members serve in various capacities in the Association of American Geographers, Pennsylvania Planning Association, and several other professional organizations. The Spatial Sciences Research Center, Pennsylvania Geographic Alliance, and National Council for Geographic Education are located within the department.

The Master of Science program requires that the student complete a fifteen-credit track in GIS/Cartography, Regional Planning, or Environmental Planning. Each track includes two required courses and a list of options.

In either program, selected courses in related fields may be applied toward the degree. All students will be expected to demonstrate proficiency in cartography in their thesis or portfolio. Both a thesis or non-thesis option are available in either the M.S. or M.A. program. For students selecting the non-thesis option, a portfolio is a nongraded graduation requirement. A three-person faculty committee will evaluate the portfolio, which will include at least three of the student's best pieces of work and written reflective analysis. The portfolio is submitted by the end of the first week of the semester the student is scheduled to graduate.

Both graduate degree programs require a minimum of 33 semester hours of credit (including the thesis credits) for the thesis option or 39 hours for the non-thesis option. Three core courses must be included: GE 610, GE 612, and GE 614. Students may arrange an internship as part of their degree electives up to six credits.

Master of Arts in Geography

I. Core Program			**9 s.h.**
GE 610	Research in Geography and Regional Planning	3 s.h.	
GE 612	Quantitative Techniques in Geography and Regional Planning	3 s.h.	
GE 614	Thought and Philosophy in Geography and Regional Planning	3 s.h.	
II. Electives and/or Thesis			
either			
A. Thesis Option			**24 s.h.**
Electives in GE and related fields		18-23 s.h.	
GE 850	Thesis	1-6 s.h.	
or			
B. Non-thesis Option			
Electives in GE and related fields			**30 s.h.**

Master of Science in Geography

I. Core Program			**9 s.h.**
GE 610	Research in Geography and Regional Planning	3 s.h.	
GE 612	Quantitative Techniques in Geography and Regional Planning	3 s.h.	
GE 614	Thought and Philosophy in Geography and Regional Planning	3 s.h.	
II. Tracks (Choose one)			
A. GIS/Cartography Track			**15 s.h.**
Five courses from among the following.			
GE 513*	Cartography	3 s.h.	
GE 514	Map and Photograph Interpretation	3 s.h.	
GE 515	Remote Sensing	3 s.h.	
GE 516*	Introduction to GIS	3 s.h.	
GE 517	Technical Issues in GIS	3 s.h.	
GE 571	Aerospace Workshop	3 s.h.	
GE 617	Field Techniques in Geography and Planning	3 s.h.	
GE 618	GIS Applications Development	3 s.h.	
B. Regional Planning Track			**15 s.h.**
Five courses from among the following.			
GE 531	Population Geography	3 s.h.	
GE 532	Urban Geography	3 s.h.	
GE 533	Geography of Trade and Transportation	3 s.h.	
GE 534	Political Geography	3 s.h.	
GE 536	Social Geography	3 s.h.	
GE 550	Introduction to Planning	3 s.h.	
GE 552*	Planning Methods	3 s.h.	
GE 554	Planning Design	3 s.h.	
GE 558	Land Use Law	3 s.h.	
GE 564*	Land Use Policy	3 s.h.	
GE 568	Planning Theory	3 s.h.	
GE 617	Field Techniques in Geography and Planning	3 s.h.	
GE 620	Spatial Structure of the Economy	3 s.h.	
GE 623	Regional Development	3 s.h.	
GE 625	Environmental Planning	3 s.h.	
GE 633	Settlement Geography	3 s.h.	
GE 665	Plan Implementation	3 s.h.	
PS 668	Public Sector Financial Administration	3 s.h.	

C. Environmental Planning Track **15 s.h.**

Five courses from among the following.

GE 515	Remote Sensing	3 s.h.
GE 516	Introduction to GIS	3 s.h.
GE 540*	Conservation: Environmental Analysis	3 s.h.
GE 541	Climatology	3 s.h.
GE 542	Physiography	3 s.h.
GE 558	Land Use Law	3 s.h.
GE 564	Land Use Policy	3 s.h.
GE 617	Field Techniques in Geography and Planning	3 s.h.
GE 625*	Environmental Planning	3 s.h.

III. Electives and/or Thesis

either

A. Thesis Option **9 s.h.**

Electives in GE and related fields		3-8 s.h.
GE 850	Thesis	1-6 s.h.

or

B. Non-thesis Option **15 s.h.**

Electives in GE and related fields

A three- or six-semester-hour internship may be included as an elective in the M.S. program.

* Required course for the track.

Department of History

The Department of History offers the M.A. degree with either a thirty-credit (thesis) or a thirty-six-credit (non-thesis) option. Students must complete a research requirement and a subject matter requirement. A wide range of courses in American, European, and public history are available.

Traditionally, most historians have become teachers. But increasingly, historians are seeking employment in nonteaching fields, including careers in museum, archival, or library work or in tourism and travel. Historical societies provide editorial and administrative openings, and publishing companies hire historians for both sales and editorial services. The history graduate program is designed to provide students with training appropriate to a wide range of professional goals in the field of history.

A minimum of 30 semester hours is required, or 36 semester hours for those electing not to write a thesis or electing to pursue the Public History track. Within these general requirements is a nine-semester-hour research requirement consisting of HI 614 Research Methods (or a substitution approved by the department) and a combination of seminars and/or thesis hours. The remaining hours are selected from the subject matter courses. Six semester hours may, with approval, be from related disciplines.

Students pursuing the Public History track must complete 36 semester hours as outlined below:

I. Research requirement

HI 614	Research Methods	3 s.h.
HI 850	Thesis	6 s.h.

or

Two seminars (one with a local history focus)

II.

HI 605	Introduction to Public History	3 s.h.
HI 606	Topics in Public History[1]	3 s.h.

III.

Internship 6 s.h.

IV. Approved electives **15 s.h.**

Failure to consult the department prior to registering for courses may delay the completion of a master's degree.

[1] Under special circumstances, another appropriate course in a public history specialization may be substituted for HI 606.

Department of Political Science

The Political Science Department offers the M.A. in Public Affairs degree, concentrating on Public Administration with several alternative field specializations.

Master of Arts in Public Affairs

The M.A. in Public Affairs program is designed for full- and part-time students who are seeking or are currently engaged in professional careers as administrators, project directors, staff analysts, and supervisors in government and human service agency delivery systems, trade unions, and interest groups; teachers of the social studies; and those interested in international development and comparative administration or in becoming foreign service professionals.

Admission Requirements: The requirements for admission are: (1) an undergraduate cumulative grade point average of 2.8 or better; (2) undergraduate coursework in political science, economics, and public or international affairs or equivalent professional experiences (in some cases, this may require specific remedial course work that will not count toward degree requirements); (3) for international students, a TOEFL score of 550 or better; (4) for students with an undergraduate degree from an American college or university, a combined GRE score of 1050.

Degree Requirements: The M.A. in Public Affairs requires thirty-six or thirty-nine graduate credits, including a thesis or a practicum. Students develop a core competence in methodology and in public administration and also select one of six interdisciplinary field specializations.

Public Affairs ***36-39 s.h.***

1. Methodology Core **6-9 s.h.**

PS 500	Research Methods in Political Science[1]	3 s.h.
PS 674	Analytical Techniques	3 s.h.
CR 605	Research Methods	3 s.h.

or

GE 612	Quantitative Techniques in Geography and Regional Planning	

or

GR 615	Elements of Research	

or

SO 665	Microcomputing Applications in Sociology	

2. Public Administration Core **12 s.h.**

PS 570	Introduction to Public Administration	3 s.h.
PS 666	Public Policy Analysis	3 s.h.
PS 668	Public Sector Financial Administration	3 s.h.
or		
PS 670	Foreign Policy Studies[2]	
or		
PS 672	Comparative Political Studies[2]	
or		
PS 675	International Political Economy[2]	
and		
PS 671	Seminar in Public Administration	3 s.h.

3. Field Specializations **15 s.h.**

Students must select one of the following with advice from a field specialization advisor: Criminal Justice Administration; Planning and Regional Development; Human Services Administration; Human Resources Management; Local Government Management; or International Development Administration.

4. Directed Research Requirement **3 s.h.**

a. Students must complete PS 690, Practicum, which includes a supervised field-based research project at a site appropriate to the student's specialization;

or

b. Students may opt to write a thesis (PS 850). The thesis must conform to criteria published by the Graduate School and Research.

1 A student whose undergraduate transcript shows "B or better" performance in a Research Methods in Political Science course may petition the MAPA program for exemption from PS 500. The exemption will be determined by examination by qualified faculty in the Department of Political Science.

2 Students who elect to pursue the International Development Administration field specialization will enroll for either PS 670 Foreign Policy Studies or PS 672 Comparative Political Studies or PS 675 International Development Administration, instead of PS 668 Public Sector Financial Administration.

Department of Sociology

Advanced training in sociology should enable students to think insightfully and critically about society and human relationships and to serve more effectively in a variety of professions. The department's M.A. in Sociology prepares students for employment in human services, government agencies, corporations, higher education, and social research positions. Recent graduates are working as family counselors, alcohol treatment supervisors, domestic violence program staff members, medical social workers, mental health professionals, social policy researchers, and college professors. The M.A. in Sociology is designed to prepare students for such opportunities with two programs of study: the General Sociology Program and the Human Services Program.

In addition to Graduate School and Research admissions requirements, the applicants to the Sociology M.A. program should have completed at least 12 hours of undergraduate social science courses with an average of "B" or better. Students not meeting this requirement may be admitted if they agree to take additional undergraduate or graduate sociology courses designated by the department.

Master of Arts in Sociology

Students select either a six-credit thesis option or a non-thesis option. Students selecting the thesis option must successfully complete a six-credit thesis (see requirements for the thesis list under the catalog description for SO 850). Including the six-credit thesis, the thesis option requires a total of 36 credit hour for those in both the General Sociology and the Human Servic Programs. The non-thesis option in both programs requires a total of 36 credit hours and successful completion of a comprehensive exam.

Additional courses are available from other departments on related topics such as counseling, individual assessment, women's studies, criminology, cross-cultural studies, public policy and finance, community and urban planning, statistical analysis, and program evaluation. Up to nine credit hours may taken outside the department. No more than one-third of a student's total credit hours may be dual-level (500-level) cours Students who enrolled for dual-level courses while undergraduates at IUP may not repeat the same courses for cr as graduate students.

General Sociology Program

The General Sociology Program is designed especially for tho students preparing for research professions, doctoral studies, o teaching in the social sciences.

I. Required Core 9 s.

SO 664	Research Seminar in Sociology	3 s.h.
SO 665	Microcomputing Applications in Sociology	3 s.h.
SO 667	Contemporary Sociological Theory	3 s.h.

II. Either

A. (Thesis Option)

SO 850	Thesis	6 s.h.
Approved electives (including at least 9 s.h. in Area of Specialization)		21 s.h.

or

B. (Non-thesis Option)

Approved electives (including at least 9 s.h. in Area of Specialization)	27 s.h.
Comprehensive exam	0 s.h.

III. Areas of Specialization (choose one)[1]

A. Sociology of Deviance
B. Sociology of the Family/Sociology of the Lifecourse
C. Medical Sociology
D. Sociology of Organizations
E. Social Stratification
F. Social Change

1 Students may also design their own specialization, with the appr of the graduate coordinator.

A specialization enables the student to select a combination of three to five courses (including courses from various other departments) focusing on a particular area of interest. Complementary courses are offered in Women's Studies, Clini Psychology, Counselor Education, Criminology, Public Administration, Adult and Community Education, Political Science, History, and other departments or programs.

Human Services Program

The Human Services Program is designed to prepare students work in a variety of human service fields and to offer advanced training for those already employed in human service professio The Human Services Program is designed for those interested

service delivery to special client groups like the aging, the abused, and the alcohol dependent, or for those interested in human service administration or evaluation.

I. Required Core			15 s.h.
SO 610	Sociology of Human Services	3 s.h.	
SO 611	Human Services Administration	3 s.h.	
or			
SO 612	Methods for Sociological Practice	3 s.h.	
SO 664	Research Seminar in Sociology	3 s.h.	
SO 665	Microcomputing Applications in Sociology	3 s.h.	
SO 667	Contemporary Sociological Theory	3 s.h.	
II. Internship			**6 s.h.**
SO 698	Internship	6 s.h.	

III. Areas of Specialization (Choose one)[1]

A. Administration and Evaluation of Human Services
B. Alcohol and Drug Abuse
C. Health and Medicine
D. Children and Families
E. Aging

A specialization enables the student to select a combination of three to five courses (including courses from various other departments) focusing on a particular area of interest. Complementary courses are offered in Women's Studies, Clinical Psychology, Counselor Education, Criminology, Public Administration, Adult and Community Education, Political Science, History, and other departments or programs.

IV. Either

A. (Thesis Option)		
SO 850	Thesis	6 s.h.
Approved electives in a chosen area of specialization		9 s.h.
or		
B. (Non-Thesis Option)		
Approved electives including at least 9 s.h. in a chosen area of specialization[2]		15 s.h.
Comprehensive exam		0 s.h.

Both thesis and non-thesis options in the Human Services Program require a total of 36 credit hours.

1 Students may also design their own specialization, with the approval of the graduate coordinator.

2 No more than 9 of these 15 semester hours of approved electives may be from outside the department.

Doctor of Philosophy in Administration and Leadership Studies

The doctoral program in Administration and Leadership Studies (Ph.D.) is designed to educate administrators in social service, health care, and government agencies and in higher education. The sixty-credit program admits approximately twenty students at a time. Classes are designed to accommodate the schedules of working human service professionals and are offered throughout the year, including summers.

The program focuses on leadership approaches, research and evaluation methods, and policy and administrative applications. Focused electives may be selected from a variety of departments, including Sociology, Political Science, Geography, Industrial and Labor Relations, Criminology, Management, Adult and Community Education, and others. For detailed information about the program, you may contact the program coordinator at (724) 357-2730 or *ALS-PHD@grove.iup.edu.*

Program Requirements Core			18 s.h.
HS 701	Leadership Theories	3 s.h.	
HS 702	Leadership: A Case Study Approach	3 s.h.	
HS 703	Leadership: Applied Practice	3 s.h.	
SO 610	Sociology of Human Services	3 s.h.	
SO 611	Human Service Administration	3 s.h.	
SO 701	Social Policy Issues	3 s.h.	
Research			**18 s.h.**
GR 681	Statistics for Human Services (under development)	3 s.h.	
SO 664	Research Seminar in Sociology	3 s.h.	
SO 764	Seminar in Applied Human Services Research	3 s.h.	
HS 950	Dissertation	9 s.h.	
Field Experience			**6 s.h.**
HS 798	Field Experience in Administration and Leadership Studies	6 s.h.	

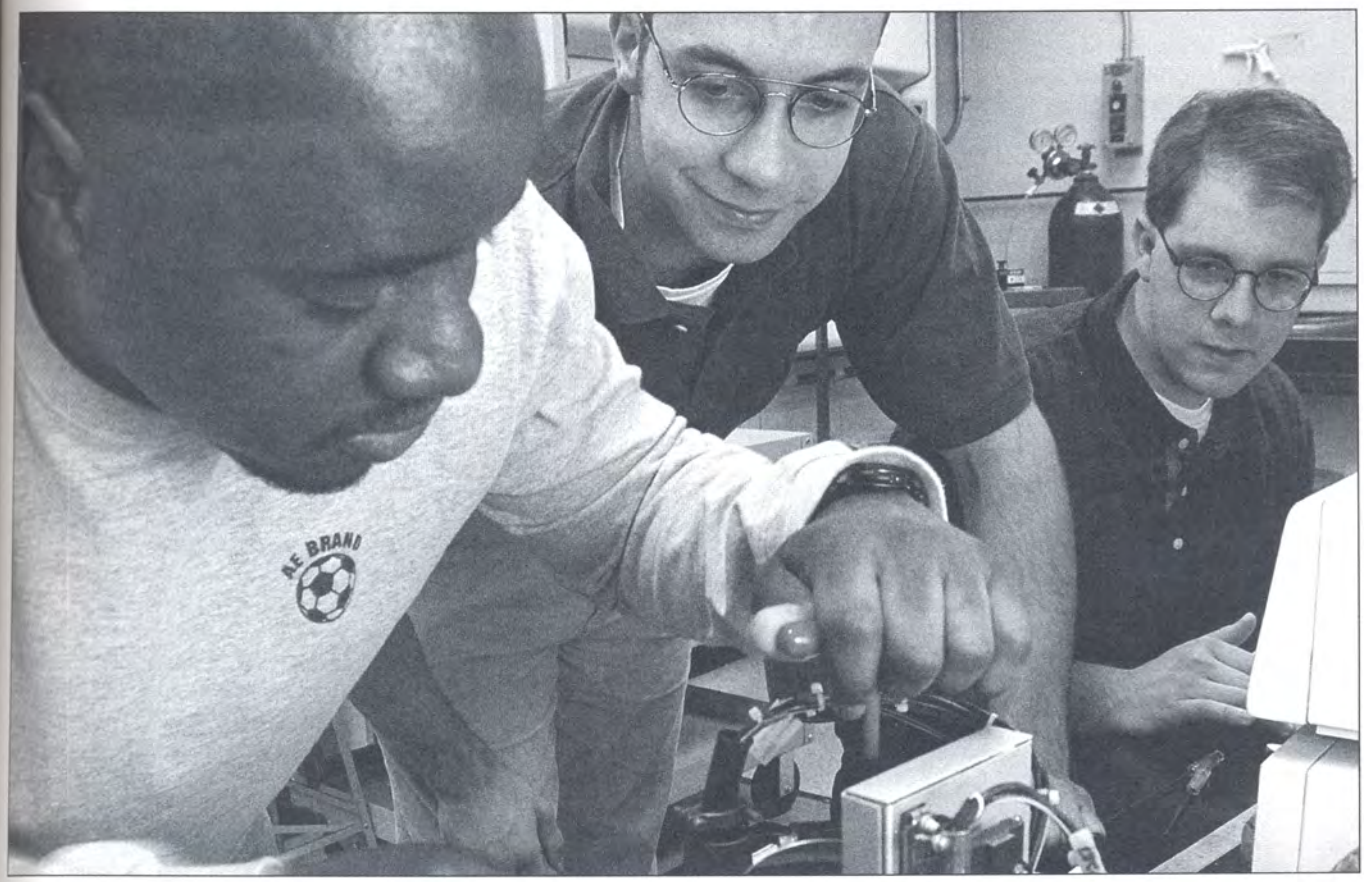
Human Services Administration **18 s.h.**

Students are expected to take a minimum of nine semester hours from the courses in Group A and nine additional hours from Group A, Group B, or other courses with the approval of the adviser. Selected courses should focus on the student's primary area of interest within the human service field, e.g., higher education; human resources; individual and family services; service organization; policy analysis; administration of justice. For example, a student interested primarily in administration might choose the following courses: PS 631, PS 668, PS 671, SO 654, LR 610, LR 621; a student interested primarily in individual and family services might choose: PS 666, SO 654, SO 656, SO 612, SO 636, SO 657; a student interested primarily in higher education administration might choose: PS 671, SO 654, SO 656, ST 627, AC 622, AC 623; a student primarily interested in policy making might choose: PS 666, SO 642, SO 654, SO 656, CR 740, LR 610. All courses should be selected in consultation with the student's advisor.

Group A:		
PS 631	Human Resource Management	3 s.h.
PS 666	Public Policy Analysis	3 s.h.
PS 668	Public Sector Financial Administration	3 s.h.
PS 671	Seminar in Public Administration	3 s.h.
SO 612	Methods for Sociological Practice	3 s.h.
SO 642	Industrial Sociology	3 s.h.
SO 654	Social Inequality	3 s.h.
SO 656	Social Change	3 s.h.
Group B:		
AC 621	The Adult Learner	3 s.h.
AC 622	Program and Process Development in Adult and Community Education	3 s.h.
AC 623*	Organization and Administration in Adult and Community Education	3 s.h.
CE 639*	Group Procedures	3 s.h.
CE 646	Interpersonal Sensitivity	3 s.h.
CR 730	Ethical and Philosophical Issues in Criminology	3 s.h.
CR 740	Advanced Criminal Justice Policy	3 s.h.
FI 630*	Financial Management	3 s.h.
GE 550	Introduction to Planning	3 s.h.
GE 665*	Plan Implementation	3 s.h.
IM 640*	Management Information Systems	3 s.h.
LR 610	Employee Rights Under Law	3 s.h.
LR 613	Fundamentals of American Industrial and Labor Relations	3 s.h.

LR 621	Labor Relations in the Public Sector	3 s.h.
LR 625	Processes of Collective Bargaining	3 s.h.
LR 632	Compensation Administration	3 s.h.
LR 640*	Negotiations	3 s.h.
LR 641*	Contract Administration	3 s.h.
MG 613*	Organizational Analysis	3 s.h.
MG 630*	Management Theory	3 s.h.
SO 621	Sociology of Health Care	3 s.h.
SO 630	Seminar in Alcohol and Drug Abuse	3 s.h.
SO 632	Addiction and the Family	3 s.h.
SO 636	Sociology of the Family	3 s.h.
SO 640	Community Development and Social Policy	3 s.h.
SO 657	Aging and Society	3 s.h.
SO 662	The Sociology of Deviance	3 s.h.
SO 681	Special Topics	3 s.h.
ST 626	History of Higher Education	3 s.h.
ST 627	Student Affairs Functions in Higher Education	3 s.h.

* Prerequisite or permission required



College of Natural Sciences and Mathematics

The College of Natural Sciences and Mathematics at IUP offers graduate degrees in Biology (M.S.), Chemistry (M.S. and M.A.), Mathematics (M.S. and M.Ed.), Physics (M.S. and M.A.), and Clinical Psychology (Psy.D.).

Department of Biology

Requirements for Admission

To be admitted to the Department of Biology, the applicant must have completed the requirements for a bachelor's degree from an accredited college or university. These requirements should include a major in Biology, one year of inorganic chemistry, one semester of organic chemistry, and one semester of calculus or statistics. Applicants with undergraduate deficiencies may be required to register for prerequisite courses.

The departmental requirements for candidacy for the M.S. degree are

- Satisfactory completion of 15 semester hours of graduate work, with at least eight hours in core courses.
- The selection of a thesis advisor and a committee of at least two additional faculty members (in the case of the thesis student) or a research advisor (in the case of non-thesis student) to guide the candidate in completing the program.
- An official application to candidacy, including a research proposal approved by the advisor, must be submitted to the Biology Department Graduate Committee.

Candidates are expected to maintain an average not lower than 3.0. Continuance in the graduate program for those receiving two individual course grades below a "B" is contingent upon favorable review of the Graduate Committee.

Master of Science in Biology

Students working for this degree will complete 35 semester hours of work in accordance with the following divisions. Students may pursue either a thesis or a non-thesis option.

I. Core Courses

Thesis option—20 semester hours
Non-thesis option—17 semester hours

A. Required Courses

Thesis option			**11 s.h.**
BI 602	Biometry	3 s.h.	
BI 611	Biology Seminar I	1 s.h.	
BI 612	Biology Seminar II	1 s.h.	
BI 850	Thesis	6 s.h.	

Non-thesis option			**8 s.h.**
BI 602	Biometry	3 s.h.	
BI 611	Biology Seminar I	1 s.h.	
BI 612	Biology Seminar II	1 s.h.	
BI 699	Independent Study	3 s.h.	

B. Core Elective Requirement

For both options, the nine remaining hours of course credit are to be selected from biology electives and must include one cell/molecular course, one organismal course, and one ecology course.

II. Elective Courses
Thesis option: 15 semester hours
Non-thesis option: 18 semester hours

Courses to be selected with the approval of the advisor from the 500- and 600-level biology elective courses or from related science and mathematics courses.

III. Competency Exam
Every student must take a competency exam administered by the candidate's advisory committee. The purpose of this examination is to assure that all graduates have a broad-based knowledge of biology, as well as a mastery of their subject matter pertaining directly or indirectly to their research project.

This examination must be scheduled after completion of 18 semester hours but before completion of 27 semester hours. If a student fails this exam, a second exam will be administered which, at the discretion of the committee, can be oral or written. This exam must be taken within a four-month period following the first exam. Failure of the second exam will result in dismissal from the program.

IV. Research Requirement for the M.S.

A. **Non-thesis option**—The candidate must conduct an original research project under the direction of a faculty advisor. A report in the format of a journal article must be submitted at the conclusion of the study. This requirement is programmed as BI 699, Independent Study.

B. **Thesis option**—The candidate must conduct original research under the direction of the thesis advisory committee and present a research thesis at the conclusion of the program. The candidate registers for BI 850, Thesis, while engaged in research and preparation of the thesis. The candidate will present a public seminar, reporting results of the research, and an oral defense before the thesis committee.

In many courses in the Department of Biology, additional laboratory time may be required beyond the regularly scheduled periods.

Department of Chemistry

The Chemistry Department offers two different degree programs on the master's level: the Master of Science and the Master of Arts degrees.

The Master of Science degree is for the chemist who intends to pursue further graduate work leading to a Ph.D. or who intends to work as a professional chemist and desires to become more competent in chemistry. This degree is research oriented, and successful completion of an experimental thesis is required. Also, two consecutive semesters of residency are required.

The Master of Arts degree is designed to meet the needs of the chemist who is currently a full-time employee of a chemical or academic institution and who wishes strengthening in those areas relevant to the professional position. The emphasis here is on course work. The student may also pursue this degree on a full-time basis.

Four core courses, one in each of the areas of inorganic, organic, analytical, and physical chemistry, are required in the M.S. and M.A. programs.* Beyond this point, the programs separate, with the M.S. student taking more specialized work in chemistry along with an experimental research problem. The M.A. candidate will take more specialized work in chemistry and will be encouraged to take courses outside the sciences if they are relevant to the particular area of employment.

General admissions requirements: Students should have completed one year each of inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, general physics and calculus. Students wishing to specialize in biochemistry should also have had an undergraduate course in biochemistry. A student deficient in the above areas of study may also be admitted provided these deficiencies are made up concurrently with the student's graduate studies.

*An exception to this is afforded the student wishing to specialize in biochemistry.

Master of Arts in Chemistry

I. Industrial/teaching experience: Before the degree of M.A. in chemistry can be granted, the applicant must have had at least three years of full-time employment in an approved area of chemistry. Only those years of employment after obtaining the bachelor's degree may be counted. This experience, in addition to the final six credits being taken at IUP, meets the university and departmental residency requirements.

II. Core Courses **14 s.h.**

CH 540	Physical Chemistry	3 s.h.
CH 600	Seminar*	2 s.h.
CH 610	Inorganic Chemistry	3 s.h.
CH 620	Analytical Chemistry	3 s.h.
CH 630	Organic Chemistry	3 s.h.

III. Course Electives **(10 to 16 s.h.)**
Any graduate-level courses selected from the natural sciences and mathematics with the permission of the candidate's advisor. Special permission from the Chemistry Department's Graduate Committee will be required for courses outside the sciences.

IV. Thesis Requirements **(0 or 4 semester hours)**
The student has two options:

A. **Thesis not required**—A total of 30 semester hours in suitable courses are acceptable.

B. **Committee thesis** (CH 850-4 s.h.)—If the candidate is doing research as part of full-time employment, that research may be submitted as a thesis, provided approval is given in advance by the employer and the Chemistry Department's Graduate Committee. The candidate's employment supervisor may serve as an ex-officio member of the thesis committee.

* The M.A. candidate is not required to attend all daytime seminars but is required to present two seminars and is expected to attend the evening seminars.

Master of Science in Chemistry

I. Residence Requirements: The student shall be in residence a minimum of two consecutive semesters of full-time work. Students working as graduate assistants and/or making up deficiencies can expect to be in residence for at least two years.
either

II. For those specializing in analytical, inorganic, organic, or physical chemistry:

A. Required Courses **15 s.h.**

CH 540	Physical Chemistry	3 s.h.
CH 610	Inorganic Chemistry	3 s.h.
CH 620	Analytical Chemistry	3 s.h.
CH 630	Organic Chemistry	3 s.h.

An additional three-semester-hour 600-level chemistry course selected from analytical, inorganic, organic, or physical chemistry 3 s.h.

B. Electives **6 s.h.**

The student may, with the advice and approval of the advisor, select electives from chemistry, physics, biology, or mathematics. CH 500 Special Studies can provide a maximum of three semester hours toward the 30 semester hours necessary for the degree.

or

III. For those specializing in biochemistry:

A. Required Courses		**12 s.h.**
CH 646	Biochemistry	3 s.h.
CH 623	Physical and Chemical Methods of Separation	3 s.h.
CH 630	Organic Chemistry	3 s.h.
BI 662	Molecular Genetics of Eukaryotes	3 s.h.
B. Electives		**a minimum of 9 s.h.**

at least one of the following:

BI 553	Physiology of Plants	3 s.h.
BI 652	Microbial Physiology	3 s.h.
BI 653	Animal Physiology	3 s.h.
BI 654	Endocrinology	3 s.h.

and any graduate courses in the natural sciences and mathematics mutually agreed upon by the student and advisor

IV. Research and Thesis Requirements:

A. The research work must lead to an acceptable thesis, approved by the student's advisor and the supervisory committee and defended in a final oral examination.

B. CH 600 Seminar		2 s.h.
C. CH 690 Research	for at least	3 s.h.
D. CH 850 Thesis		4 s.h.

To be taken during the term in which student is writing the M.S. thesis.

Department of Mathematics

The Mathematics Department offers three graduate degrees: the Master of Science degree in Applied Mathematics, the Master of Education in Mathematics, and the Master of Education in Elementary and Middle School Mathematics Education.

Master of Science in Applied Mathematics

The M.S. program in Applied Mathematics is designed to produce graduates who are marketable in industry, government, and education. It also provides a solid background for those planning to pursue a Ph.D. program. Faculty members offer courses in the areas of operations research, statistics, and traditional applied mathematics. The department houses state-of-the-art computer facilities, including Silicon Graphics, Inc., machines, with which faculty and students engage in activities such as simulation and statistical analysis. Most classes are offered at times convenient for nontraditional students who wish to advance their careers in applied mathematics or secondary education. Students have the option of writing a thesis or participating in an internship.

Program Requirements

I. Core Courses*		**15 s.h.**
MA 525	Applied Mathematical Analysis I	3 s.h.
MA 545	Programming Models in Operations Research	3 s.h.
MA 546	Probabilistic Models in Operations Research	3 s.h.
MA 563	Mathematical Statistics I	3 s.h.
MA 564	Mathematical Statistics II	3 s.h.

*Required unless comparable courses have been completed at the undergraduate level

II. Controlled Electives**		**15 s.h.**
MA 547	Simulation Models	3 s.h.
MA 551	Numerical Methods for Supercomputers	3 s.h.
MA 571	Linear Algebra	3 s.h.
MA 641	Differential Equations	3 s.h.
MA 643	Graphs, Networks, and Combinatorics	3 s.h.
MA 645	Nonlinear Programming Models	3 s.h.
MA 661	Advanced Sampling Theory	3 s.h.
MA 663	Nonparametric Statistics	3 s.h.
MA 665	Applied Regression Analysis	3 s.h.
MA 684	Topics in Operations Research	3 s.h.
MA 685	Topics in Statistical Methods	3 s.h.
MA 688	Problems in Applied Mathematics	3 s.h.

** At least 12 s.h. must be at the 600 level.

III. Additional Electives***

Other graduate-level mathematics courses may be selected with the approval of the student's advisor. Also, with the advisor's approval, up to six semester hours of graduate work may be taken in disciplines such as chemistry, computer science, economics, finance/management information systems, and physics.

*** The MS in Applied Mathematics requires a minimum of 27 s.h. of course work in addition to the research requirement listed below.

IV. Research Requirements		**3-6 s.h.**
Option I		
MA 850	Thesis	3 s.h.
or		
Option II		
MA 698	Internship	6 s.h.
Total		**30-33 s.h.**

Master of Education in Mathematics

The Master of Education in Mathematics is ideal for secondary mathematics teachers. Its purpose is to provide an opportunity for students to increase their knowledge of mathematics and to become aware of research and innovations in mathematics education. Course requirements and electives come from several departments: Foundations of Education (FE), Educational Psychology (EP), Counselor Education (CE), Special Education (EX), and Mathematics (MA, EM).

Program requirements

A minimum of 30 semester hours must be completed by each candidate for the Master of Education degree, according to the following:

I. Foundations of Education Electives			**3 s.h.**
FE 514	Comparative Foundations of Education	3 s.h.	
FE 611	Historical Foundations of Education	3 s.h.	
FE 612	Philosophical Foundations of Education	3 s.h.	
FE 613	Social Foundations of Education	3 s.h.	
II. Educational Psychology Electives			**3 s.h.**
EP 604	Advanced Educational Psychology	3 s.h.	
EP 573	Psychology of Adolescent Education	3 s.h.	
EP 576	Behavior Problems	3 s.h.	
EP 578	Learning	3 s.h.	
CE 629	Group Procedures	3 s.h.	
CE 639	Group Procedures	3 s.h.	
EX 650	Exceptional Children and Youth	3 s.h.	
III. Research Requirement			**3 s.h.**
GR 615	Elements of Research	3 s.h.	
IV. Mathematics Education Electives			**6 s.h.**
MA 650	History of Mathematics	3 s.h.	
MA 651	Seminar in Teaching Junior High School Mathematics	3 s.h.	
MA 652	Seminar in Teaching Senior High School Mathematics	3 s.h.	
MA 654	Curriculum and Supervision in Mathematics	3 s.h.	
EM 651	The Laboratory Approach to Teaching Mathematics*	3 s.h.	
EM 652	Diagnosis and Remedial Teaching of Mathematics*	3 s.h.	
EM 653	Mathematics for the Gifted Student*	3 s.h.	
V. Mathematics Content Electives			**15 s.h.**
a.	Required unless comparable courses have been completed at the undergraduate level	0-6 s.h.	
MA 521	Advanced Calculus I	3 s.h.	
MA 576	Abstract Algebra I	3 s.h.	
b.	Any graduate-level mathematics content courses other than those listed in part a.	9-15 s.h.	

* With special permission from the advisor, these courses are acceptable for fulfillment of the Mathematics Education requirement.

Master of Education in Elementary and Middle School Mathematics Education

An integral part of the program will be to familiarize students with recent developments in curriculum, instruction, and implementation of contemporary mathematics programs in elementary and middle schools. Upon completion of the program, the student will be prepared to serve as a resource teacher, mathematics teacher in a departmentalized situation, coordinator, or in other leadership roles in an elementary or middle school mathematics program. For teachers in public schools, the program meets the credit requirements for Instructional Level II certification. It does not provide 7-12 certification for those who hold a K-6 Level I certificate.

Students have three options for the completion of the program leading to a Master of Education degree in Elementary and Middle School Mathematics Education.

Option 1: Primarily designed for those who wish to pursue a degree after the master's degree. The requirements are 27 hours of course work and a three-hour committee thesis.

Option 2: Primarily designed for those who will take a leadership role in the school. The requirements are 30 hours of course work and written comprehensive examination.

Option 3: Primarily designed for the classroom teacher who wishes to update skills. The requirements are 36 hours of course work with no thesis or comprehensive examination required.

Students must satisfy the following course requirements:

I. Professional Development			**9 s.h.**
Required:			**6 s.h.**
EM 650	Curriculum and Instruction in Elementary School Mathematics	3 s.h.	
EP 604	Advanced Educational Psychology	3 s.h.	
Elective:			**3 s.h.**
	Chosen from the graduate course offerings of the Department of Professional Studies in Education and the Department of Special Education and Clinical Services. Students should consult their advisor concerning prerequisites and appropriateness before scheduling these courses.		
II. Educational Research			**3 s.h.**
GR 615	Elements of Research	3 s.h.	
III. Curriculum and Instruction in Mathematics Education Electives			**6 s.h.**
EM 651	The Laboratory Approach to Teaching Mathematics	3 s.h.	
EM 652	Diagnosis and Remedial Teaching of Mathematics	3 s.h.	
EM 653	Mathematics for the Gifted Student	3 s.h.	
EM 654	Teaching Problem Solving in the Elementary and Middle School	3 s.h.	
EM 655	Mathematics for Early Childhood	3 s.h.	
EM 698	Supervised Internship	3 s.h.	
EM 699	Elementary Math—Independent Study	3 s.h.	
EM 850	Thesis*	3 s.h.	
IV. Subject Matter Concentration Electives			
Options 1 and 2			**9 s.h.**
or			
Option 3			**15 s.h.**
EM 517	Introduction to Probability and Statistics	3 s.h.	
EM 520	Pre-Calculus Mathematics I	3 s.h.	
EM 556	Principles of Geometry I	3 s.h.	
EM 557	Introduction to Number Theory	3 s.h.	
EM 558	Introduction to Logic and Logical Games	3 s.h.	
EM 559	Computer-Related Topics in the Elementary and Middle School	3 s.h.	
EM 571	Basic Concepts of Algebra	3 s.h.	
EM 601	Basic Concepts in Mathematics I	3 s.h.	
EM 602	Basic Concepts in Mathematics II	3 s.h.	
EM 603	Teaching the Metric System	3 s.h.	
EM 681	Special Topics	3 s.h.	
V. Electives			**3 s.h.**
	Chosen from other courses in categories I, III, and IV above		
VI. Comprehensive Exam			
	Option 2 only		

* EM 850 is required for Option 1 only.

Department of Physics

The Department of Physics offers two graduate degrees at the master's level: the Master of Science and the Master of Arts. The Master of Science degree program is designed for students who plan to pursue further graduate work or to undertake research in an industrial position. The degree is research oriented, and a thesis is required. The Master of Arts program will generally be selected by students who wish to strengthen their physics background in preparation for more advanced graduate study or to fulfill teaching certification requirements. This program emphasizes course work, and a thesis is optional.

Because of the wide range of possible courses, students are required to have the consent of their graduate advisers before selecting a course. An adviser is assigned to students as soon as they are accepted into the degree program.

Master of Arts in Physics

This program is the more flexible of the two graduate degree programs offered by the Department of Physics. Each student's program is designed to meet his or her individual needs and is developed with the student and advisor working together.

The educational goals of students in many categories can be met while they are working to attain degrees. Several examples of the category of student who may select this degree program are

1. The student whose undergraduate training is in Physics Education or Physical Science Education or Science Education with a strong professional education component. This student may need more content than professional education. In this program, the student may, with the concurrence of his or her advisor, enroll in exactly that ratio of content courses to professional education courses that is necessary to attain his or her goals.
2. The student who holds a teaching certificate in a field other than physics but is a secondary school physics teacher. These students often require formal course work in a number of areas of physics in order to have physics added to their certificates. This is normally a requirement of their school district and/or the commonwealth. This program allows students to meet this requirement while working toward a degree.
3. The student who wishes to enroll in a cooperative program, including those programs with internship components. Students may earn eight to 15 semester hours during a semester while interning under one of the special programs instituted by the university.

I. Subject Matter 15 semester hours minimum

Required course work in Physics is to be selected from the graduate physics courses with course numbers of 510 or greater. This selection must have the *prior* approval of the student's academic advisor, and a notation of such approval is to appear in the student's folder.

II. Electives 11 to 18 semester hours

The student may complete the requirements for an M.A. by selecting, with the approval of his or her advisor, from among the offerings of the Graduate School and Research. The number of credits selected for electives depends upon the option exercised under Research and Thesis.

III. Research and Thesis Option

Each Master of Arts student must complete degree requirements in one of the following two ways:

A. Undertake an individual research problem and complete an acceptable thesis. For this option, the student must schedule PY 600 for two semester hours and PY 850 for at least two semester hours. If the student selects this option, he or she will have completed a minimum of 30 semester hours, including these two courses, for the degree.

B. Decide, with the approval of his or her academic advisor, that a research problem is not to be undertaken. If this option is exercised, the student will not do a thesis but must complete a minimum of 33 semester hours of course work.

Master of Science in Physics

I. Admission Requirements

Applicants must have a B.S. or B.A. degree with a major in Physics and meet the requirements of the Graduate School and Research and the Department of Physics. Applicants having other degrees that provide sufficient preparation in physics and mathematics will also be considered for admission.

II. Subject Matter Concentration

A minimum of six courses to be selected with the approval of the advisor from the following: PY 536, PY 601-602, PY 634, PY 641, PY 651, PY 652, PY 661-662.

III. Research Requirement

Each Master of Science student is required to undertake an individual research problem and to complete an acceptable thesis under the supervision of one of the faculty members eligible to teach graduate courses. The student is expected to choose a research advisor by the beginning of the second semester in attendance and to submit a written thesis proposal to his or her Thesis Committee for approval by the end of the second semester. The Thesis Committee will be selected by the student in conjunction with his or her research advisor. The student must schedule PY 600 for two semester hours and PY 850 for at least two semester hours.

IV. Comprehensive Examination

The student must pass a comprehensive examination.

V. Free Electives

The student may complete the 30-hour requirement by choosing from among the offerings of the Graduate School and Research, with the advice and approval of the student's graduate advisor.

Department of Psychology

The Psychology Department offers a Doctor of Psychology degree in Clinical Psychology (Psy.D.) that places emphasis upon professional applications of psychology based on a solid grounding in the scientific knowledge base of psychology. The program is designed to meet the academic requirements of licensure and provide the background to immediately assume responsibilities in appropriate professional settings.

The department also offers a program of respecialization in clinical psychology for persons holding a doctoral degree in a nonclinical area of psychology. Psychologists wishing to enter the respecialization program must plan to acquire a broad base of knowledge, skills, and attitudes through an individualized plan of study including course work and practica. This program usually requires two years of campus course work and practica, followed by a year-long internship.

Doctorate in Clinical Psychology

Admission to the Psy.D.

The following criteria are used in the evaluation of application materials: (a) overall grade point average and grades in psychology courses (3.0 minimum in both areas); (b) scores on the Aptitude and Advanced sections of the GRE (average of 500 on all sections); (c) training in research methodology; (d) prior clinical experience in practicum or employment; (e) the applicant's statement of goals; (f) letters of recommendation; and (g) results of a personal interview.

Breadth of undergraduate training is preferable to narrow specialization. Weaknesses in one area may be offset by strengths in another area, although the Admissions Committee gives preference to applicants with some demonstrated strengths in all areas. Students may be required to make up deficiencies.

The deadline for receipt of all application materials is January 10. The Admissions Committee will then select a pool of qualified applicants who will be invited to the campus for personal interviews. Announcements of final admissions decisions will be made around April 1.

Philosophy

The Psy.D. program follows a practitioner or applied model of training of clinical psychologists. Emphasis is placed on professional applications of psychology to a wide variety of human problems. Students receive extensive supervision in the development of skills in interpersonal relations, psychological assessment, psychotherapy, community outreach, and program evaluation and a solid grounding in the scientific knowledge base of psychology.

Curriculum

The Psy.D. program is typically completed in four calendar years of full-time study plus an additional year of full-time internship. The curriculum requires a minimum of 102-104 semester hours of acceptable graduate credit. Each student must complete requirements for (a) core course work; (b) special proficiency/elective course work requirements; (c) practicum, internship, and professional issues; (d) doctoral project; (e) comprehensive academic and professional examinations; and, (f) master's and doctoral candidacy. In addition, a course in History and Systems in Psychology is required for graduation.

A. Core Course Work **57 s.h.**

The core courses are required of all students. These courses cover several areas of psychology and provide the scientific basis for professional practice.

1. Methods of Behavior Change:

PC 630	Methods of Intervention I	3 s.h.
PC 631	Methods of Intervention II	3 s.h.
PC 633	Clinical Group Techniques	3 s.h.
PC 634	Family Therapy	3 s.h.

2. Methods of Assessment and Evaluation:

PC 641	Psychological Assessment I	3 s.h.
PC 642	Psychological Assessment II	3 s.h.
PC 743	Psychological Assessment III	3 s.h.

3. Research and Methodology:

PC 601	Research Methods in Psychology I	3 s.h.
PC 603	Evaluation Research	3 s.h.
PC 704	Clinical Research Methods	3 s.h.

4. Individual Differences:

PC 635	Advanced Psychopathology	3 s.h.
PC 636	Personality Theory and Systems of Psychotherapy	3 s.h.
PC 637	Issues in Developmental Psychology	3 s.h.

5. Physiological Bases of Behavior:

PC 646	Drugs and Behavior	3 s.h.
PC 647	Clinical Neuropsychology	3 s.h.

6. Cognitive Bases of Behavior:

PC 632	Models of Learning	3 s.h.

7. Social Bases of Behavior:

PC 638	Racial, Cultural, and Gender Issues in Psychology	3 s.h.
PC 658	Advanced Social Psychology	3 s.h.

8. History of Psychology:

PC 610	Historical Trends in Psychology	3 s.h.

B. Elective Course Work/Special Proficiency:
three courses

Students select three advanced courses in consultation with an advisor. Special elective packages include Child/Family and Behavioral Medicine.

C. Practicum, Internship, and Professional Issues: **27 s.h.**

PC 770	Professional Issues	3 s.h.
PC 798	Advanced Psychological Practicum	21 s.h.
PC 799	Internship	3 s.h.

Students will typically register for practicum experience throughout their program with sampling from diverse settings. During the final year, a full-time professional internship emphasizing depth and long-term involvement is required.

D. Doctoral Project: **9 s.h.**

PC 950	Doctoral Project (Dissertation)	9 s.h.

E. Comprehensive Academic and Professional Examinations: **0 s.h.**

Each year, an evaluation of clinical and professional competence will be made. This evaluation data will be shared with the student as feedback and a joint effort will be made to remediate any deficiencies.

Students must also pass a preliminary examination and a research proficiency evaluation covering basic knowledge appropriate for a professional psychologist. This examination will cover material related to all of the core course work areas.

The Clinical Proficiency Evaluation is completed during the final year on campus. Students present assessment and therapy work samples to a committee of faculty members.

Satisfactory performance on both the preliminary examination and the professional evaluations must be achieved before candidacy for the doctorate will be recommended. Serious deficiencies may result in recommendations for remedial work, reexamination, delay of candidacy or termination from the program.

F. Master's and Doctoral Candidacy

Students will routinely obtain the master's degree en route to the doctorate. Requirements for candidacy for the M.A. degree include the successful completion of 24 credits of approved graduate course work with a grade point average of 3.0 and the recommendation of the Clinical Training Committee based on satisfactory academic and professional evaluations. The fifty-four credits for the M.A. must include nine hours of practicum and 45 hours of the core course work of the Psy.D. degree.

The candidacy for the Psy.D. will be awarded following the completion of all M.A. requirements plus a minimum of an additional nine credits, successful performance on the preliminary examination and research proficiency evaluation, and satisfactory annual academic and professional evaluations. A grade point average of 3.0 is required for candidacy.

G. Transfer of Graduate Credit

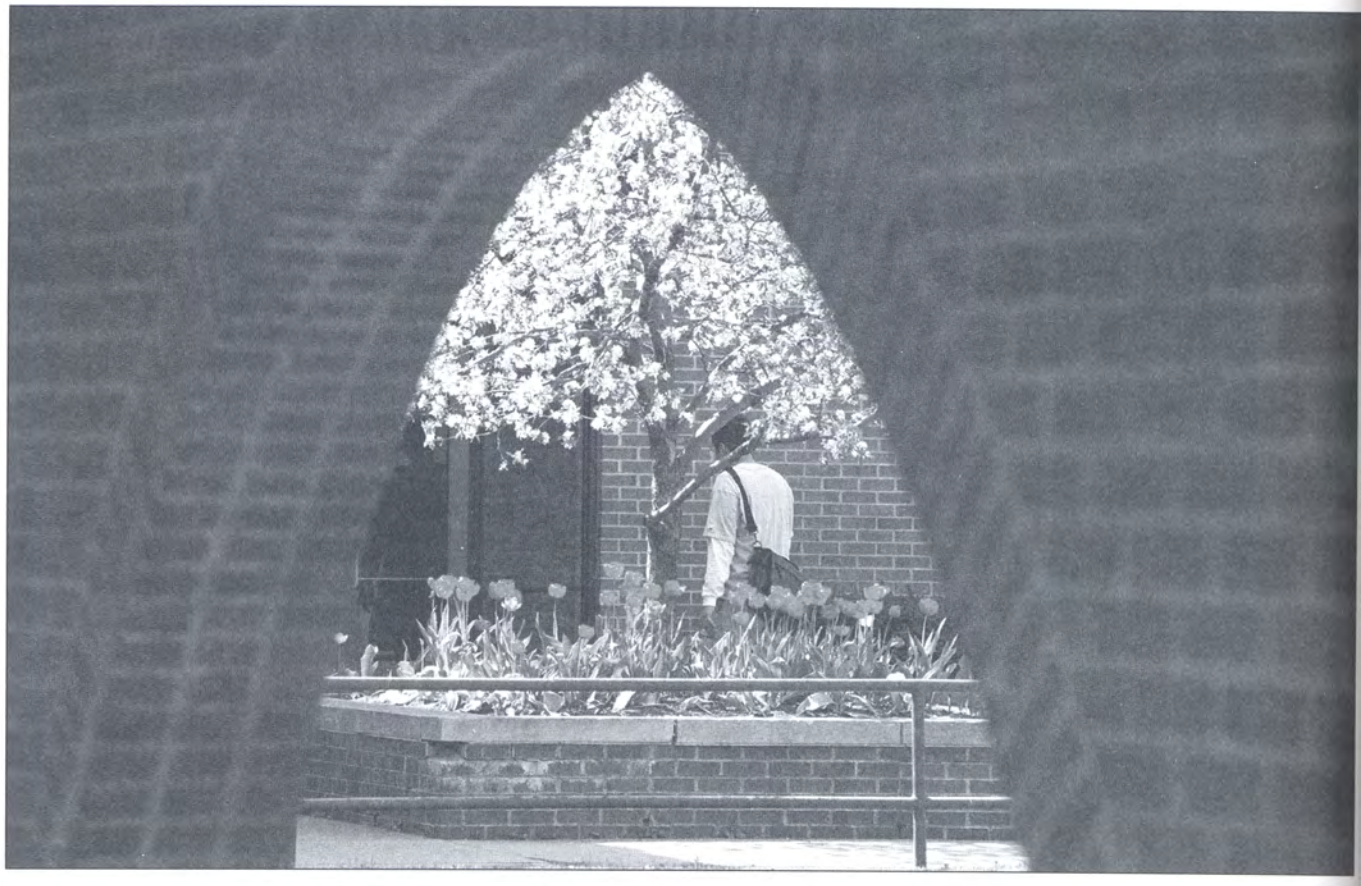
Applicants who have completed coursework at other institutions may request transfer of credit. A maximum of 36 semester hours of credit may be approved. A portion, but not all, of the practicum requirements may be transferred for equivalent supervised experience.

H. Part-time Study and Residency

Students must complete two consecutive semesters or one summer plus the preceding or following semester of full-time study to meet residency requirements. At other times, students may complete part-time studies. All students complete a Plan of Study, which will include a detailed semester-by-semester outline of proposed course work and completion dates for exams, doctoral project, and internship. An average of 15 semester hours must be completed each year, and all requirements must be completed within seven years.

Other Policies

The Psychology Department has established guidelines for the registration and completion of the doctoral project, academic good standing, full-time student status, an appeals process, and other academic matters. These guidelines are explained in the Psychology Graduate Student Handbook.



The Graduate School and Research

Professional Growth

The Professional Growth program leading to an M.A., M.S., or M.Ed. is a highly restricted and specially structured course of studies determined by the student and his/her advisory committee. The program may not duplicate or even resemble an existing graduate degree program at IUP. For each degree area, the total credit-hour requirement is the same: 30 credit hours. Students electing to pursue an M.Ed. degree in Professional Growth should receive additional advice from the College of Education. The requirements for all M.Ed. degrees have a certain core that must be fulfilled. A four-semester-hour committee thesis is required, as well as GR 615, Elements of Research. An administrative member from the Graduate School and Research is a mandatory thesis committee member, in addition to at least two members of the faculty from related academic disciplines. For further information, write to the Advisor, Professional Growth Degree Program, The Graduate School and Research, 210 South Tenth Street, IUP, Indiana, PA 15705.



Course Descriptions

AC Adult and Community Education

Department of Adult and Community Education
College of Education and Educational Technology

AC 620 Introduction to Adult and Community Education **3 s.h.**
A survey course which examines the fields of adult and community education philosophically and historically and in terms of current programs and processes. The course includes the study of adult and community education principles and concepts as well as available literature and resources.

AC 621 The Adult Learner **3 s.h.**
This course focuses on the adult as learner, including physiological, psychological, and sociological characteristics and their effect on learning.

AC 622 Program and Process Development in Adult and Community Education **3 s.h.**
A knowledge and skill-building course designed for present and future adult and community education practitioners. This how-to course examines concepts and practices relevant to the development of educational programs in traditional and nontraditional educational settings.

AC 623 Organization and Administration in Adult and Community Education **3 s.h.**
This course introduces the student to basic theories of leadership management and organizational structure. It includes study and application of the tasks, tools, strategies, and leadership roles of adult and community education administrators. Prerequisite: Permission.

AC 625 Facilitating Adult Learning **3 s.h.**
This course examines teaching and learning theories as they relate to adults: the teaching-learning process in a variety of educational settings; instructional methods, techniques and devices which are effective with adults; and instructional designs and evaluative methods effective in the teaching-learning process. **Prerequisite:** Permission.

AC 650 Current Topics in Adult and Community Education **3 s.h.**
Explores current issues, trends, and topics in depth in a workshop format. Topics will be selected by the faculty and announced in advance of the semester in which the course is to be offered. Topics may include issues in continuing higher education, volunteerism, adult career development, managing nonprofit organizations, group processes in adult education, and current issues in research. **Prerequisite:** Permission of the instructor.

AC 699 Independent Study in Adult and Community Education **1-3 s.h.**
Independent study of a topic pertinent to an individual's program of study. Permission of advisor and department chairperson required.

AC 735 Seminar in Adult and Community Education **3 s.h.**
This course involves an intensive study of special topics in adult and community education with a research emphasis. Research content varies according to student interest. **Prerequisite:** Permission.

AC 740 Internship in Adult and Community Education **6 s.h.**
This is an individually designed field project in which students work with a site project advisor and a university advisor. The six-credit internship is a single project designed in two phases, each earning three credits. **Prerequisite:** Permission.

AC 745 Practical Research in Adult and Community Education **3 s.h.**
Practical research in adult and community education is designed to have students conduct and report a formal research study in their field of interest. Students formulate a research problem and design a plan of inquiry that will provide an answer(s) to their stated research problem. Students must be able to interpret their research findings and communicate them both orally and in writing at a professional level. **Prerequisite:** Permission.

AC 750 Seminar: Technology and Adult Learning **3 s.h.**
This course, by providing an advanced forum in which to research, discuss, and document current and emerging topics, issues, and applications in technology and adult learning (with special emphasis on distance learning), serves to synthesize these two fields of inquiry and offers students the opportunity to conceptualize and develop models and strategies for the integrated application of theory and practice learned in earlier courses. Literature reviews, topic analyses, and case studies are used to enhance awareness of critical issues and potential application in real-life settings. **Prerequisites:** At least twelve completed credits, six each in AC and CM courses, and adviser approval.

AC 850 Thesis **3 s.h.**
Students selecting the thesis option will complete a thesis project with a committee consisting of at least three faculty members.

AD Administrative Services
Department of Technology Support and Training
Eberly College of Business and Information Technology

AD 512 Administrative Office Services **3 s.h.**
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 581 Special Topics **3 s.h.**

AD 699 Independent Study in Administrative Services **1-3 s.h.**
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and College of Business dean.

AG Accounting
Department of Accounting
Eberly College of Business and Information Technology

AG 501 Advanced Accounting **3 s.h.**
Study of business combinations and consolidations as well as accounting problems of specialized nature such as goods on consignment, installment sales, receivership accounts, agency and branch accounting. **Prerequisite:** AG 302 or equivalent (9 s.h. of Accounting).

AG 502 Foundations of Financial Accounting **3 s.h.**
A basic course for graduate students encompassing the concepts of accounting fundamentals, external reporting and the interpretation of accounting principles, and external reporting and the interpretation of accounting information for financial decision making in domestic and international corporations.

AG 512 Advanced Cost Accounting **3 s.h.**
Theory, preparation and use of budgets, analysis of cost variances, direct costing, and extensive analysis of various cost control and profit planning programs. **Prerequisite:** AG 311.

AG 531 Auditing **3 s.h**
A study of auditing theory and practical application of auditing standards and procedures to the verification of accounts and financial statements, working papers, and audit reports. **Prerequisite:** AG 302.

AG 581 Special Topics in Accounting **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending on specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and College of Business graduate coordinator.

AG 607 Management Accounting **3 s.h.**
Designed for management personnel who are not accountants but who need to understand the accounting process and the use of accounting information by management in making decisions and in performance evaluation. **Prerequisite:** AG 202. Not open for credit for students with constructive credit for AG 311.

AG 608 Seminar in Accounting Issues **3 s.h.**
Designed to offer students the opportunity to explore the conceptual framework for accounting and reporting and to study, research, and debate various controversial issues of current interest to the accounting profession as well as any other accounting area of mutual interest to them and their instructor. The theme of the seminar will be different every time it is offered. **Prerequisite:** AG 302 or instructor's permission.

AG 610 Accounting Systems **3 s.h.**
Accounting principles applied to constructing accounting systems. Special attention is given to problems of management as they relate to accounting systems by developing a system to give management the information desired for effective operation of business. **Prerequisite:** AG 301.

AG 612 Advanced Tax Accounting **3 s.h.**
Develops further knowledge of federal income tax laws as they apply to corporations, estates, and trusts. Federal estate tax and gift tax are also explored. **Prerequisite:** AG 421.

AG 613 Financial Statement Analysis **3 s.h.**
Detailed analysis and interpretation of financial statements using the various purposes and coverage of the accounting principles underlying the data to be analyzed. **Prerequisite:** AG 202.

AG 681 Special Topics in Accounting **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the College of Business graduate coordinator.

AG 699 Independent Study in Accounting **1-3 s.h.**
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and dean, College of Business.

AG 850 Thesis **4-6 s.h.**
For students writing the thesis, AG 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 s.h.) for which the student's advisor, two additional faculty members, the College of Business graduate coordinator, and/or the representative of the dean, College of Business, may constitute the committee.

AH Art History
Department of Art
College of Fine Arts

AH 507 Medieval Art **3 s.h.**
Art and architecture of Europe during Middle Ages, beginning with the study of Early Christian and Byzantine Art and concluding with art of the Romanesque and Gothic periods. **Prerequisite:** Art History majors or by special arrangement.

AH 508 Italian Renaissance Art **3 s.h.**
Art History majors, by special arrangement. Covers span of Italian art from 1400 through 1850 and Mannerist movement. Special attention paid to great masters of the period.

AH 509 Baroque and Rococo Art **3 s.h.**
General survey of art from 1575 to 1775. Will include architecture, sculpture, painting, and other arts.

AH 625 Architectural Influences in a Contemporary Society **3 s.h.**
Experimental problems in structure and aesthetics as related to architecture. Attempts are made to search out the historical roots of many contemporary styles of architecture.

AM Applied Music
Department of Music
College of Fine Arts

Applied Music (AM 601-771) **1-4 s.h.**
The following courses will be taught in form of private lessons geared to individual student and aiming at maximum progress of each student, depending on background of the student and time available. The student should for any series of lessons use the first number in programming for the first time, the second number for the second time, etc.

AM 601, 651, 701, 751	Private Piano
AM 602, 652, 702, 752	Private Organ
AM 603, 653, 703, 753	Private Harpsichord
AM 605, 655, 705, 755	Private Voice
AM 606, 656, 705, 756	Private Violin
AM 607, 657, 707, 757	Private Viola
AM 608, 658, 708, 758	Private Cello
AM 609, 659, 709, 759	Private Bass Viol
AM 610, 660, 710, 760	Private Flute
AM 612, 662, 712, 762	Private Oboe
AM 613, 663, 713, 763	Private Bassoon
AM 614, 664, 714, 764	Private Saxophone
AM 615, 665, 715, 765	Private Trumpet
AM 616, 666, 716, 766	Private French Horn
AM 617, 667, 717, 767	Private Trombone
AM 618, 668, 718, 768	Private Baritone Horn
AM 619, 669, 719, 769	Private Tuba
AM 620, 670, 720, 770	Private Percussion
AM 621, 671, 721, 771	Private Guitar

AN Anthropology
Department of Anthropology
College of Humanities and Social Sciences

AN 514 Native Americans **3 s.h.**
Survey of culture history and culture area characteristics of the Indians of North America. Detailed study of representative groups related to historical, functional, and ecological concepts.

AN 556 Field Research Methods **3 s.h.**
Examination of methods and practice of qualitative and quantitative research. Course emphasizes techniques for conducting ethnographic research, participant observation, ethical issues in social research, and the development of professionalism.

AN 581 Special Topics **3 s.h.**

AN 699 Independent Study **3 s.h.**

AR Art
Department of Art
College of Fine Arts

AR 581 Special Topics **3 s.h.**

AR 615 Art Seminar **3 s.h.**
Opportunities for students to conduct in-depth explorations of contemporary trends/issues in Studio Art and to develop proficiency in the area of art criticism. Course content and methods will include writing, verbalization, group discussion, attendance at regional exhibitions, and development of thesis/exhibition proposals. For M.A. candidates only.

AR 640 Graduate Studio in Ceramics **3-18 s.h.**
All aspects of handforming, decorating, glazing, and firing will be dealt with. This may include body and glaze formulation and reduction, oxidation, salt, wood, and raku firing, as well as thrown, coiled, or slab construction or combinations thereof. Includes historic and contemporary ceramics and philosophies of the craft. **Prerequisite:** At least one year of undergraduate ceramics.

AR 644 Graduate Studio in Fibers **3-18 s.h.**
Fundamentals of fiber construction and processes. Emphasis on experimental approaches to fiber design and construction. Designed to meet the needs of beginning as well as advanced students.

AR 647 Graduate Studio in Jewelry and Metal Work **3-18 s.h.**
Advanced study dealing with specialized problems in design and execution of metal work and jewelry. A thesis may be developed depending on research in one of the areas relating to this field: history, materials, tools, processes, or teaching techniques of the craft.

AR 650 Graduate Studio in Sculpture **3-18 s.h.**
An advanced course in which students are expected to work on challenging problems in sculpture. A student may explore one or several sculpture or modeling media.

AR 653 Graduate Studio in Woodworking **3-18 s.h.**
Specialized study and experiences in the design and execution of problems relating to wood as a crafts material. Opportunity is presented to more intensively explore materials and processes of this craft employing both hand and power tools.

AR 661 Graduate Studio in Drawing **3-18 s.h.**
Drawing as a language and continued development of skill in communication and expression in all kinds of materials and media. Drawing as an intimate work of the artist will be expressed.

AR 662 Graduate Studio in Oil Painting **3-18 s.h.**
Traditional and contemporary methods and techniques in the area of plastic painting media. Composition in relation to modern painters' problems. Opportunity is presented for exploration and specialization in depth as well as breadth.

AR 668 Graduate Studio in Printmaking **3-18 s.h.**
Modes, media, material, techniques, and processes of graphic arts and their use in expression. The student may concentrate on intensive exploration of one media in depth or explore a number of media for breadth of experience. **Prerequisite:** AR 217 or its equivalent.

Studio courses may be taken for a total of 18 semester hours in one studio. No more than six semester hours in one studio may be taken during one semester.

AR 681 Special Topics **3 s.h.**

AR 698 Internship **3 s.h.**

AR 699 Independent Study **3 s.h.**

AR 850 Thesis **3 s.h.**

BE Business Education
Department of Technology Support and Training
Eberly College of Business and Information Technology

BE 614 Instructional Computing Basics **3 s.h.**
This course introduces students to the practical use of the computer as a tool for enhancing effectiveness and efficiency in teaching/learning and training and development. Learners will explore the use of the computer in school and nonschool teaching or training and development settings, conduct critical evaluation of computer-based instructional/training materials, and develop strategies for integrating computing into the total teaching/training and development environment. Current research in the area of instructional computing and its practical implications for teaching and training and development will also be discussed.

BE 631 Interactive Multimedia **3 s.h.**
This course provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education. **Prerequisite:** BE 614 or permission of the instructor.

BE 642 Training and Development in Business Education and Office Systems **3 s.h.**
Office systems occupations are analyzed and teaching strategies are developed for training in high-technology settings. Development of unit plans, lesson plans, and classroom management strategies will be included on topics such as computer literacy, desktop publishing, and telecommunications.

BE 650 Principles and Problems of Business Education **3 s.h.**
Surveys basic principles and practices of business education. Among the topics considered are history of the high school business program, purposes, attitudes of management and labor toward education, relationship of general education to business education, trends in the field.

BE 656 Applied Research in Business Education **3 s.h.**
An examination of methods and techniques of research in office systems and business education. Students will select a research topic and conduct an actual study on an individualized basis or as part of a small group. A formal research report will be an end product of the course. **Prerequisite:** GR 615.

BE 670 Administrative Communications **3 s.h.**
An examination of the concepts and techniques for developing and improving administrative communications through high technology. Emphasis will be on the current needs and changing technology in software, hardware, and telecommunications.

BE 680 Technical Update **1-3 s.h.**
Designed to provide students with up-to-date experiences in areas of rapidly changing technology. Offerings will focus on topics of particular interest to business teachers in high-technology settings.

BE 699 Independent Study in Business Education **1-3 s.h.**
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and College of Business dean.

BE 850 Thesis **4-6 s.h.**
For students writing the thesis, BE 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 s.h.) for which the student's advisor, two additional faculty members, the College of Business graduate coordinator, and/or the representative of the dean of the College of Business may constitute the committee.

BI

Biology
Department of Biology
College of Natural Sciences and Mathematics

BI 520 Biology of Higher Invertebrates **3 s.h.**
A phylogenetic overview of the higher invertebrates, Annelida through lower Chordata. A systematic approach on functional morphology and microstructure, behavior and physiology, under an evolutionary umbrella. Laboratory sessions offer additional research opportunities. **Prerequisite:** BI 120.

BI 525 Herpetology **3 s.h.**
A comprehensive survey of the classes of Amphibia and Reptilia, including their classification, structure, origin, evolution, phylogenetic relationships, distribution, and natural history. Special emphasis is placed on the herpetofauna of Pennsylvania.

BI 550 Pymatuning: Field Studies **3 s.h.**
During the summer session, various field courses are offered through the Pymatuning Laboratory of Ecology. The offerings will vary depending on the summer. Some of the possible offerings include Experimental Design, Fish Ecology, Behavioral Ecology, Aquatic Botany, and Ecological Genetics. Information regarding specific offerings is available from the Biology Department in spring.

BI 563 Limnology **3 s.h.**
An investigation into the physical, chemical, and biological aspects of inland waters and their interrelationships. Saturday or Sunday labs may be required. **Prerequisite:** Ecology.

BI 564 Immunology **3 s.h.**
Study of anatomy and function of immune system, physical and chemical properties of antigens and antibodies, nature of antigen-antibody interactions, humoral and cell mediated immune responses, and immunopathology. **Prerequisites:** Biochemistry and Microbiology.

BI 566 Principles of Virology **3 s.h.**
Topics include structure, classification, assay, and transmission of animal, bacterial, and plant viruses; methods used in the study of viruses; viral replication, gene expression, and gene regulation; host-viral interactions and subviral pathogens.

BI 575 Mammalogy **3 s.h.**
General discussion of mammals, emphasizing systematics, distribution, and structure-function modifications related to their evolution. A paper is required.

BI 576 Parasitology **3 s.h.**
The parasitic protozoa, flatworms and roundworms. Major emphasis is on species infesting man and includes their structure, physiology, ecology, life cycle and pathogenicity. Arthropods involved in parasite transmission included. **Prerequisites:** One year Biology, Vertebrate and Invertebrate Zoology.

BI 602 Biometry **3 s.h.**
The choice and application of standard, efficient, practical, and appropriate statistical techniques for data analyses in common biological situations. Computer instruction will emphasize the practical application of statistical techniques using statistical packages on microcomputers and the IUP mainframe computer. Lecture and computer instruction will be combined in four class hours per week.

BI 603 Advanced Techniques in Biology **1-3 s.h.**
Introduction to advanced techniques and procedures used in biological research. Topics vary. **Prerequisite:** Permission.

BI 611 Biology Seminar I **1 s.h.**
Develops essential skills for the professional biologist, including public presentation of biological information and the ability to critique biological data and ideas.

BI 612 Biology Seminar II **1 s.h.**
Develops essential skills for the professional biologist, including writing of research proposals and presentation of seminars. **Prerequisite:** BI 611.

BI 622 Advanced Ornithology **3 s.h.**
A detailed study of bird populations, behavior, and movement, including the annual cycle. **Prerequisite:** Ability to identify local birds visually and by their songs.

BI 623 Animal Morphogenesis **3 s.h.**
Factors that influence and control the differentiation of organs, tissues, and cells. Emphasis placed on experimental procedures and methods. **Prerequisites:** Embryology or Comparative Anatomy, Organic Chemistry, and Genetics.

BI 624 Advanced Entomology **3 s.h.**
Insect morphology, including external and internal organization of different species of insects. Comparisons between species included. An independent research study and seminar presentation required.

BI 631 Plant Ecology **3 s.h.**
Nature and distribution of vegetation in relation to environmental factors. Field investigations of local plant communities constitute bulk of lab work. **Prerequisites:** Field Botany, Plant Taxonomy, or general knowledge of local flora.

BI 640 Animal Ecology **3 s.h.**
Effect of environmental factors on animals, animals as members of communities, their trophic relationships, their ecological distribution, population dynamics, and aspects of animal behavior. A field or lab problem is required.

BI 641 Population and Community Ecology **3 s.h.**
The ecology of animal and plant populations, including the study of life tables and demography, population growth and regulation, and the evolution of life history traits. Community ecology considers the interactions among populations such as competition, predation, and mutualism, and how such interactions control the composition of a community. **Prerequisite:** Introductory course in ecology or permission of instructor.

BI 645 Behavioral Ecology **3 s.h.**
A consideration of the behavioral activities of animals in their natural habitats. Evolutionary and ecological implications of behavior will be stressed. Topics include natural history strategies, resource partitioning, reproduction strategies, sexual selection, cooperation, conflict, and social organization.

BI 653 Animal Physiology **4 s.h.**
Digestion and molecular transport of nutrients, gaseous exchanges, excretion, muscular activity and control, and endocrine and neural elements. **Prerequisite:** Animal Biology.

BI 654 Endocrinology **4 s.h.**
Phylogeny, embryology, microanatomy, and physiology of the endocrine tissues. **Prerequisites:** course in Anatomy and Physiology.

BI 662 Molecular Genetics of Eukaryotes 3 s.h.
Study of organization and chemical structure of genes in relation to molecular function and evolution. Emphasis will be placed on the genetic systems of eukaryotes and their viruses. **Prerequisites:** Genetics, Organic Chemistry, and Biochemistry or permission of the instructor.

BI 664 Pathogenic Microbiology 3 s.h.
Study of disease caused by microorganisms with emphasis on human pathogens. Both epidemiology and aspects of host-parasite relationships. Lab stresses methods of isolation and identification of pathogens. **Prerequisite:** Microbiology.

BI 681 Special Topics 1-3 s.h.
Advanced topics in biology. **Prerequisite:** Permission of instructor.

BI 699 Independent Studies 1-3 s.h.
Individual or small group instruction, by tutorial and intensive literature survey, in a particular area not covered by a student's course work or thesis research. By arrangement with instructor and approval of graduate director. Maximum of six hours to be used toward the degree.

BI 850 Thesis 2-6 s.h.

NOTE: Summer courses offered at the Pymatuning Laboratory of Ecology may be taken for biology elective credit.

BL Business Law

Department of Finance and Legal Studies
Eberly College of Business and Information Technology

BL 581 Special Topics in Business Law 3 s.h.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the College of Business graduate coordinator.

BL 633 Case Problems in Business Law 3 s.h.
Deals with solution of case problems as applied to various topics in the field of business law. **Prerequisite:** AD 235 or equivalent.

CE Counselor Education

Department of Counseling
College of Education and Educational Technology

CE 610 Introduction to Community Counseling 3 s.h.
Provides an introduction to the work of the community counselor in a variety of roles in many different settings.

CE 615 Counseling Across the Life Span 3 s.h.
Principles and methods involved in understanding individuals and their developing self-concepts. Examines counseling methods that respond to developmental challenges.

CE 617 Basic Counseling Skills 3 s.h.
Practice in developing effective basic counseling skills, including active listening, attending, building rapport, and demonstrating empathy. Observing, interviewing, and consulting procedures will be developed.

CE 618 Diversity Issues in Counseling 3 s.h.
An overview of diversity issues in the field of counseling. Students will increase their awareness of cultural issues, identity, and personal values, acquire knowledge of diverse groups, and learn culturally appropriate counseling skills. **Prerequisites:** CE 617 and CE 610/621.

CE 621 Introduction to Guidance Services 3 s.h.
Overview of genesis and development of guidance in American education, including philosophical concepts, psychological theories, cultural and social influences, and current practices.

CE 624 Educational Appraisal 3 s.h.
Basic statistical and measurement concepts utilized in testing and test interpretations, emphasizing data concerning purposes and types of tests, test administration, scoring, validity and reliability, and principles of test selection for school settings. **Prerequisite:** Students enrolled in M.A. program are restricted from taking this course.

CE 626 Career Education 3 s.h.
Study of how schools facilitate the career development of students using a comprehensive career guidance program. Considers developmentally relevant career strategies such as curriculum, group and individual interventions, decision-making skills, and the processing and use of information. Emphasizes how students acquire self- and vocational knowledge, skills, and abilities which lead to effective career decisions. **Prerequisites:** CE 617, CE 624.

CE 627 Child Counseling Theory 3 s.h.
Theories, objectives, principles, and practices of counseling and consulting are covered. Emphasis is placed on techniques and practices related to children. **Prerequisites:** CE 617, CE 610/621.

CE 628 Management of the Guidance Services 3 s.h.
Helps the school counselor acquire necessary competencies to manage guidance services. Emphasis placed upon planning, organizing, actuating, and controlling functions of management as applied to the guidance services. **Prerequisites:** CE 621, CE 624.

CE 629 Group Procedures (Child) 3 s.h.
Emphasis is placed upon understanding and developing group techniques related to the development and growth of children. Group counseling with children is covered. **Prerequisites:** CE 617, CE 627.

CE 634 Mental Health Appraisal 3 s.h.
Provides an overview in fundamental knowledge of assessment principles, application, and instruments to assist the community counseling student in becoming psychometrically literate. Statistical concepts, standard scores, reliability, validity, and types of techniques and assessments commonly used in mental health settings will be covered. **Prerequisite:** Students enrolled in M.Ed. program are restricted from taking this course.

CE 636 Career Counseling and Development (Community) 3 s.h.
Emphasizes how individuals acquire self- and vocational knowledge, skills, and abilities, which lead to effective career decisions. Considers adult vocational development, decision-making skills, and the processing and use of information in the community setting. **Prerequisites:** CE 617, CE 634.

CE 637 Counseling Theory 3 s.h.
Theories, objectives, principles, and practices of counseling with adolescents and adults are covered. Theory-specific counseling skills are presented and practiced to prepare the student for practicum. **Prerequisites:** CE 617, CE 610/621.

CE 639 Group Counseling 3 s.h.
Emphasis will be placed upon the nature of groups, techniques involved in the development of group dynamics, formation and operation of groups, organization and structure of groups, and the influence of the group. **Prerequisites:** CE 617, CE 637.

CE 646 Interpersonal Sensitivity 3 s.h.
Participants will explore their interpersonal interaction style in groups and individually. Human potential of the students will be developed as they enter into authentic, honest, and trusting relationships within the context of a small-group experience, encouraging an examination and understanding of oneself and one's impact on others.

CE 657 Individual Counseling Practicum (Adolescent/Adult) 3 s.h.
Supervised counseling experience under practicum conditions. Emphasis will be placed on implementing relationship-building skills while developing advanced methods of facilitating the counseling process. **Prerequisites:** CE 637.

CE 659 Group Counseling Skills (Adolescent/Adult) 3 s.h.
Provides a supervised clinical experience to develop and practice group counseling facilitation skills appropriate to the various stages of a counseling group. **Prerequisite:** CE 639.

CE 667 Individual Counseling Practicum (Child) 3 s.h.
Provides a child counseling experience in applying appropriate interventions and consultation practices designed to facilitate the personal, social, and academic growth of children. **Prerequisites:** CE 627.

CE 669 Group Counseling Practicum (Child) **3 s.h.**
An experientially based course in which counselors in training learn how to manage group counseling experiences involving children (ages 5 to 12). This supervised clinical experience draws upon the knowledge, theories, and skills presented in CE 629, Group Procedures. **Prerequisite:** CE 629.

CE 681 Special Topics **3 s.h.**

CE 699 Independent Study **1-3 s.h.**
Topic pertinent to the individual's program of study. By permission of department chairperson and adviser only.

CE 720 Ethical and Legal Issues in School Counseling **3 s.h.**
Designed to examine the professional, ethical, and legal issues that impact the practice of the professional counselor working in a school setting. Considerable emphasis is placed upon the understanding and application of ethical standards and legal statutes which affect school counselors when making critical decisions about clients. **Prerequisites:** CE 621, CE 627/637. Students enrolled in M.A. program are restricted from taking this course.

CE 730 Ethical, and Legal Issues in Community Counseling **3 s.h.**
Emphasis is on professional, ethical, and legal issues that impact the practice of the professional counselor working in the community setting. Examines the function and application of ethical standards and legal statutes that affect community counselors. **Prerequisites:** CE 610, CE 627/637. Students enrolled in M.Ed. program are restricted from taking this course.

CE 755 Field Experience **3 s.h.**
Provides a supervised field placement for students in the counselor education programs. The plan and scope of the field experience will be determined by the student and supervising faculty on an individual basis. **Prerequisite:** Certification, core courses, and specialty required courses.

CE 798 Internship in Counselor Education **12 s.h.**
The internship provides an opportunity to apply didactic experiences in an actual work setting. Sites must be approved by the department.

CE 850 Thesis **3 s.h.**

CH Chemistry
Department of Chemistry
College of Natural Sciences and Mathematics

CH 500 Special Studies **1-6 s.h.**
Intensive survey of literature in a particular area as well as individual instruction on recent advances in chemical instrumentation, methods of research, and specialized subject areas. To be arranged with instructor.

CH 521 Advanced Instrumental Methods of Analysis **3 s.h.**
Modern instrumental analysis, including electrical, spectrophotometric, x-rays, gas chromatography, and other methods. (Open to M.S. and M.A. candidates by permission only.) Four-hour lecture/laboratory.

CH 531 Organic Molecular Structure Determination **3 s.h.**
Gives student experience in systematic identification of various classes of organic compounds by both chemical and physical methods. Four-hour lecture/laboratory.

CH 535 Current Topics in Organic Chemistry **3 s.h.**
With selections to meet the needs of the students, possible topics may include reaction mechanisms, molecular spectroscopy, stereochemistry, natural products, heterocyclics, polymer chemistry, and organic synthesis.

CH 540 Physical Chemistry (core course) **3 s.h.**
An introduction to spectroscopy and molecular structure. Lecture—3 hours.

CH 576 Radiochemistry **3 s.h.**
Basic aspects of nuclear structure, phenomena of radioactive isotopes, and chemical effect on such isotopes. Concurrent lab work utilizing instruments for detection and measurement of radioactive nuclides used in chemical experimentation. Four-hour lecture/laboratory.

CH 600 Seminar **1 s.h.**
A study of modern chemical research and research techniques. Scientific communication, including the role of the science laboratory in research. The student will present one oral report. Lecture—one hour.

CH 610 Inorganic Chemistry (core course) **3 s.h.**
Theoretical inorganic chemistry and, in particular, structure, periodicity, coordination chemistry, bonding, and chemistry of nonaqueous solvents. Lecture—three hours.

CH 620 Analytical Chemistry (core course) **3 s.h.**
Theoretical principles of analytical chemistry. Lecture—three hours.

CH 630 Organic Chemistry (core course) **3 s.h.**
Principles of physical chemistry will be applied to the study of organic reaction mechanisms. Lecture—three hours.

CH 633 Chemical Literature **3 s.h.**
Periodicals, encyclopedias, handbooks, abstracting journals, and other sources dealing with various divisions of chemistry will be studied. Students are required to conduct a literature search on a selected topic. Lecture—three hours.

CH 646 Biochemistry **3 s.h.**
Topics covering and emphasizing most recent developments in the areas of biochemistry, such as amino acids, carbohydrates, lipids, nucleic acids, proteins, enzymes, metabolism, and metabolic control. Lecture—three hours.

CH 681 Special Topics **3 s.h.**

CH 690 Research **1-6 s.h.**
Laboratory and literature investigation of student's thesis problem done under the direction of a faculty member. Within the first 15 hours of course work, the student must schedule at least one credit of research for which the student performs the literature review and writes a research proposal.

CH 699 Independent Study **1-6 s.h.**
Available to students who seek to deepen their knowledge in some specific aspect of chemistry. The student must discuss the nature of the independent study with a faculty member having expertise in the area prior to registration. Special attention to development of new ideas and new ways of presenting scientific principles.

CH 850 Thesis **4 s.h.**
For students writing the thesis. Should be scheduled for the semester in which the student plans to complete work. A committee thesis (four semester hours), for which the student's advisor, two additional faculty members, and the dean of the College of Natural Sciences and Mathematics constitute the committee.

CM Communications Media
Department of Communications Media
College of Education and Educational Technology

CM 503 Scriptwriting **3 s.h.**
Provides an introduction to scriptwriting for films and filmstrips. Various styles and techniques of writing will be analyzed, and each student will be expected to experiment with the techniques presented. Emphasis on writing and in-class criticism of student script.

CM 504 Foundations of Broadcasting **3 s.h.**
An examination of the historical, legal, and economic aspects of modern broadcasting. Extensive readings in fundamental theory and a study of current station and network practices, educational as well as commercial.

CM 549 Basic Audio Recording **3 s.h.**
Theory and practices of recording sound and developing an understanding of language of sound recording and the ability to make sound recordings. Exposure to recording for various media, including radio, music, motion pictures, television, multi-image, and slide and tape production. Students will gain hands-on experience through labs and projects to be completed outside class.

CM 551 Basic TV Production and Direction **3 s.h.**
Intensive lab course circuit facilities designed to develop skills in program production and direction. Theory and practice of production are examined with each student expected to produce a television program during the course.

CM 552 Electronic Field Production **3 s.h.**
For advanced graduate students with prior training and experience in television. Advanced television production techniques, set design, lighting, special effects, and advanced editing techniques. Prerequisite: CM 551.

CM 571 Beginning Photography **3 s.h.**
Emphasis on using still picture camera and the darkroom for instructional purposes, the making of black-and-white negatives, 35mm slides, copy work, developing black-and-white film, and black-and-white contact printing and enlarging. Each student must have manual focusing and manual exposure setting capability. No previous photographic experience is necessary.

CM 572 Photography II **3 s.h.**
Helps students develop their camera and printmaking skills to the extent that they can employ those processes to communicate an intended message with their photographs. The students explore the characteristics and uses of a variety of films. They learn several skills, such as copy work, basic techniques of portrait lighting, and altering film development to suit high- or low-contrast subjects. **Prerequisites:** CM 571 and permission of instructor.

CM 573 Creative Darkroom Techniques **3 s.h.**
Introduces the student to a variety of photographic manipulations. Specific assignments are chosen from such techniques as high-contrast imagery, tone line, bas-relief, posterization, texturization, paper negatives, hand coloring, multiple printing, and photomontage. **Prerequisites:** CM 571 and permission of instructor.

CM 581 Special Topics **3 s.h.**
Advanced topics, offered on an experimental basis, within the discipline of communications but not dealt with in other courses. **Prerequisite:** Permission of the instructor.

CM 600 Instructional Design and Development **3 s.h.**
Examines the systems approach for the design, development, and evaluation of instructional material (print, video, multimedia, etc.). Students will learn about the history of instructional technology and its current applications. Each student will produce a self-instructional prototype which will require the student to systematically and creatively apply the concepts and rules learned in the class.

CM 601 Media Production **3 s.h.**
Students learn how to systematically plan, produce, use, and evalute media. Each student will produce different types of messages (motivational, informational, and instructional) using a variety of media.

CM 614 Instructional Computing Basics **3 s.h.**
Introduces students to the practical use of the computer as a tool for enhancing effectiveness and efficiency in teaching/learning and training and development. Learners will explore the use of the computer in school and nonschool teaching or training and development settings, conduct critical evaluation of computer-based instructional/training materials, and develop strategies for integrating computing into the total teaching/training and development environment. Current research in the area of instructional computing and its practical implications for teaching and training and development will also be discussed.

CM 631 Interactive Multimedia **3 s.h.**
Provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education. **Prerequisite:** CM 614 or permission of the instructor.

CM 681 Special Topics **3 s.h.**
Intensive study of a specific area of communications beyond the scope of other courses. Offering depends upon instructor and student interest. **Prerequisite:** Permission of the instructor.

CM 698 Internship **2-6 s.h.**
Supervised professional work experience in communications media. 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.

CM 699 Independent Study **1-3 s.h.**
The student may elect, with approval of advisor, to do several different independent study projects. University facilities and equipment are provided, but student must supply materials and pay for processing and production costs. **Prerequisites:** Successful completion of the basic course in the medium selected; the professor's approval.

CO Computer Science
Department of Computer Science
College of Natural Sciences and Mathematics

CO 581 Special Topics in Computer Science **3 s.h.**
Seminar in advanced topics from computer science; content will vary, depending on the interests of the instructor and students (consult department for currently planned topics). May be repeated for additional credit. **Prerequisite:** Permission of instructor.

CR Criminology
Department of Criminology
College of Humanities and Social Sciences

CR 600 Criminological Theory **3 s.h.**
An examination of criminological theories with emphasis on origins and applications of relevant theoretical approaches to crime and criminally deviant behavior. Required of all master's students.

CR 601 Proseminar **3 s.h.**
Survey of current research, critical issues in the administration of justice, and criminological theory. Designed to acquaint the student with recent developments in the discipline of criminology. Required of all master's students.

CR 605 Research Methods **3 s.h.**
Methods and techniques of research in criminology. An in-depth examination of the role of research in the analysis, interpretation, and clarification of problems in criminology and the administration of justice. The development of a research proposal/thesis prospectus will be the end product of the course. Required of all master's students.

CR 610 Legal Issues in Criminology **3 s.h.**
An in-depth study of contemporary legal issues faced by criminal justice professionals. Emphasis is placed on criminal constitution problems as well as the judicial review of administrative decisions made by criminal justice organizations. Required of all master's students.

CR 630 Seminar in Administration and Management in Criminal Justice **3 s.h.**
The study of bureaucracy and complex organization with emphasis on the concepts and practices of the organization and management of agencies in the administration of justice. Required of all master's students.

CR 631 System Dynamics in the Administration of Justice **3 s.h.**
A study of dynamic systems and analytical techniques relevant for understanding new perspectives of the administration of justice. Required of all master's students.

CR 665 Criminal Justice Planning and Evaluation **3 s.h.**
The study of planning and evaluation in criminology and the administration of justice and of the literature and practices, including problems and issues and tasks confronting planners and evaluators.

CR 670 Seminar in Contemporary Corrections **3 s.h.**
An examination of current issues and problems in contemporary corrections.

CR 681 Special Topics **3 s.h.**
Special topics courses are offered at the discretion of the department in a wide area of subjects directly related to law enforcement, courts, corrections, or security.

CR 685 Seminar in Contemporary Juvenile Justice and Delinquency **3 s.h.**
An examination of current issues and problems in contemporary juvenile justice and delinquency.

CR 690 Seminar in the Contemporary Judicial System **3 s.h.**
An examination of current issues and problems in the contemporary judicial system.

CR 698 Graduate Readings in Criminology **3 s.h.**
With faculty supervision, students will read at least six major criminological texts and participate in a seminar situation for the purpose of discussing the reading materials.

CR 699 Independent Study 3 s.h.
Research of a significant issue or problem in criminology or the administration of justice. Instructor, coordinator, and chair approval required. May be taken twice for a maximum of 6 semester hours.

CR 710 Advanced Theoretical Criminology 3 s.h.
An intensive examination and critical analysis of the original works of selected theorists. Major theorists will be chosen each semester based on the interests of the professor and students.

CR 717 Advanced Qualitative Methods 3 s.h.
Explores the criminological research enterprise from the qualitative perspective. Focuses on the relationship among all components of research design, including problem formulation, theory, data collection, analysis, and presentation of findings. Students will individually design a project and carry out preliminary stages of data collection. Permission required.

CR 718 Quantitative Strategies for Analysis in Criminology 3 s.h.
Computer analysis of quantitative data to the behavioral science of criminology: the logic of data analysis, fundamentals of statistical procedures commonly used in criminological analysis. Students also will learn to critique published criminological research.

CR 720 Advanced Quantitative Methods 3 s.h.
An in-depth analysis of the logic and uses of advanced criminological research models. Emphasis will be given to the use of quantitative research techniques and perspectives as they relate to formal theory construction.

CR 730 Ethical and Philosophical Issues in Criminology 3 s.h.
An intensive examination of selected ethical and philosophical issues currently facing the field of criminology. Issues for analysis will be drawn from (but not limited to) such categories as the function of law; integrating theory and practice; ethical issues surrounding research strategies; punishment forms; social control strategies; and crime and justice in the future.

CR 740 Advanced Criminal Justice Policy 3 s.h.
A study of the impact of government crime policies on individuals and groups. An examination of criminal justice policy formulation and analyses of specific policies relevant to crime and the administration of justice.

CR 745 Comparative Justice Systems 3 s.h.
An examination of criminological field research in diverse cultural settings around the world. Special focus given to problem formulation, theory construction, and general research design in comparative justice systems.

CR 748 Criminal Violence: Theory, Research, and Issues 3 s.h.
An overview of general theories of violence and their applications to criminal violence. A variety of research and policy/programmatic issues will be explored, with attention given to issues relating to predicting dangerousness.

CR 749 Victimology: Theory, Research, and Policy Issues 3 s.h.
Examines theoretical perspectives and research methods as they impact on the research questions and findings in the field of victimology. Class, race, age, and gender will be applied to analyze issues regarding the role of the victim, kinds of victimization, fear of crime, victimization of offenders and victims by the criminal justice system, and victim's compensation and human rights.

CR 750 Doctoral Colloquium in Criminology 3 s.h.
Provides an academic setting for graduate students to present research and theoretical papers for group discussion. Special topics in criminology will be selected each semester.

CR 781 Special Topics 3 s.h.

CR 801 Advanced Applied Research I 3 s.h.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.

CR 802 Advanced Applied Research II 3 s.h.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.

CR 803 Advanced Applied Research III 3 s.h.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.

CR 804 Advanced Applied Teaching Techniques 3 s.h.
A review of prominent models of effective teaching and the applications of selected models of teaching theory to specific criminological courses.

CR 850 Thesis 3-6 s.h.

CR 950 Dissertation 1-12 s.h.

CS Consumer Services
Department of Human Development and Environmental Studies
College of Health and Human Services

CS 533 Consumer Services Study Tour 1-6 s.h.
Offered to broaden the scope of experience and understanding in clothing, textiles, and interior design. Historic costumes, textiles, and decorative arts are viewed. Fashion houses, designer salons, cottage industry centers, retail stores, and museums are visited.

CS 556 Historic Costume 3 s.h.
Chronological study of historic costume from ancient times to the present day, emphasizing style details as well as social, economic, political, religious, and aesthetic influences on design of clothing. Three lecture hours.

CS 562 Historic Interiors 3 s.h.
Chronological study from ancient times to the mid-nineteenth 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. Three lecture hours.

CS 563 Modern Interiors 3 s.h.
Chronological study from mid-nineteenth century to the present of the dominant influences and characteristics of twentieth-century 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. Three lecture hours.

CS 564 Interior Planning and Drawing 3 s.h.
Lifespace analysis and design as related to residential applications. Presentation, appropriate media, equipment, and techniques will be stressed. Freehand and mechanical methods will be employed to depict floor plans, elevations, and construction details. A research project related to professional interests is required. One-hour lecture, three-hour lab per week.

CS 565 Lighting 3 s.h.
Lighting fundamentals applicable to the environmental design of residential and commercial spaces. Includes calculation methods, terminology, theory of color visibility, light source alternatives, fixture function and selection, lighting trends, and related professional organizations.

CU Curriculum and Instruction
Department of Professional Studies in Education
College of Education and Educational Technology

CU 705 Curriculum Evaluation 3 s.h.
Provides students with a framework for the systematic analysis of curriculum from the context of social, historical, and philosophical foundations and theory and research in the field. Emphasis will be on curricular evaluation in the context of theoretical foundations of curriculum. **Prerequisite:** Permission.

CU 710 Advanced Topics in Human Development and Learning 3 s.h.
Students will analyze, evaluate, and synthesize theories of human development and learning. Emphasis will be on learning and development throughout the life span. **Prerequisite:** Permission.

CU 715 Writing for Professional Publication 3 s.h.
Designed to enhance the scholarly and publishable writing skills of doctoral students in education. Students will produce and submit a proposal for a presentation at a professional conference. Students will also develop a full manuscript to be submitted to a scholarly journal and a book prospectus. Skills in responding to editorial feedback, peer review, and public presentation of scholarly work will be developed. **Prerequisites:** CU 705 and CU 710.

CU 720 Doctoral Seminar in Research Methods **3 s.h.**
Provides students with the opportunity to acquire, refine and apply the knowledge and skills to evaluate and design educationally relevant research. Emphasis in the course will be on quantitative and qualitative research approaches within educational settings. **Prerequisites:** CU 705 and CU 710.

CU 725 Critical Analysis of Issues in Education **3 s.h.**
Examines current issues and innovations which are influencing reform in basic and post-secondary education. Relationships between research, policy making, and implementation will be emphasized. **Prerequisites:** CU 705 and CU 710.

CU 730 Analysis of Effective Instruction **3 s.h.**
Explores reflective practice as it relates to the design, implementation, and evaluation of instruction at all educational levels, with particular emphasis on preparation for teaching and supervising in teacher education. Topics include contemporary models of supervision and research on teaching and learning. **Prerequisite:** CU 720.

CU 735 Education for Cultural Pluralism **3 s.h.**
Combines theory and practice related to culture and perceived social and philosophical ideology of pluralism as significant forces in education. Critical analysis of research, theory and practice, and curriculum design in multicultural environments. Focus is on the exploration of a variety of perspectives related to race, gender, culture, disability, and socioeconomic status. **Prerequisite:** CU 725.

CU 740 Technology in the Curriculum **3 s.h.**
Focuses on the dynamics of technology and how it permeates all educational processes. The course is designed for those working in curriculum development at the district level or teaching in higher education. Through critical inquiry and reflection of relevant research, students will explore the theoretical and the practical issues of technology in the curriculum as they apply to education into the twenty-first century. **Prerequisite:** CU 720.

CU 745 Literacy: Theory, Research, and Practice **3 s.h.**
Examines critical issues and cognitive processes in language learning. Topics will include changing definitions for literacy, cultural aspects of literacy, methods of fostering literacy development, and alternative assessment practices. Research and theory on strategies used to support a developmental view of literacy will be critically evaluated. **Prerequisites:** CU 720.

CU 750 Issues and Processes in Curricular Change **3 s.h.**
Designed to provide students opportunities to analyze and evaluate critically curricular development processes and to examine those elements as they affect school curricula. **Prerequisite:** CU 720.

CU 755 Doctoral Seminar in Curriculum and Instruction **3 s.h.**
Students will engage in collegial discourse about scholarly works that they have produced and refine those works based on responses from instructors and peers. Reviewed material will become part of the professional portfolio. **Prerequisite:** CU 725.

CU 781 Special Topics **1-3 s.h.**

CU 798 Supervised Doctoral Internship **3 s.h.**
Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

CU 950 Dissertation **1-12 s.h.**
Students preparing a doctoral dissertation for credit must register for this course. Number of credits assigned and the extent of time for which research activity is scheduled depend on nature and scope of student's research problem and his/her general doctoral program.

EA Education Administration
Department of Professional Studies in Education
College of Education and Educational Technology

EA 656 School Administration **3 s.h.**
Designed as a basic course in school administration, this course is intended to serve as an introduction to the principles and practices of school administration for students who aspire to a supervisory or administrative position in public schools. Human aspects of educational administration are emphasized.

EA 660 School Finance **3 s.h.**
Budgeting procedures for large and small school districts are the focus of this course. School budgeting, accounting, bonding, and various monetary applications are presented as well as the various procedures for acquiring funds. **Prerequisite:** For approved Administration and Leadership Studies candidates or permission of the instructor.

EC Economics
Department of Economics
College of Humanities and Social Sciences

EC 501 Foundations of Modern Economics **3 s.h.**
Survey of micro and macroeconomics designed for the student who is not already well grounded in the field.

EC 534 Managerial Economics **3 s.h.**
Applications of economic theory to organizational decision-making. Managerial practice is analyzed using techniques of maximization, minimization, and optimization. Organizational objectives are evaluated using techniques of statistical estimation of revenues, costs, and outputs. **Prerequisite:** EC 121, EC 122, MA 121 or the equivalent, or permission of instructor.

EC 545 International Trade **3 s.h.**
Study of the microeconomic segment of international specialization and exchange, including theories of international trade and their application to commercial policies; historical survey and examination of current problems of international trade; and the institutional setting of international trade. **Prerequisites:** EC 121 and EC 122 or permission of the instructor.

EC 546 International Payments **3 s.h.**
Study of the macroeconomic segment of international specialization and exchange, including analysis of balance of payments, exchange rates, and the mechanism of international economic and monetary adjustments; international macroeconomic policy; historical survey and examination of current international financial problems; and the institutional setting of international payments. **Prerequisites:** EC 121 and EC 122 or permission of the instructor.

EC 634 Economics of Corporate Decisions **3 s.h.**
Applies economic theory to corporate decision making. Covers mathematical solutions to various profit-maximization and cost-minimization problems and examines statistical estimation of demand and cost functions. **Prerequisite:** EC 121, EC 122, MA 121 or equivalent, or permission of instructor.

EC 699 Independent Study **1-6 s.h.**
Directed readings, written assignments, and research on a specific topic determined by the student and the instructor. **Prerequisite:** EC 501, credits of "C" or better in six semester hours of Principles of Economics, or permission of instructor.

ED Education
Department of Professional Studies in Education
College of Education and Educational Technology

ED 595 International Study Tour in Education **3 s.h.**
Provides an analysis of educational programs and methodology in selected countries. Introduces students to series of diverse educational experiences. Special attention to teaching techniques, innovative curriculum, and school organizational patterns. Teaching takes place on site in selected countries.

ED 600 Basic Foundations of Reading Education **3 s.h.**
Emphases on nature of reading process, nature of learner, advancement of pupil's reading skills, how pupils learn to read, and what teachers can do when pupils fail to learn to read.

ED 631 Curriculum Development **3 s.h.**
Students learn curriculum development by differentiating among educational goals, objectives, and learning activities. Sources of curriculum goals and objectives, such as needs assessment, philosophical models, and psychological models are studied. The design and selection of learning activities, as well as designs for evaluating the effectiveness of curriculum, are considered.

ED 650 School and Community 3 s.h.
Development and maintenance of a purposeful program of communication between the school and the community through study of selection, organization, and functions of citizen advisory committees and cooperative use of various community services.

ED 651 Recent Issues and Innovations in Education 3 s.h.
Newer trends in classroom procedure, equipment, and materials, as well as problems involved in improvement of instruction. Whenever possible, sessions are held to demonstrate and use recently developed materials. Individual research and field trips involve many of the new programs in elementary education.

ED 652 School Evaluation 3 s.h.
Current models for both formative and summative evaluations are presented with emphasis on their application to school programs and other educational projects. Prior knowledge of curriculum development and/or project proposals is helpful but not required.

ED 658 School Law and Negotiations 3 s.h.
An understanding of legal principles as they pertain to functions of personnel in public school systems and to persons engaged in education. Study of statutory enactments, review of court actions through case studies, and analysis of collective negotiation laws and cases.

EE Early Childhood Education
Department of Professional Studies in Education
College of Education and Educational Technology

EE 660 Child Study and Assessment 3 s.h.
Designed to introduce students to issues and strategies affecting the evaluation of the three-to-eight-year-old child's physical, social, emotional, cognitive, and aesthetic development. Students will conduct a case study of a young child that includes naturalistic observation, checklists, rating scales, tests, and portfolio assessment of children's work.

EE 661 History and Philosophy of Early Childhood Education 3 s.h.
Introduces students to the historical and philosophical foundations of the field of early childhood education. Major historical events, social trends, and philosophical perspectives from around the globe that have shaped the education of the very young will be addressed. Students will examine contemporary circumstances in early childhood education in terms of the time-honored traditions and important insights from leaders in the profession.

EE 664 Early Childhood Curriculum 3 s.h.
Examines the developmental continuity of educational programs for the young child, ages three through eight. Materials, strategies, concepts, and learning experiences that are suited to each child's developmental level will be selected, planned, applied, and evaluated by students.

EE 665 Issues and Trends In Early Childhood Education 3 s.h.
Designed to provide early childhood educators with a child advocacy perspective on contemporary social forces, professional issues, and public policy trends affecting young children. Students will develop skills in identifying key issues using problem-solving strategies, communicating ideas, and functioning as change agents within educational institutions. Interpersonal skills and collaborative relationships with colleagues, administrators, politicians, parents, and community agencies will be emphasized.

EE 762 Early Childhood Field Study 3 s.h.
Emphasis on the role of early childhood theory and research on classroom practice. Students will observe, participate, and collect field notes in an early childhood setting. Findings will be synthesized in a written report and presented to the class. **Prerequisites:** EE 660, EE 661, and EE 664.

EL Elementary Education
Department of Professional Studies in Education
College of Education and Educational Technology

EL 641 Recent Trends in Social Studies 3 s.h.
Specific problems with curriculum, teaching, and learning experiences and evaluation are stressed. Each student will research a special problem or area of interest.

EL 642 Mathematics in Elementary School 3 s.h.
Experiences with manipulative materials, games and puzzles, activity centers, and lab approach to mathematics. Inexpensive mathematics lab equipment will be constructed. Sources of literature and materials are presented and used. Opportunities are given to write activity and problem cards and to plan mathematics activity centers. Psychological foundations and mathematics structure are used as reference for suggested activities and curriculum studies.

EL 643 Resource Materials in Elementary Science 3 s.h.
An introduction to underlying philosophy and use of materials of several of the current national curriculum programs in elementary science. Emphasis is placed on the following programs: (1) Science: A Process Approach (SAPA), (2) Elementary Science Study (ESS), (3) Science Curriculum Improvement Study (SCIS), and (4) Conceptually Oriented Program in Elementary Science (COPES), including microteaching techniques and development and preparation of individualized self-instruction modules. Students are required to work with various program materials.

EL 647 Resource Materials in Children's Literature 3 s.h.
Evaluation and selection of literature as a classroom resource for teaching and learning, including illustrations, folklore, poetry, modern and traditional fiction, and nonfiction.

EL 681 Special Topics in Education 3 s.h.
Designed for the students who wish to do independent research in special areas.

EL 698 Supervised Internship 6 s.h.
A carefully planned, field-based, internal work experience proposed by the advanced graduate student to extend professional competence, subject to approval by advisory committee. Registration by permission only.

EL 699 Independent Study in Elementary Education 1-3 s.h.
Students select one or more topics which are of critical importance in elementary education and meet staff members for independent reading, study, analysis, and evaluation. Registration only by permission of Graduate Committee.

EL 781 Special Topics

EL 798 Supervised Doctoral Internship 3 s.h.
Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

EL 850 Thesis 3 s.h.
For the student writing the thesis. Should be scheduled for the semester in which the student plans to complete his/her work. All thesis writing involves a committee composed of the student's adviser and two additional faculty members.

EL 950 Dissertation 1-12 s.h.
Students preparing a doctoral dissertation for credit must register for this course. Number of credits assigned and the extent of time for which research activity is scheduled depend on nature and scope of student's research problem and his/her general doctoral program.

Note: Credits for both thesis and dissertation, if not completed during the semester scheduled, are recorded as a grade of "R," research in progress. They remain so until the project is approved. They do not automatically revert to the grade "F" in a specific length of time. Also, thesis and dissertation credits can be programmed above the regular load.

EM Elementary and Middle School Mathematics
Department of Mathematics
College of Natural Sciences and Mathematics

EM 517 Introduction to Probability and Statistics 3 s.h.
Introduces students to elementary concepts of probability which will enable them to analyze data, make predictions, and determine what concepts may be used with children. **Prerequisite:** MA 152 or equivalent.

EM 520 Pre-Calculus Mathematics I 3 s.h.
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. **Prerequisite:** MA 152 or equivalent.

EM 556 Principles of Geometry I 3 s.h.
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. **Prerequisite:** MA 152 or equivalent.

EM 557 Introduction to Number Theory 3 s.h.
Introduction to topics in elementary number theory, including basic operations and properties of integers; divisibility properties of integers; modular arithmetic and congruences; diophantine equations; interesting relationships among numbers; applications of number theory in elementary school mathematics. **Prerequisite:** MA 152 or equivalent.

EM 558 Introduction to Logic and Logical Games 3 s.h.
Introduction to some basic ideas, terminology, and notation of logic. Topics considered: symbolic logic, with special emphasis on algebra of propositions; applications of Boolean algebra, such as algebra of sets and switching circuits; and introduction to quantification theory and its value in determining validity of mathematical arguments, inference schemes, and logical puzzles and a consideration of other topics in logic suitable for a K-8 mathematics curriculum. **Prerequisite:** MA 152 or equivalent.

EM 559 Computer-Related Topics in the Elementary and Middle School 3 s.h.
This course is intended to provide teachers with the concepts and techniques necessary to teach computer-related topics to children in the elementary and middle schools. **Prerequisite:** MA 152 or equivalent.

EM 571 Basic Concepts of Algebra 3 s.h.
Concepts of basic algebraic structure 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, systems of equations, and inequalities. Consideration given to development of these concepts in the mathematics curriculum. **Prerequisite:** MA 152 or equivalent.

EM 581 Special Topics 3 s.h.
Special Topics which go beyond the scope of regular offered courses. Offered on basis of student interest and available staff. The student may take more than one Special Topics offering with the written approval of the advisor. **Prerequisite:** MA 152 or equivalent.

EM 650 Curriculum and Instruction in Elementary School Mathematics 3 s.h.
The design of this course is to familiarize the elementary/middle school teacher with the philosophical and psychological issues that guide the development of mathematics curricula. Topics include a history of the development of mathematics curriculum; innovative curricula that have had impact on teaching and learning; ways of implementing a contemporary program; and criteria for textbook selection. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

EM 652 Diagnosis and Remedial Teaching of Mathematics 3 s.h.
Examines why some children have difficulty in learning mathematical concepts and presents tools and techniques for diagnosing and remediating common difficulties in elementary and middle school mathematics. Course valuable for those teaching in elementary, middle school, or remedial programs. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

EM 653 Mathematics for the Gifted Student 3 s.h.
Examines different approaches for mathematically gifted students. As a result, the students will become familiar with resources and elementary programs designed for use in either regular classrooms or special classes for the gifted. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

EM 654 Teaching Problem Solving in the Elementary and Middle School 3 s.h.
Intended to teach teachers how to become better problem solvers; teaches problem-solving techniques appropriate for grades K-8. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

EM 655 Mathematics for Early Childhood 3 s.h.
Studies child-centered, activity-oriented mathematics programs for early childhood education. Focuses on implementing research to help children develop understanding and insight into basic concepts of mathematics through the use of manipulative materials. Topics include prenumber activities, number activities, numeration, operations on whole numbers, estimation, rational numbers, geometry, measurement, probability, statistics, and problem solving. **Prerequisite:** MA 152 or equivalent.

EM 681 Special Topics 3 s.h.
Special topics which go beyond the scope of regular offered courses. Offered on basis of student interest and available staff. The student may take more than one Special Topics offering with the written approval of the advisor. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

EM 698 Supervised Internship 3 s.h.
A professional work experience in a cooperating school district under the supervision of designated public school personnel, subject to review and evaluations by a university faculty member. Registration by permission only.

EM 699 Elementary Math—Independent Study 1-6 s.h.
Under the guidance of a faculty member, a student may study some area of mathematics or mathematics education not covered in the regular courses.

EM 850 Thesis 3 s.h.

EN English
Department of English
College of Humanities and Social Sciences

EN 518 Literature for Adolescents 3 s.h.
Offers prospective secondary English teachers a survey of the literature adolescents choose to read, enjoy, and find relevant to their lives. Includes literature that offers psychological and sociological perspectives on adolescents.

EN 581 Special Topics in Language and Literature 3 s.h.
Allows students to pursue subjects such as textual criticism, prosody, and computers and literature not covered in existing courses.

EN 592 History of the English Language 3 s.h.
Development of phonology, syntax, and lexicon as well as rhetorical theories from Old English through Modern English.

EN 630 Research on the Teaching of Literacy and Literature 3 s.h.
Examines theory and research in literacy, reading and responding to literature and other forms of writing, and the teaching of young adult and other relevant works of literature. Includes application of theory and research to classroom practices.

EN 641 Topics in ESL Pedagogy 3 s.h.
Explores a single topic in depth. Topics, announced in advance, include such areas as ESL Testing, Teaching Listening Comprehension for ESL Students, Teaching English for Specific Purposes, and Teaching Writing for ESL Students.

EN 674 Bibliographical Methods in English 3 s.h.
Practical training in special methods and materials of research in English.

EN 676 Critical Approaches to Literature 3 s.h.
Focuses on theoretical and applied approaches to literary criticism. Introduces such approaches as they have been historically developed and are currently practiced and considers how familiarity with a variety of critical methods enhances the appreciation and teaching of literature.

EN 681 Special Topics 3 s.h.
Courses relating to specialized interests in literature, rhetoric, or linguistics which fulfill special needs or interests. May become permanent course offerings.

EN 689 Orientation and Field Experience in the Community College 3 s.h.
Examines the community college from historical and philosophical perspectives. Includes observations of classes and interviews with staff at community colleges. Specifically for students preparing for careers in the community college. **Prerequisite:** Permission of director of Graduate Studies in Rhetoric and Linguistics.

EN 690 Writing as a Way of Learning 3 s.h.
The workshop examines the theoretical relationship between thought and writing, with specific attention to ways this relationship underlies learning in all disciplines. The course, which functions as part of the Southcentral Pennsylvania Writing Project, involves reading, writing, and demonstration of pedagogical methods.

EN 692 American English Grammar 3 s.h.
The study of phonology, morphology, syntax, and semantics of present-day American English, using various approaches to the analysis of grammar and usage.

EN 693 Seminar in Teaching English in the Secondary School **3 s.h.**
Explores recent developments in teaching of language, compositions, and literature.

EN 694 Observation in Teaching English **3 s.h.**
Surveys instruments to observe classroom teaching behavior and provides practice in the use of observation instruments. Surveys research on classroom teaching and design. Emphasizes awareness of teaching behaviors and their consequences in English classrooms for native and non-native speakers of English.

EN 696 Internship in ESL/EFL **3 s.h.**
Consists of one semester of supervised teaching, tutorial activities, and materials preparation for non-native or limited English-speaking students. The purpose of the practicum is to demonstrate the candidate's preparation for teaching English as a second or foreign language. **Prerequisite:** Permission of the director of Graduate Studies in Rhetoric and Linguistics.

EN 698 Internship **3 s.h.**
Practical experience in the student's area of interest, working under professional supervision on the job. Special permission only, dependent upon needs of student's program as well as personal and academic qualifications.

EN 699 Independent Study **1-3 s.h.**
Study in depth of topics not available through regular course work. Student works with supervising professor on carefully planned, student-initiated project. Prior approval necessary.

EN 710 Research Methodology in Rhetoric and Linguistics **3 s.h.**
Interdisciplinary dimensions of the transmission of literacy and its position as a domain for scientific inquiry, including bibliographical resources for the study of rhetoric and linguistics.

EN 715 Qualitative Research Methods in Rhetoric and Linguistics **3 s.h.**
Involves both reading about and training in qualitative research methods such as participant observation, interviewing, coding, and analysis. Also covers dissemination of research findings. **Prerequisites:** EN 710 and EN 730 or EN 740.

EN 720 Linguistics and the English Teacher **3 s.h.**
Introduces the principles and uses of linguistics for the teaching of English.

EN 721 Psycholinguistics **3 s.h.**
Studies the psychological bases and processes of language acquisition and use, with emphasis on the relevance of current research for language learning and teaching. **Prerequisites:** EN 710 and EN 720.

EN 722 Sociolinguistics **3 s.h.**
Studies language in its social context, including such topics as social and regional variations, language change, and language planning and the implications of language variety for the transmission of literacy. **Prerequisites:** EN 710 and EN 720.

EN 730 Teaching Writing **3 s.h.**
Studies characteristics of the writing process and of the basic writer, methods for the evaluation of writing, and approaches to the teaching of writing.

EN 731 Rhetorical Traditions **3 s.h.**
Surveys the rhetorical tradition from classical Greece to the present day, with emphasis on continuing philosophical and professional issues.

EN 732 Advanced Seminar in Composition Theory **3 s.h.**
Explores a single topic in depth. Topics, announced in advance, include such areas as approaches to the teaching of style, writing across the curriculum, the evaluation of composition instruction, the development of the writing process in children, computers in composition, writing in the professions, and discourse analysis. May be taken more than once. **Prerequisites:** EN 730 and EN 731.

EN 736 Reading Theory and the College English Teacher **3 s.h.**
Examines the psycholinguistic and ethnographic research on the fluent reading process of native and non-native college readers, relevant to the teaching of reading and writing for academic and literary purposes.

EN 740 TESL/TEFL Methodology **3 s.h.**
Surveys current theory and practice in teaching English to non-native speakers. Includes traditional and innovative approaches, methods, and techniques for teaching all the language skills at various educational levels.

EN 741 ESL Materials and Media **3 s.h.**
Treats current principles of syllabus design, instructional materials, and systems for observing and evaluating the ESL-EFL classroom. Emphasis is placed on preparing or adapting language lessons as well as producing materials in audio, visual, and computer-assisted media for particular language learners and situations and demonstrating their effectiveness. **Prerequisite:** EN 740.

EN 742 Cross-Cultural Communication **3 s.h.**
Investigates cultural behaviors, assumptions, values, and conflicts surrounding communication across cultures in the context of teaching English as a second or foreign language at all levels.

EN 743 Second Language Acquisition **3 s.h.**
Introduces current research in second language acquisition, especially of English. Focuses on prominent research trends in the study of the language learner, the process of acquisition, and the interaction of learner, language, and context. **Prerequisites:** EN 720 and EN 740.

EN 751 The History and Theory of Criticism **3 s.h.**
Studies the major cities of the Western tradition from classical times through twentieth-century structuralism. Examines the texts and issues central to criticism in relation to the contemporary concerns and practices of the literature teacher and scholar.

EN 752 Literary Theory for the Teacher and Scholarly Writer **3 s.h.**
Focuses on contemporary literary theory and its applications to the professional concerns of English teachers and scholars. Examines theoretical and critical approaches as they are currently practiced and applied, both in the classroom and in writing for publication and professional presentation.

EN 760 Teaching College Literature **3 s.h.**
Examines current research on teaching college literature and involves ongoing observation and practice of teaching strategies. Special attention is given to the impact of critical theory and such issues as canon, race, class, and gender in specific classroom settings.

EN 761 Topics in American Literature Before 1870 **3 s.h.**
Studies major figures, movements, or topics in American literature from the Colonial Period through 1870. The content of the course will be determined by the individual instructor and announced in advance.

EN 762 Topics in American Literature Since 1870 **3 s.h.**
Studies major topics, authors, and movements in American literature from 1870 to the present. Specific course content is chosen by the instructor and announced in advance.

EN 763 Topics in British Literature Before 1660 **3 s.h.**
Studies major figures, movements, or topics within the period. The specific content of the course is determined by the instructor and announced in advance.

EN 764 Topics in British Literature Since 1660 **3 s.h.**
Studies major figures, movements, and topics in British literature within the period 1660 to the present. Content of the course will be determined by the instructor and announced in advance.

EN 765 Topics in Literature as Genre **3 s.h.**
Examines one literary genre (such as novel, drama, or film), its development, and its current practice and theories. The course also surveys the major recent critical approaches to the genre.

EN 766 Topics in Comparative Literature **3 s.h.**
Introduces the theory and methods of comparative literary analysis. Topics include the relationships between literatures of different countries, between literary genres, and between literature and other related fields. The specific course content is chosen by the instructor and announced in advance.

EN 771 Topics in Postmodern Literature **3 s.h.**
Investigates the postmodern reaction to the modern literary tradition and the experimentation it engendered. Focuses on how postmodern critics and writers have responded to modernist manifestations of character, narrative, and theme and explores the critical, pedagogical, and philosophical implications and assumptions of postmodern literature, assessing its role in contemporary culture and thought.

EN 772 Topics in Women's Literature **3 s.h.**
Reexamines nineteenth-century works by women in light of feminist perspectives. Studies twentieth-century works within and outside feminine and feminist traditions. Also considers works by black, Chicano, Native American, and Asian-American women.

EN 773 Topics in American or British Minority Literature **3 s.h.**
Examines the literature of one or more American or British minorities (for example, Native Americans, immigrants, blacks, Chicanos). The focus and subject matter of the course will be chosen by the faculty member and announced in advance.

EN 781 Special Topics **3s.h.**
Courses relating to specialized interests in TESOL, literature, rhetoric, criticism, or linguistics which fulfill special needs or interests. May become permanent course offerings.

EN 783 Seminar: Literary Theory Applied to Major American Author or Theme **3 s.h.**
Advanced, independent work in a seminar format. Emphasizes the production of a research paper of publishable quality. Specific content for the course—a major author or specific theme in American Literature—will be chosen by the instructor.

EN 784 Seminar: Literary Theory Applied to British Author or Theme **3 s.h.**
Draws on knowledge and critical skills from core courses and traditional and special literature courses for advanced, independent work. Focus is on a single major author or well-defined theme in British literature chosen by the instructor. Each student conducts practice teaching and produces a research essay suitable for submission for publication or presentation at a conference.

EN 785 Seminar: Comparative Literary Theory Applied to Traditional and Special Literature **3 s.h.**
Explores and applies literary theory, criticism, and the theories and methods of comparative literature to traditional and special literatures. Students may expect to investigate, from various critical perspectives, conflicting social and literary values. The specific course content is chosen by the instructor and announced in advance.

EN 797 Independent Seminar **3 s.h.**
Selected readings and/or research in a specialized area of composition, criticism, and/or critical theory, literature, TESOL, linguistics, creative writing, cultural studies, literary translation, or literacy not normally covered by the curriculum in either track of the Ph.D. in English. In consultation with a designated faculty member in the semester prior to registration, a student submits a complete syllabus for study and assessment in one of the areas listed above. The syllabus must be approved first by the faculty member and then by the director of the appropriate graduate program. This course shall be delivered to individuals or small groups, either in residence or electronically, as determined by the instructor/program. May be repeated once with new content. **Prerequisite:** Permission of relevant program director(s) and instructor.

EN 799 Independent Study **1-3 s.h.**
An in-depth investigation of topic or area related to the student's doctoral program but not available through regular course work. Independent study is initiated by the student and supervised by a faculty member in the area of study. Prior approval by the director of the student's doctoral program is required.

EN 850 Thesis **1-6 s.h.**

EN 950 Dissertation **1-12 s.h.**

Note: Special Topics in Language and Literature and Major Writers, as well as seminars, may be scheduled more than once, because subject matter will change with each offering of the course. More complete course descriptions are available from the department.

EP Educational Psychology
Department of Educational and School Psychology
College of Education and Educational Technology

EP 573 Psychology of Adolescent Education **3 s.h.**
Concerned with study of significant characteristics of adolescence and with understanding the role of cultural influences on formation of behavior.

EP 576 Behavior Problems **3 s.h.**
Explores behavior problems encountered in classroom situations and gives cause, characteristics, and some preventative and remedial techniques, including those appropriate for managing students with learning and behavioral exceptionalities.

EP 578 Learning **3 s.h.**
Explores learning theories and educational application in working with learning problems in the classroom.

EP 604 Advanced Educational Psychology **3 s.h.**
An upward extension of educational psychology with a systematic review of current research and learning theory with emphasis on classroom applications including studies of the organization, administration, and operation of schools.

EP 616 Applied Educational Research Methods **3 s.h.**
Develops skills needed to engage in applied educational research using standard experimental research and evaluation designs, typical measurement approaches, and parametric statistical procedures. A practical problem presentation mode enhances an integrated holistic approach to design, sampling, measurement, statistics, hypothesis testing, and interpretation of results. A microcomputer statistical package is used to assist in the analysis of data.

EP 618 Interpretation of Educational and Psychological Tests **3 s.h.**
Designed to provide the individual with information necessary to understand, evaluate, and interpret results of educational and psychological tests accurately and meaningfully.

EP 681 Special Topics in Educational Psychology **3 s.h.**
Designed for those students who wish to do independent research in special areas. **Prerequisite:** Departmental chairperson permission.

EP 711 Introduction to School Psychology **3 s.h.**
The professional responsibilities of the school psychologist are explored in relation to ethical and legal aspects, state and federal litigation and legislation, dynamics and organization of regular and special education, issues in multicultural and exceptional child education, and provision of assessment, placement, and intervention services in the public schools. **Prerequisite:** Permission of the instructor.

EP 712 Individual Evaluation I **3 s.h.**
Individual testing and professional competency in Stanford-Binet Scale, Wechsler Scales for children, and related tests of intelligence. **Prerequisite:** Permission of the instructor.

EP 713 Individual Evaluation II **3 s.h.**
Individual testing and professional competency in Stanford-Binet Scale, Wechsler Scales, and other pertinent individual diagnostic tests. **Prerequisite:** EP 712 or permission of the instructor.

EP 715 Doctoral Seminar in Applied Educational Research **3 s.h.**
Develops skills needed to engage in applied educational research using clinical and practical research/evaluation designs, measurement approaches, and nonparametric statistical procedures. A practical problem presentation mode enhances a consolidation of design, sampling, measurement, nonparametric statistics, hypothesis testing, and interpretation of results. Microcomputer statistical package use assists in the analysis of data. **Prerequisite:** EP 616.

EP 716 Doctoral Seminar in Advanced Educational Research **3 s.h.**
Provides an overview of complex educational research and evaluation designs, measurement approaches, statistical procedures, hypothesis testing, and interpretation of results. Topics include the philosophy and ethics of research, mixed hierarchical design, profile analysis, factorial validity estimation, factor analysis, multivariate analysis of variance, discriminant function analysis, path analysis, meta-analysis, power, robustness, and randomization tests. Statistical packages will be used to assist data manipulation and analysis. **Prerequisite:** EP 715.

EP 742 Neuropsychology of Children's Learning Disorders **3 s.h.**
A neuropsychological approach to the identification of children with learning disorders will be discussed. Such factors as etiology, epidemiology, subtyping, diagnoses, and remediation will be considered. Students will learn the theoretical framework necessary to understand the factors underlying learning disorders in children. **Prerequisite:** EP 712 or permission.

EP 749 Practicum I **3 s.h.**
Designed to provide school psychology students with an opportunity to complete a series of structured observations and interviews in school and community settings pertinent to their understanding of the organization of these settings and the functioning of the variety of professionals working in these settings. These experiences acquaint students with diverse types of children and refine their understanding of critical issues confronting education. **Prerequisite:** For approved school psychology candidates or permission of instructor.

EP 750 Practicum II **3 s.h.**
Provides opportunities for students to practice, under close supervision, the application of knowledge and specific clinical skills in the resolution of individual learning and behavior problems of children and youth. **Prerequisite:** For approved school psychology candidates or permission of instructor.

EP 751 Internship **6 s.h.**
A 1,200-hour supervised field experience designed to afford the student the opportunity to work with diverse client populations, a range of problems, and different types of human service programs, using varied assessment and intervention methodologies. Students demonstrate, under supervision, their ability to integrate knowledge and applied skills in providing a broad range of psychological services in the schools, as well as to acquire new knowledge and skills. At least half (600 hours) of the internship will be in a school setting. **Prerequisite:** For approved school psychologist candidates. Completion of all coursework, practica, and comprehensive examinations.

EP 752 Doctoral Internship **3 s.h.**
Supervised field experience in psychological procedures and practices in an educational setting and/or facility appropriate to the special professional interests of the student. **Prerequisite:** School psychology major; permission of instructor.

EP 753 Child Neuropsychology **3 s.h.**
Examines brain-behavior relationships and neurodevelopmental functioning in children. The neuropsychological principles necessary to assess the educational, cognitive, and behavioral functioning of children in relation to the development of remedial programs will be discussed. **Prerequisite:** EP 712 or permission of the instructor.

EP 762 Crisis Counseling and Consultation in Instructional Settings **3 s.h.**
A systematic survey of current major theories and techniques in counseling and psychotherapy as well as their application to instructional settings. Students receive instruction in basic counseling and consultative skills and become familiar with counseling and consultation in crisis situations. **Prerequisite:** Permission of instructor.

EP 763 Assessment of Personality and Behavior Problems of Children **3 s.h.**
An introduction to various personality and behavior assessment techniques currently used. **Prerequisite:** For approved school psychologist candidates or permission of the instructor.

EP 764 Seminar in School Psychology I **3 s.h.**
An examination of practices, trends, and issues in a specialized area of diagnosis. The areas to be examined will be based on the predetermined interests of the students and the expertise of the available faculty. **Prerequisite:** Permission of instructor.

EP 765 Seminar in School Psychology II **3 s.h.**
An examination of practices, trends, and issues in a specialized area of treatment or remediation. The areas to be examined will correspond to those covered in EP 664. The focus of the seminar will be to develop the student's understanding and skills in implementing appropriate treatment and remedial strategies in home, school, and clinic settings. **Prerequisite:** Permission of the instructor.

EP 766 Doctoral Seminar: Research Issues in Child Neuropsychology 3 s.h.
Examines research issues related to the application of neuropsychology in the school setting. Specifically, students will critique research articles, identify contemporary research issues, and write a research paper on a relevant educational issue. **Prerequisite:** EP 742 or equivalent, or permission of the instructor.

EP 777 Seminar in Family-School Relations **3 s.h.**
Focuses on selected aspects of a wide range of issues related to the contemporary American family as they affect the behavior of children and their functioning within the public schools. Parent consultation and training strategies will be emphasized. **Prerequisite:** Permission of the instructor.

EP 850 Thesis **3 s.h.**

EP 950 Dissertation **9 s.h.**

EX

Education of Exceptional Persons

Department of Special Education and Clinical Services
College of Education and Educational Technology

EX 515 Preschool Education for Children with Disabilities **3 s.h.**
Provides information on assessment, intervention strategies, curriculum, and prescriptive planning for preschool children with disabilities. Serves as a course for departmental majors who are specifically interested in early childhood education, as an elective for other interested students in related fields, and as a priority course for Early Childhood Education majors. **Prerequisites:** Certification or EX 650 or EX 111 or EX 300.

EX 516 Education of Persons with Emotional or Behavioral Disorders **3 s.h.**
Focuses on major theoretical positions regarding etiology of emotional and behavioral disorders, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EX 650 or EX 111 or EX 300. Designed to meet teacher certification requirements.

EX 517 Education of Persons with Mental Retardation or Developmental Disabilities **3 s.h.**
Provides guidelines and methods for working with the extremely disabled in educational settings. Emphasizes methods of providing stimulation of basic skill development in areas of motor, perceptual, cognitive, language, and social skills. **Prerequisites:** Certification or EX 650 or EX 111 or EX 300. Designed to meet teacher certification requirements.

EX 518 Education of Persons with Physical or Multiple Disabilities **3 s.h.**
Focuses on major theoretical positions regarding etiology of a wide and diverse range of physical/multiple disabilities, the definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EX 650 or EX 111 or EX 300. Designed to meet teacher certification requirements.

EX 519 Education of Persons with Brain Injuries or Learning Disabilities **3 s.h.**
Focuses on major theoretical positions regarding etiology of neurological and learning disabilities, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisites:** Certification or EX 650 or EX 111 or EX 300. Designed to meet teacher certification requirements.

EX 581 Special Topics

EX 599 Independent Study in Special Education **1-3 s.h.**
Individual students develop research studies in consultation with a faculty member. Departmental consent required.

EX 650 Exceptional Children and Youth **3 s.h.**
Surveys characteristics, definition/identification, and service delivery models for children and youth with disabilities or who are gifted/talented. Considers state and federal policies governing special education program service delivery, as well as the legal rights of individuals with disabilities.

EX 651 Vocational Preparation and Transition for Youth with Disabilities **3 s.h.**
Designed to develop competencies in the skills necessary to help students with disabilities make a successful transition from school to eventual employment.

EX 652 Assessment of Persons with Disabilities **3 s.h.**
Provides students with an understanding of the diagnostic tools and techniques used to evaluate students with disabilities. Examines formal and informal assessment measures used in the diagnosis and remediation of educational problems. Emphasizes those skills expected of a special education teacher as a member of a multi/interdisciplinary team.

EX 653 Research Seminar in Special Education **3 s.h.**
Provides enrollees with opportunities to focus on current research in special education. Focus of research may change each term in accordance with preferences of instructor and students. Emphasizes critical analysis of research, classroom applications of that research, and implications for future research.

EX 654 Advanced Instructional Design in Special Education **3 s.h.**
Emphasizes effective instructional approaches appropriate for the education of students with mild to profound disabilities. Considers educational priorities and effective teaching practices in developing and evaluating individualized, integrated interventions.

EX 655 Professional Collaboration and Team Building for Special Educators **3 s.h.**
Focuses on strategies for collaborating with families, regular and special educators, paraprofessionals, and other service providers in the school and community.

EX 664 Curriculum Planning for the Gifted/Talented **3 s.h.**
Utilization of existing hierarchal presentations to aid with curricular decision making by teachers, supervisors, and administrators for the gifted/talented, nursery school through twelfth grade. Emphasis on four major areas: social studies, mathematics and science, language arts, and creative arts. Considerations for integrating other disciplines and for going beyond the scope of the course will be presented. **Prerequisite:** EX 638.

EX 685 Practicum and Internship **3-9 s.h.**
Advanced students are offered guided practicum experiences in selected schools, residential institutions, clinics, or agencies. Internships or supervised student teaching are planned individually. Students analyze, evaluate, and report on their experiences.

FE Foundations of Education
Department of Foundations of Education
College of Education and Educational Technology

FE 514 Comparative Foundations of Education **3 s.h.**
Educational theories and practices in different nations will be studied. Educational purposes, curriculum, methods, administration, school systems, teacher education, and other educational features in America will be analyzed, evaluated, and compared.

FE 515 Curriculum Development **3 s.h.**
Analysis of philosophical, sociological, and psychological basis for creation of curriculum patterns, K-12. Includes utilization of technological devices, critical examination of basic concepts underlying determination of objectives, selection and organization of subject matter, and learning experiences in general. Current curriculum research will be analyzed, as well as existing instructional materials and programs.

FE 581 Special Topics **3 s.h.**

FE 611 Historical Foundations of Education **3 s.h.**
Study of historical development of American education. European influences on philosophies and practices of American schools will serve as a background. Emphasis on development of education in America as influenced by various individuals and schools of thought. Historical trends will be related to current problems and practices in education.

FE 612 Philosophical Foundations of Education **3 s.h.**
Analysis and evaluation of basic philosophies and their impact upon education. Nature, value, means, and ends of education and some other fundamental phases of schooling will be thoroughly examined. Stress on essentials enhancing an individual working philosophy of education and on basic ideas heightening a sound philosophy for American schools.

FE 613 Social Foundations of Education **3 s.h.**
Social and cultural forces which influence education. Particular stress on current problems as they relate to entire educational systems and to curricular problems and practices in today's schools.

FE 699 Independent Study **1-6 s.h.**

FI Finance
Department of Finance and Legal Studies
Eberly College of Business and Information Technology

FI 510 Financial Institutions and Markets **3 s.h.**
Review of entire structure of financial institutions, money and capital markets (of which the business enterprise is both a supply and demand factor), and the structure and dynamics of interest-rate movements. **Prerequisites:** EC 325, FI 324, or permission of College of Business graduate coordinator.

FI 520 Investment Analysis **3 s.h.**
Integrates the work of various courses in the finance areas and familiarizes the student with the tools and techniques of research in the different areas of investments. **Prerequisites:** AG 301, FI 310, FI 324, or permission of College of Business graduate coordinator.

FI 581 Special Topics in Finance **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of instructor and College of Business graduate coordinator.

FI 630 Financial Management **3 s.h.**
An extension of basic managerial finance, dealing with theory and practice of analyzing companies, financial planning, capital budgeting, management of working capital, and obtaining funds for the corporation. **Prerequisite:** FI 310

FI 631 Advanced Financial Management **3 s.h.**
Purpose is to provide the business manager with various approaches and methods for solving capital budgeting decisions and evaluating investment proposals. Topics will include capital budgeting techniques and applications, decisions under certainty and uncertainty, capital rationing, and methods of evaluating and classifying investments. **Prerequisite:** FI 630.

FI 632 Seminar in Finance **3 s.h.**
Covers topics in all areas of finance by using recent articles, cases, discussions, speakers, and a finance simulation game. Designed to bring together all aspects of finance. **Prerequisite:** FI 630.

FI 635 Principles of Investments in Securities **3 s.h.**
Introduces many forms of existing investment policies. Attention is given to operation of stock markets, concepts and terminology of investing, mutual funds and their function, investment clubs, and problems involved in making investments through brokers, bankers, and stock promoters. **Prerequisite:** FI 630.

FI 681 Special Topics in Finance **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the College of Business graduate coordinator.

FI 699 Independent Study in Finance **1-3 s.h.**
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. **Prerequisite:** Consent of instructor, departmental chairperson, and College of Business dean.

FI 850 Thesis **4-6 s.h.**
For students writing a thesis, FI 850 should be scheduled for the semester in which the student plans to complete his/her work. The thesis is a committee thesis (4-6 s.h.), for which the student's advisor, two additional faculty members, the College of Business graduate coordinator, and/or the representative of the dean of the College of Business may constitute the committee.

FN Food and Nutrition

Department of Food and Nutrition
College of Health and Human Services

FN 544 Food Composition and Biochemistry 3 s.h.
Covers basic chemistry and biochemistry of essential components of food originating from plant and animal sources. **Prerequisite:** CH 355.

FN 547 Nutritional Aspects of Food Technology 3 s.h.
Studies current known effects of food processing techniques on the nutritional value and safety of food. **Prerequisites:** FN 212 and BI 241.

FN 558 Advanced Human Nutrition 3 s.h.
In-depth study 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. **Prerequisites:** FN 212, CH 355, and BI 151.

FN 562 Advanced Experimental Foods 3 s.h.
An experimental approach to the many factors influencing the chemical and physical properties of food. Use of scientific method in developing an individual project combining an evaluation of current literature and appropriate sensory and analytical methodology. **Prerequisites:** FN 362 and CH 231.

FN 564 Food and Nutrition Research Methods 3 s.h.
Introduction to research methodology in food and nutrition. Includes theory and techniques of physical, chemical, and instrumental analysis. Applications of these methods to food and animal models with statistical analysis of data. **Prerequisites:** FN 362, FN 458, CH 351, and MA 217.

FN 612 Administration of Food Service Systems 3 s.h.
Addresses food service as a system of interrelated parts and of controlling management resources. Analysis of different types of food service delivery systems and legal responsibilities of a food service administrator will be covered. **Prerequisites:** FN 358, FN 259, FN 313, FN 356, or three years' work experience in a food service management position.

FN 641 Eating Behaviors and Food Habits 3 s.h.
Investigation and analysis of historical, political, religious, ethnic, environmental, and social influences which affect food consumption patterns. **Prerequisites:** PC 101 and SO 151.

FN 642 Contemporary Issues in Food and Nutrition 3 s.h.
Current information in foods and nutrition is investigated, analyzed, and evaluated for practical implementation.

FN 645 Proteins, Carbohydrates, and Fats 3 s.h.
Nutritional considerations of protein, carbohydrate, and fat metabolism. Physiological and biochemical functions of these nutrients will be discussed.

FN 646 Vitamins and Minerals 3 s.h.
Biochemical role of vitamins and minerals in macronutrient metabolism. Focus on biochemical and physiologic functions, and current research implications.

FN 698 Internship 1-6 s.h.
Supervised work experience for food and nutrition majors. Permission: department chairperson.

FN 711 Nutrition in the Life Cycle 3 s.h.
Studies bodily functions at different stages of development under differing environmental conditions and at various levels of biological organization.

FN 713 Seminar in Food and Nutrition 1 s.h.
Preparation and presentation of written scientific reports and/or current departmental research. Course to be taken twice. **Prerequisites:** GR 615, GR 516, and two courses from the department requirement.

FN 743 Clinical Dietetics 3 s.h.
Examines nutritional management of the hospitalized patient with emphasis on the role of the dietitian. Research for a paper and oral critiques of current literature.

FN 799 Independent Study in Food and Nutrition 1-3 s.h.
Prerequisites: Completion of two courses in the department requirement. Advanced study and/or selected research problems from the field of food and nutrition. May be taken for a maximum of three credits.

FN 850 Thesis 1-4 s.h.

GE Geography

Department of Geography and Regional Planning
College of Humanities and Social Sciences

GE 511 History of Geography 3 s.h.
History of the discipline, great ideas, leading professionals, and unresolved issues are studied.

GE 513 Cartography 3 s.h.
Develops ability to map and diagram human and environmental phenomena. Special maps, charts, and diagrams will be considered as required by students. Recommended for all master's candidates.

GE 514 Map and Photograph Interpretation 3 s.h.
Develops skill in extracting information and synthesizing data from maps and aerial photographs as applied to geologic, land use, planning, and terrain analysis problems.

GE 515 Remote Sensing 3 s.h.
Methods of remote sensing such as thermal sensing, multispectral scanning, satellite imagery, side-looking airborne radar imagery, and additive color analysis and their applications, particularly as applied to geographic and planning problems, are studied.

GE 516 Introduction to Geographic Information Systems 3 s.h.
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include 1) specialized GIS hardware and software, 2) vector vs. raster vs. object oriented spatial data structures, 3) creation and manipulation of geographic data files, 4) database design and management concepts, 5) spatial analysis, and 6) cartographic design. **Prerequisite:** GE 513 or equivalent or permission of instructor.

GE 515 Remote Sensing 3 s.h.
Methods of remote sensing such as thermal sensing, multispectral scanning, satellite imagery, side-looking airborne radar imagery, and additive color analysis and their applications, particularly as applied to geographic and planning problems, are studied.

GE 516 Introduction to Geographic Information Systems 3 s.h.
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include 1) specialized GIS hardware and software, 2) vector vs. raster vs. object oriented spatial data structures, 3) creation and manipulation of geographic data files, 4) database design and management concepts, 5) spatial analysis, and 6) cartographic design. **Prerequisite:** GE 513 or equivalent or permission of instructor.

GE 532 Urban Geography 3 s.h.
Analysis of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.

GE 533 Geography of Transportation and Trade 3 s.h.
Transportation systems and their use: accessibility, circulation, time and distance concepts, and trade patterns. Empirical and theoretical approaches are examined.

GE 534 Political Geography 3 s.h.
Geographic factors and conditions are analyzed as they relate to character and function of states. Political institutions in light of geographic conditions.

GE 536 Social Geography 3 s.h.
Spatial dimensions of the American society are the focus of this course. The distribution of various social groups and their impact on the landscape are considered.

GE 540 Conservation: Environmental Analysis 3 s.h.
Problems of exploitation and utilization of regional resources, (e.g., soils, minerals, forests, and wildlife) in relation to population growth and regional planning and development.

GE 541 Climatology **3 s.h.**
Examines the elements of weather and climate on Earth. The location and causes of global climatic regions are examined in relation to moving pressure and wind systems. The course also considers the climatic history of the planet and recent human modifications of the atmospheric environment.

GE 542 Physiography **3 s.h.**
Focuses on landform types and their spatial distribution. Emphasis is placed on the tectonic forces that build landforms and the weathering and erosional processes that erode and shape surface features. The relationship between human activities and landforms is also considered.

GE 543 Geography of Fresh Water Resources **3 s.h.**
Surface and groundwater is a resource with unique properties. Fresh water is defined physically by storage in the hydrologic cycle and the values assigned by different cultures. Problems featured relate to consumptive and withdrawal water uses, the problems of water supply and scarcity, water law and its inconsistencies, flooding and floodplains management, sources of contamination and pollution, wetlands, and case studies of selected river basins.

GE 550 Introduction to Planning **3 s.h.**
Introduction to the profession and activity of contemporary American urban and regional planning. Course emphasis is placed on land-use control, design, growth management, and development regulation. The legal and institutional bases of planning practice are covered as well.

GE 552 Planning Methods **3 s.h.**
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans.

GE 554 Planning Design **3 s.h.**
Presents concepts of city, subdivision, and transportation design in relation to topography, natural resources, and other physical elements. **Prerequisite:** GE 550.

GE 558 Land Use Law **3 s.h.**
Introduces students to principles of land use law. The course focus is on federal constitutional principles and key Supreme Court cases, especially as they relate to actions of local units of government and municipal planning practice. Deals with the present state of land use law and with current trends and issues. **Prerequisite:** GE 550 or GE 564.

GE 564 Land Use Policy **3 s.h.**
Introduces students to and provides an overview of land use issues at the regional, state, and federal levels. Emphasis is placed upon the evolution of contemporary policy strategies, constitutional issues, and regional controversies involved in the regulation of metropolitan growth, central city decline, and management of public lands.

GE 568 Planning Theory **3 s.h.**
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. **Prerequisite:** GE 550

GE 571 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). Offered summer only.

GE 581 Special Topics **3 s.h.**
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GE 610 Research in Geography and Regional Planning **3 s.h.**
Elements and techniques of scientific research, as applied to geographic and planning problems, are studied. A research proposal is developed.

GE 612 Quantitative Techniques in Geography and Regional Planning **3 s.h.**
Descriptive and inferential statistical techniques applied to spatial distribution and spatial association of physical and cultural phenomena and testing of spatial theoretical constructs.

GE 614 Thought and Philosophy in Geography and Regional Planning **3 s.h.**
Examines the status of current and past thought and philosophy in geography and regional planning, using the literature in planning, geography, and the philosophy of science. Topics examined are regional development, local planning, environmentalism and physical geography, and cultural geography. **Prerequisite:** GE 610.

GE 617 Field Techniques in Geography and Planning **3 s.h.**
Field tools and techniques are evaluated and used in the study of a specific area. Interpretation of spatial patterns of phenomena is emphasized.

GE 618 GIS Applications Development **3 s.h.**
Takes students with GIS analysis skills to the next level; developer of software to automate methods and processes learned in prerequisite courses. Students will learn to write object oriented software tools for spatial data transaction processing and analysis. **Prerequisite:** GE 516.

GE 620 Spatial Structure of the Economy **3 s.h.**
The spatial organization of economic systems is studied. Processes that give rise to these systems and their spatial interdependencies are explored. Topical and regional examples of spatial structure are used as case studies.

GE 623 Regional Development **3 s.h.**
Theory and policy implications of the spatial aspects of development in various regions of underdevelopment.

GE 625 Environmental Planning **3 s.h.**
Provides students with information about natural resources, their characteristics, and various techniques that can be implemented for their preservation, conservation, and management. In particular, emphasis will be placed on human-environment interaction and how aspects of the environment can and should be accounted for in planning processes at various spatial scales and levels of analysis. Course material will be presented through lectures, as well as guest speakers, field trips, and student presentations.

GE 630 Cultural Geography **3 s.h.**
Literature and methods of cultural geography. Topics include population, settlements, human ecology, culture areas, and related features.

GE 633 Settlement Geography **3 s.h.**
Settlement patterns and processes; origins, diffusion, classification, pioneer, settlement planning, and agricultural colonization.

GE 650 Regional Geography **3 s.h.**
Various regions of the world may be dealt with, such as Latin America, Africa, or South Asia, when there is sufficient student demand. Physical, environmental, cultural, and population patterns are considered.

GE 665 Plan Implementation **3 s.h.**
Considers zoning, improvement programs, housing codes, building codes, methodology and application of administrative procedures, federal and local urban renewal programs, site selection, and program administration. **Prerequisite:** GE 550.

GE 670 Professional Problems in Geographic Education **3 s.h.**
Classroom problems and discussion centered about new viewpoints in geography. Individual reports, group discussion, and research included.

GE 680 Seminar **3-6 s.h.**
Seminars on various topics will be offered occasionally. Topics such as new trends in planning, cartographic theory, or spatial aspects of service industries are the focus of research projects.

GE 681 Special Topics **3 s.h.**
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GE 698 Internship **3-12 s.h.**
Professional learning experience with emphasis on practical applications of academic background. **Prerequisites:** 12 academic credits and a 3.00 cumulative GPA.

GE 699 Independent Study **1-6 s.h.**
Independent research and study under faculty direction. Interested students should apply to director of graduate studies.

GE 850 Thesis **3-6 s.h.**
Registration for thesis must be approved by the department's graduate coordinator and chairperson ahead of time.

GR Graduate General Service
The Graduate School and Research

GR 516 Statistical Methods I 3 s.h.
Measurement and statistical techniques as used in administration and educational research. Basic descriptive statistics, including measures of central tendency, variability, and correlation are developed. Reliability and validity of test scores with emphasis on use of statistical techniques are studied, along with their interpretation.

GR 517 Statistical Methods II 3 s.h.
Using computer programs, a wide array of statistical procedures for research workers are explored. Basic concepts of statistical inference and prediction are reviewed, including regression analysis and prediction, hypothesis testing, analysis of variance and covariance, and partial and multiple correlation. Emphasis is placed on use of computers and interpretation of computer printouts along with understanding techniques employed. No computer knowledge is necessary. **Prerequisite:** GR 516 or equivalent.

GR 615 Elements of Research 3 s.h.
Selection of a research problem, data collection, types of research, research reports, and use of the library and computer in connection with research problems are studied. Elements of statistics are introduced. This course provides background for preparation of the thesis and enables the student to become an intelligent consumer of products of academic research.

GR 681 Special Topics 1-3 s.h.
Group study of course material not offered in other graduate courses. **Prerequisite:** May not be scheduled without prior written approval of the dean of the Graduate School and Research.

GR 699 Independent Study 1-3 s.h.
Individualized in-depth study of an approved topic directed by a participating faculty member and approved administratively. **Prerequisite:** May not be scheduled without prior written approval of the dean of the Graduate School and Research.

GS Geoscience
Department of Geoscience
College of Natural Sciences and Mathematics

GS 511 Sedimentary Petrology 3 s.h.
Determination and interpretation of grain size parameters; an introduction to clays and clay mineralogy; hand lens and petrographic microscope study of marine phosphorites, carbonates, siliceous sediments, heavy minerals, and sandstones with emphasis on interpreting ancient depositional environments. **Prerequisite:** GS 321.

GS 512 Stratigraphy 3 s.h.
Study of layered rocks with emphasis on the guiding principles of stratigraphy, the evaluation of unconformities, the principles and problems of correlation, and selected stratigraphy problems. **Prerequisite:** GS 411.

GS 522 Igneous and Metamorphic Petrology 3 s.h.
Study of rock phyla and their chemical and spatial relationships in the earth. Special attention to the genesis, mineral composition, and classification of rock types. Ecology of igneous, sedimentary, and metamorphic rocks is studied in detail. **Prerequisite:** GS 321.

GS 526 Structural Field Geology 3 s.h.
Includes techniques of geologic field work, such as measuring sections, use of aerial photographs, and a field project involving compilation of a geologic map, cross sections, and geologic report. **Prerequisite:** GS 325.

GS 527 Geomorphology 3 s.h.
Landforms and the processes and principles that govern both their origin and their subsequent development. **Prerequisite:** GS 325.

GS 530 Paleontology 3 s.h.
A morphological study of major invertebrate life forms of geologic past and their distribution in space and time. **Prerequisite:** GS 131 or BI 120.

GS 536 Geology of the Northern Rockies 3 s.h.
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. **Prerequisite:** Permission of the instructor.

GS 540 Petroleum Geology 3 s.h.
An introduction to the geology of petroleum, its origin, migration, entrapment, and production. The laboratory is designed to provide practical experience in subsurface mapping techniques and the use and evaluation of geophysical logging devices. **Prerequisite:** Minimum 20 credit hours of Geology.

GS 541 The Solar System 3 s.h.
Characteristics and behavior of planets and their satellites, asteroids, meteors, comets, and other phenomena of the solar system. One of the major topics will investigate and criticize several of the theories of origin. Will require some treatment of celestial mechanics.

GS 542 The Sidereal Universe 3 s.h.
Characteristics and classification of the stars, their assemblage groups and galaxies, and their evolution. Techniques of gathering data are examined to gain an understanding of the role of the telescope, spectroscope, and photometer in astronomical research. Lab exercises and night observations are part of the course. Credit will be given only to those for whom the course represents an area of study for which credit has not previously been recorded. **Prerequisites:** MA 121 and PY 111.

GS 550 Operation of the Planetarium 1-2 s.h.
Designed to acquaint student with the operation and use of the Spitz Planetarium. A satisfactory instructional program or show for a public group will demonstrate accomplishment of course objectives. **Prerequisite:** GS 110 or GS 341 or GS 342.

GS 561 Physical Oceanography 3 s.h.
Introduction to physical, chemical, geological, and biological nature of ocean; topography, submarine geology, and bottom deposits. **Prerequisites:** PY 111 and MA 121.

GS 562 Marine Geology and Plate Tectonics 3 s.h.
A continuation of physical oceanography. Emphasis upon marine geology, coastal geomorphology, and structure and sedimentary environments of the continental shelf, slope, and ocean basin. **Prerequisites:** PY 111, PY 112, and Geology courses.

GS 681 Special Topics 1-3 s.h.
As student demand and circumstances may dictate, special graduate courses may be offered by any member of the Geoscience graduate faculty.

GS 699 Independent Study 1-3 s.h.
Independent research under faculty direction.

HE Home Economics Education
Department of Human Development and Environmental Studies
College of Health and Human Services

HE 517 Infant Development 3 s.h.
Study of characteristic developmental changes of human infants from birth to approximately two and one-half years.

HE 526 Techniques of Parent Education 3 s.h.
Focuses on scope and aims of parent education movement. Methods of helping families become more effective in their parent-child relationships are examined.

HE 527 Administration of Child Development Centers 3 s.h.
Development of competencies needed to administer child care programs. Focuses on program philosophy, curriculum materials, parent and community involvement, staff selection and training, admissions and grouping, proposal writing, budgeting and finance, government regulations, reporting, and recordkeeping.

HE 698 Internship 1-6 s.h.
Supervised work experience for majors.

HE 699 Independent Study in Home Economics 1-6 s.h.
Student will pursue an independent study in area of home economics not previously studied and for which the student and advisor identify a need.

HI History

Department of History
College of Humanities and Social Sciences

HI 501 History of Ancient Greece **3 s.h.**
Will analyze major political, social, economic, and cultural developments in ancient Greek civilization from the Bronze Age to the death of Alexander.

HI 502 History of Ancient Rome **3 s.h.**
Will trace Roman history from early Republic to fall of Empire. A study of a civilization from its inception to its collapse.

HI 503 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 504 Medieval Europe II, 1000-1350 **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 505 Renaissance and Reformation **3 s.h.**
History of Europe from ca. 1250; rise of commercial city, kings, and pressures on the Christian Church to 1600. Some consideration of technology and voyages.

HI 506 Early Modern Europe **3 s.h.**
Greatness of France under Louis XIV; Sweden; Thirty Years' War; emergence of modern society; French Revolution.

HI 507 History of Europe, 1815-1914 **3 s.h.**
Study of Europe in nineteenth century, with emphasis on the emergence of major thought patterns, Romanticism, Socialism, and Positivism.

HI 508 Twentieth-Century Europe **3 s.h.**
Political, economic, and diplomatic trends of Europe since 1900, with major emphasis on causes and results of war and search for security.

HI 511 Rise and Fall of Hitler's Empire **3 s.h.**
In-depth study of Hitler and the Nazi Order: offers an analysis of nineteenth-century origins of Nazi ideology and intensively analyzes domestic and foreign policy (1920-1945), including Holocaust, Resistance, and the postwar Nuremberg Trials.

HI 520 History of England to 1688 **3 s.h.**
Survey of growth of English nation, with emphasis on political, social, and economic developments leading to seventeenth-century conflict between Crown and Parliament.

HI 521 History of England, 1688-Present **3 s.h.**
Survey of growth of England as a democratic constitutional monarchy. Attention directed to colonial America and English-U.S. relations, as well as to imperial expansion and England's role in the twentieth-century world. Cultural history is included.

HI 522 French Revolution and Napoleon **3 s.h.**
Development of the Grand Monarchy, brief sketch of Old Regime, concentration on the Revolution and Empire, with emphasis on politics, diplomacy, and economics. Readings and brief papers.

HI 525 History of Germany, 1849-Present **3 s.h.**
Study of development of modern Germany from the Revolution of 1848, including imperial, republican, and totalitarian phases, to postwar formation of East and West Germany.

HI 526 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 in 1917.

HI 527 History of Soviet Russia **3 s.h.**
General survey of contemporary Soviet history, culture, and institutions. Special emphasis given to study of communist theory and its place in current Russian historiography.

HI 530 History of Islamic Civilization **3 s.h.**
An approach to learning about non-Western culture; Mohammed, Arabs, Muslims as creators to a great civilization from the rise of Islam to 1800; emphasis on cultural institutions and their interrelationships within the Middle East.

HI 531 Modern Middle East **3 s.h.**
Survey of changes that have taken place in the Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HI 540 Colonial America **3 s.h.**
Survey of original thirteen states from their inception within the British Empire to 1763, the eve of independence. Attention given to their political development, economic position within the empire, relations with Indians, and evolution of their social, educational, and religious lives.

HI 541 The American Revolution **3 s.h.**
Study of United States history from beginnings of revolutionary crisis in 1763 through adoption of the Constitution and the administration of John Adams. Special emphasis is given to the causes and civil war aspects of the revolution and the constitutional-political development of the new nation.

HI 542 The Early Republic **3 s.h.**
Survey of United States history from 1783 to 1850, with special attention to constitutional, political, and social trends.

HI 543 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 545 The Age of Ragtime: American History, 1900-1929 **3 s.h.**
Using the nation's cultural development as its thematic foundation, this course analyzes the transitional character of the Progressive Era, World War I, and the 1920s.

HI 546 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 550 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 551 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 relations of these nations to others in the hemisphere.

HI 560 History of Pennsylvania **3 s.h.**
Emphasizes the cultural, economic, political, and social development of our state in various periods from colonial to today. Special attention given to diversity of Pennsylvania's people and their institutions and problems.

HI 563 Thought and Culture in 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 564 Thought and Culture in 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 565 History of Black America Since Emancipation **3 s.h.**
Description and analysis of role of blacks in history of the United States since the Civil War; emphasis on key leaders, major organizations, leading movements, and crucial ideologies of blacks in modern America.

HI 567 Native American History **3 s.h.**
An unfamiliar perspective on a familiar tale. Presents the "new Indian History" — North America from Native American materials and points of view. Identification, analysis, and synthesis of Indian realities and options over time are at the heart of this course.

HI 569 Women in America **3 s.h.**
Surveys of religious, legal, political, social, and popular culture perspectives of womanhood in America from colonial times to present.

HI 572 History of the Early American Working Class **3 s.h.**
Description and analysis of nature and significance of the U.S. working class in eighteenth and nineteenth centuries. Work settings and communities of workers will be examined as well as unions such as the National Labor Union and Knights of Labor.

HS Human Services
Department of Sociology
College of Humanities and Social Sciences

HS 701 Leadership Theories **3 s.h.**
Focuses on several leadership theories related to administering social agencies, schools, business, and industry.

HS 702 Leadership: A Case Study Approach **3 s.h.**
Acquaints students with the theory and application of the case study approach as related to theories of leadership. Designed to provide practice for future administrators in the following areas: group decision making, leadership, planning and organizing, sensitivity, judgment, and communication skills. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, HS 701 or permission of the instructor.

HS 703 Leadership: Applied Practice **3 s.h.**
Students must develop and implement a field project that incorporates leadership and policy theories learned in previous courses. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, HS 701 and HS 702 or permission of the instructor.

HS 798 Field Experience in Administration and Leadership Studies **3-6 s.h.**
Designed to provide the student with an opportunity to solve a practical problem associated with the leadership and administration of an organization. During the third summer of the doctoral program, each student will be required to undertake a policy/problem analysis process that integrates prior substantive and analytically oriented course work. Each student will present and discuss his/her work before a faculty review committee. Students with full-time employment responsibilities will be permitted to focus on a problem related to their own organization, if it is compatible with the student's area of concentration or interest. Alternatively, if the student wants to explore another area or organization, he/she may do so. This course may only be taken after a minimum of 36 hours of course work for the Administration and Leadership Studies program (Human Services Track) is completed.

HS 950 Dissertation **9 s.h.**

IM Information Management
Department of Management Information Systems and Decision Sciences
Eberly College of Business and Information Technology

IM 581 Special Topics in Management Information Systems **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and student, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of instructor and College of Business graduate coordinator.

IM 640 Management Information Systems **3 s.h.**
Introduces MIS concepts and theories to the graduate student. Deals with information processing and communication as they relate to the development and design of effective business applications. Computer system hardware, software, and database management concepts are discussed in terms of the integration of specific business subsystems into a comprehensible organizational management information system. Managerial involvement in the planning, utilization, and control of information systems is emphasized. **Prerequisite:** IM 300.

IM 681 Special Topics in Management Information Systems **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and the College of Business graduate coordinator.

IM 699 Independent Study in Management Information Systems **1-3 s.h.**
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. Prerequisite: Consent of instructor, departmental chairperson, and College of Business dean.

LP Administration and Leadership
Department of Professional Studies in Education
College of Education and Educational Technology

LP 701 Leadership Theories **3 s.h.**
Focuses on several leadership theories related to administering social agencies, schools, business, and industry.

LP 702 Leadership: A Case Study Approach **3 s.h.**
Acquaints students with the theory and application of the case study approach as related to theories of leadership. Designed to provide practice for future administrators in the following areas: group decision making, leadership, planning and organizing, sensitivity, judgment, and communication skills. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, LP 601 or permission of the instructor.

LP 703 Leadership: Applied Practice **3 s.h.**
Students must develop and implement a field project that incorporates leadership and policy theories learned in previous courses. **Prerequisites:** For approved Administration and Leadership Studies candidates; in addition, LP 601 and LP 702 or permission of the instructor.

LP 782 Research Instrument Design for Leadership Studies **3 s.h.**
Designed to prepare doctoral students in leadership studies to critique and develop research instruments for use in dissertation research. It will emphasize identifying the key issues associated with instrument design in leadership studies, critiquing the published instruments, writing instrument items, and conducting instrument reliability and validity analysis. Students will learn to evaluate and develop instruments through hands-on activities and individual projects. **Prerequisite:** By permission.

LP 783 Analysis of Qualitative Data in Leadership Studies **3 s.h.**
Designed to prepare doctoral students in leadership studies to conduct qualitative data analysis in dissertation research. Emphasizes identification of key issues associated with qualitative research, critique of the published qualitative research, transcription of qualitative data, interpretation and presentation of patterns, and use of computers to perform data analysis. Students will learn to analyze, present, and write qualitative research reports. **Prerequisite:** By permission.

LP 798 Internship in Administration and Leadership Studies **3-6 s.h.**
A planned, field-based work experience proposed by the advanced graduate student to enhance professional competence, subject to approval by student's advisor and program director. **Prerequisite:** For approved Administration and Leadership Studies candidates or permission of the instructor.

LP 950 Dissertation **9 s.h.**

LR Industrial and Labor Relations
Department of Industrial and Labor Relations
College of Health and Human Services

LR 526 Case Studies in Labor-Management Relations **3 s.h.**
Study of labor-management relationships in a variety of organizational settings through utilization of the case study technique.

LR 581 Special Topics in Industrial and Labor Relations **3 s.h.**
According to student demand, special graduate course on selected topics.

LR 610 Employee Rights Under Law **3 s.h.**
A review of the legislated rights and benefits of employees in terms of their impact on labor and management in the collective bargaining process.

LR 611 Development and Theories of the Labor Movement **3 s.h.**
Institutional and theoretical overview of the development of the American labor movement with special emphasis on major labor movement theorists. (Alternative: HI 566)

LR 612 Labor Relations Practice and Administration **3 s.h.**
Practice and administration of labor relations focusing on the operation and internal relationships of the individuals involved and upon the application of labor relations skills.

LR 613 Fundamentals of American Industrial and Labor Relations **3 s.h.**
Introduction to terms, theories, and practice of industrial and labor relations in the United States.

LR 615 Dispute Settlement **3 s.h.**
Review of the theories underlying and legislation supporting labor arbitration, emphasizing development of advocacy skills through simulations of actual disputes. **Prerequisite:** LR 613.

LR 618 Seminar: Current Issues in Industrial and Labor Relations **3 s.h.**
Detailed examination of current professional issues in the field.

LR 619 Research Methods in Industrial and Labor Relations **3 s.h.**
Nature of and major outlets for contemporary research in labor relations, as well as the historical development of research in the field. Elements of statistics and quantitative interpretations are introduced.

LR 620 Internship **3 s.h.**
Field experience in industrial and labor relations. An internship log and term paper are required.

LR 621 Labor Relations in the Public Sector **3 s.h.**
Developments in federal, state, and local labor relations, including Presidential orders and federal agencies; survey of the states; Pennsylvania Acts 111 and 195; effects of public sector fact-finding; and arbitration.

LR 622 Discrimination in Employment **3 s.h.**
Investigation of employment discrimination in the United States with special attention to the roles of government, industry, and labor and the impact of federal intervention since 1960.

LR 623 Structure and Government of Unions **3 s.h.**
The union examined as an institution, with focus on its organizational structure; administration; relationships with the employer, its members, and its state and national affiliates. Particular unions will be chosen for case study.

LR 624 Comparative Labor Relations **3 s.h.**
International dimensions of labor relations are explored by examining the labor-management relations in a foreign country or region. **Prerequisite:** LR 613.

LR 625 Processes of Collective Bargaining **3 s.h.**
Survey of current laws, principles, and procedures in use in modern collective bargaining and evolving trends.

LR 631 Human Resources Management in the Public Sector **3 s.h.**
Human resource management systems with a special examination of public sector organizations.

LR 632 Compensation Administration **3 s.h.**
Study of the field of compensation management and benefits administration in the public and private sectors. Special emphasis on the input of collective bargaining in the development and administration of compensation and benefit systems and the necessary skills to function as a professional in the field.

LR 640 Negotiations **3 s.h.**
A course on negotiations theory and practice which applies negotiations strategies from a variety of fields in hands-on simulations of collective bargaining in labor relations. **Prerequisite:** LR 613.

LR 641 Contract Administration **3 s.h.**
Analysis of the practices and responsibilities of labor and management in the mutual performance of a collective bargaining agreement with primary attention given to the process of grievance resolution. **Prerequisite:** LR 613.

LR 642 Concerted Activity **3 s.h.**
Examines the various strategies and tactics available to the parties in confrontational situations. Emphasizes the statutory limitations set forth in the Labor Management Relations Act relating to topics such as picketing, consumer appeals, and boycotts.

LR 650 Alternative Work Styles **3 s.h.**
Review of efforts to increase worker participation in certain levels of managerial decision making in private and public production or service enterprise, through shares in ownership, seats on boards, quality circles, and other participative structures. Results will be considered from the point of view of productivity, worker satisfaction, and social utility. **Prerequisite:** LR 613.

LR 651 Conflict Resolution **3 s.h.**
An applied course focusing on the resolution of conflict between groups by a third party. Specifically examined are the techniques of negotiation, mediation, and conciliation. Simulation and role play are utilized as well as readings in theory and case study.

LR 681 Special Topics in Industrial and Labor Relations **3 s.h.**
According to student demand, special graduate courses on selected topics.

LR 698 Internship **3 s.h.**
Field experience in industrial and labor relations. An internship log and term paper are required.

LR 699 Independent Study **3 s.h.**
Students will select one or more topics of critical importance in industrial and labor relations and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisites:** Approval of department chairperson, college dean, and provost.

LR 850 Thesis
For students writing the thesis, LR 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (1 to 6 semester hours).

LT Literacy
Department of Professional Studies in Education
College of Education and Educational Technology

LT 600 Foundations of Literacy Instruction **3 s.h.**
Introduces literacy instruction which recognizes social, cultural, historical, and political perspectives. Emphasis is placed on the nature of reading and writing processes, the characteristics and developmental processes of the learner, and instructional strategies that enhance literacy in the classroom.

LT 601 Assessment and Acceleration **3 s.h.**
Examines traditional and current teaching strategies, formal and informal assessment, theory and research of literacy difficulties. Emphasis is placed on intervention. A knowledge of basic computer technology is required. Electronic technology, including databases, spreadsheets, and the Internet will be incorporated.

LT 602 Reading and Writing in the Content Areas **3 s.h.**
Emphasizes strategies, techniques, and materials related to literacy and study skills in the content areas at elementary and secondary levels. A variety of materials, including electronic technology, will be incorporated.

LT 605 Organization and Administration of Reading/ Writing Programs **3 s.h.**
Acquaints students with issues in analyzing and improving curriculum, evaluating approaches to instruction, providing guidelines for selection of textbooks, materials, and technology, exploring challenges of family and community involvement, implementing changes, and conducting staff development. Emphasizes the role of reading specialist, resource specialist, supervisors, and classroom teachers.

LT 607 Instruction and Learning With Literature **3 s.h.**
Acquaints students with examining literature, developing instructional materials using the literature, and analyzing literature in its many forms, including electronic technology. Diversity in literature and diversity in student needs will be emphasized. Students will utilize electronic technology to access children's literature from national and international libraries.

LT 620 Reading Instruction for the Culturally Different **3 s.h.**
Emphasizes the sociological, psychological, linguistic, and educational variables that affect the culturally and linguistically different reader.

LT 644 Issues and Trends in the Language Arts **3 s.h.**
Emphasizes effective communications through the study of current trends, resources, and the contributions of research in the various areas of language arts. Special emphasis will be placed on an integrated model for organizing the language arts.

LT 648 Creativity and the Elementary School Child **3 s.h.**
Includes a study of creative thinking and ways to develop creativity in children, including strategies and techniques to use in the classroom. Ways of measuring creativity and analyzing the role of the teacher are included. Students are encouraged to develop their own creativity.

LT 670 Practicum and Seminar for Reading Specialists I **3 s.h.**
Assignment to the Literacy Center includes developing and implementing a program of assessment and acceleration for individual clients or small groups. Experiences with observational techniques, recordkeeping, interviewing, family conferencing, and report writing will be included. An electronic portfolio will be maintained. Supervision of the Reading Specialist Program faculty will be on site and through video conferencing.

LT 671 Practicum and Seminar for Reading Specialists II **3 s.h.**
Assignment to an approved school site includes developing and implementing a program of assessment and acceleration for individual clients or small groups. Experiences with observational techniques, recordkeeping, interviewing, family conferencing, and report writing will be included. An electronic portfolio will be maintained. Supervision of the Reading Specialist Program faculty will be on site or through video conferencing.

LT 697 Seminar in Special Problems in Reading **3 s.h.**
Special topics on literacy as examined through a systematic analysis of theory as it relates to practice. Students are required to study a topic of choice in depth.

LT 698 Analysis of Research in Literacy **3 s.h.**
Examines quantitative and qualitative research in reading, writing, and other literacy and language issues. Designed to ensure that students will be able to read, interpret, and evaluate statistical and ethnographic research in literacy. The use of the Internet for access to research is required.

LT 699 Independent Study in Reading Education **1-3 s.h.**
The student, with the cooperation of the reading faculty member with whom he/she expects to work and his/her reading faculty advisor, engages in a study individually or with a small group on some program or field not clearly defined in existing courses. **Prerequisite:** Permission of the coordinator.

MA Mathematics

Department of Mathematics
College of Natural Sciences and Mathematics

MA 518 Sampling Survey Theory and Its Applications **3 s.h.**
Directed to the student who is or will be doing quantitative research, commissioning large-scale surveys, and evaluating the results. Sampling techniques and statistical principles underlying their use will be introduced. Consideration will be given to the practical problems associated with implementation. **Prerequisite:** (for non-Math majors) MA 214, MA 216, MA 217, or GR 516.

MA 521-522 Advanced Calculus I, II **3,3 s.h.**
A rigorous investigation of continuity, differentiation, and integration on real p-dimensional space. The Riemann-Stieltjes integral, infinite series, and infinite series of functions are also studied. **Prerequisite:** Permission of the advisor.

MA 523 Complex Variables I **3 s.h.**
Introduces fundamental concepts of complex analysis and includes the following topics: complex numbers, functions, sequences, analytic functions, elementary functions, complex integration, power series, Laurent series, singular points, calculus of residues, infinite product and partial fraction expansion, conformal mapping, and analytic continuation. **Prerequisite:** Permission of the adviser.

MA 525 Applied Mathematical Analysis **3 s.h.**
This course provides the necessary background for an understanding of mathematical programming, proofs of convergence of algorithms, convexity, and factorable functions. It also develops necessary concepts in matrix theory which are required to develop efficient algorithms to solve linear and nonlinear programming models. **Prerequisite:** Calculus sequence, introductory linear algebra, or permission of the instructor.

MA 527 Topology **3 s.h.**
Basic topological concepts, including some topological invariant relationships between topology and other disciplines of mathematics, are discussed. **Prerequisites:** Differential and Integral Calculus.

MA 545 Programming Models in Operations Research **3 s.h.**
Development of deterministic mathematical models for managerial and social sciences with relevant computational techniques. Three hours' lecture per week. **Prerequisites:** Two semesters of calculus.

MA 546 Probabilistic Models in Operations Research **3 s.h.**
Development of probabilistic mathematical models for managerial and social sciences with relevant computational techniques. Three hours' lecture per week. **Prerequisites:** Two semesters of calculus, MA 563 or equivalent.

MA 547 Simulation Models **3 s.h.**
This course considers the types of models that are basic to any simulation and methods for building and using such models. It includes discrete and continuous system simulations, their applications, and an introduction to SLAM II (Simulation Language for Alternative Modeling). **Prerequisites:** Completion of the calculus sequence, background in statistics and probability, and familiarity with concepts of programming (knowledge of a particular programming language not required).

MA 551 Numerical Methods for Supercomputers **3 s..h.**
Supercomputers make use of special computer architectures—vector and parallel processors—in order to achieve the fastest processing speed currently available. Students will be introduced to these features and will learn how numerical algorithms can be constructed to exploit supercomputers' capabilities. Students will gain practical experience in programming for the Cray YMP, in incorporating existing scientific software packages into user-written programs, in submitting remote jobs to the Pittsburgh Supercomputer Center, and in producing animated graphical output to summarize the typically large volume of output data generated by large scientific programs. **Prerequisites:** Permission of the instructor.

MA 553 Theory of Numbers **3 s.h.**
Elementary properties of divisibility, congruences, Chinese remainder theories, primitive roots and indices, quadratic reciprocity, diophantine equations, and number theoretic functions. **Prerequisites:** Differential and Integral Calculus.

MA 563 Mathematical Statistics I **3 s.h.**
Probability theory necessary for an understanding of mathematical statistics is developed; applications of the theory are given, with emphasis on binomial, Poisson, and normal distributions. Sampling distributions and the central limit theorem are developed. **Prerequisites:** Differential and Integral Calculus.

MA 564 Mathematical Statistics II **3 s.h.**
Multivariate distributions, properties of the moment generating function, change of variable technique. Chi-square distribution, estimation, confidence intervals, testing hypotheses, contingency tables, goodness of fit. Many practical applications. Use of calculating machines and computers where appropriate. **Prerequisite:** MA 563.

MA 565 Topics in Statistics **3 s.h.**
Correlation and regression from applied and theoretical points of view, bivariate normal distribution, small sample theory. Student's t and F distributions, analysis of variance, nonparametric methods. Many practical applications. Calculating machines and computers used as appropriate. **Prerequisite:** MA 564.

MA 571 Linear Algebra **3 s.h.**
Theory of vector spaces and linear transformations, applications to linear equations, determinants, and characteristic roots are studied.

MA 576-577 Abstract Algebra I, II **3,3 s.h.**
Basic algebraic structures such as groups, rings, integral domains, and fields. Designed to develop ability to construct formal proofs and work within an abstract axiomatic system. Polynomial rings, factorization, and field extension leading up to Galois theory.

MA 581-583 Topics Seminars in Mathematics **3 s.h.**
Special topics going beyond the scope of regularly offered courses. Offered per student interest/available staff. Students may take more than one topic seminar with approval of adviser. **Prerequisite:** Consent of instructor.

MA 600 Methods of Research in Mathematics **3 s.h.**
Review of literature and recent research in mathematics. Emphasis on use of periodicals, other library resources. Each student completes an independent study of an approved topic, including a written report.

MA 631 Foundations of Mathematics **3 s.h.**
Designed to acquaint students with logical techniques used in proof and set theory. Topics include symbolic logic, rules of inference, validity of arguments, algebra of sets, cardinal numbers, the well-ordering property, and the Axiom of Choice.

MA 641 Differential Equations **3 s.h.**
Special solvable nonlinear equations with solutions based on operator techniques, Laplace transform, or infinite series. Applications to physical problems. Three hours' lecture per week. **Prerequisite:** Differential and Integral Calculus.

MA 643 Graphs, Networks, and Combinatorics 3 s.h.
Studies arrangements and counting through the use of classical and analytical techniques. Properties of arrangement and measure of graphs are also examined. Emphasis is on computation and application. **Prerequisites:** Calculus sequence.

MA 645 Nonlinear Programming Models 3 s.h.
Examines algorithms for solving nonlinear programming (optimization) models. Also concerned with the theory of nonlinear optimization and with characteristics of optimal points. Optimization models of real-world problems which can be solved by nonlinear programming methodology are also presented. **Prerequisites:** MA 525 and MA 545 or equivalent courses.

MA 650 History of Mathematics 3 s.h.
People and ideas that have shaped the course of events in mathematics. Major attention given to developing activities for secondary school mathematics classroom which incorporate the historical viewpoint.

MA 651 Seminar in Teaching Junior High School Mathematics 3 s.h.
Explores problems of teaching mathematics at junior high level. Emphasis on a discovery, lab-oriented approach to teaching. **Prerequisite:** Permission of instructor.

MA 652 Seminar in Teaching Senior High School Mathematics 3 s.h.
National and international forces shaping today's mathematics programs, curriculum development and research, art of generating interest, formation of concepts, proof, problem solving, generalization, and evaluation. Special attention to teaching topics from algebra and calculus and modern approaches to teaching geometry and trigonometry. **Prerequisite:** Permission of instructor.

MA 654 Curriculum and Supervision in Mathematics 3 s.h.
Basic principles underlying effective mathematics curriculum from both a theoretical and experimental viewpoint. Investigates supervisor's role as source of stimulation, leadership, and expertise in teaching mathematics.

MA 655 Projective Geometry 3 s.h.
Introduces Klein's formulation of geometry of the invariant theory of a given set under a given group of transformations and develops projective spaces of one and two dimensions and conics and quadratic forms. **Prerequisites:** Undergraduate courses in linear algebra and geometry.

MA 656 Affine Geometry 3 s.h.
Examines affine and metric geometries based on axiom system stated in terms of linear algebra, which leads to important theorems of classical geometry. **Prerequisites:** Undergraduate courses in linear algebra and geometry.

MA 661 Advanced Sampling Theory 3 s.h.
Sampling techniques and the statistical principles underlying their use are introduced along with some of the more difficult nonsampling problems that arise in the design and implementation of large-scale sample surveys. Topics include simple random sampling, stratified random sampling, systematic sampling, cluster sampling, ratio estimation, use of supplementary information, sampling from wildlife populations, and sample size determination. Computer software will be used to facilitate arithmetic calculations. **Prerequisite:** MA 564 or consent of the instructor.

MA 663 Nonparametric Statistics 3 s.h.
Examines statistical procedures valid under unrestrictive assumptions, scales of measurement, efficiency comparisons, signed rank procedures, two-sample rank tests, zero ties, order statistics, k-sample procedures, nonparametric measure of correlation. **Prerequisite:** MA 564 or consent of the instructor.

MA 665 Applied Regression Analysis 3 s.h.
Regression analysis and its interfaces with multivariate methods are presented in this course. The student is introduced to least squares, a matrix approach to linear regression, an examination of residuals, dummy variables, the polynomial model, best regression equations, multiple regression and mathematical model building, and multiple regression applied to analysis of variance and covariance. Computer programs for multivariate analysis will be used. **Prerequisites:** Introductory Linear Algebra and MA 564 or consent of the instructor.

MA 681-683 Special Topics in Mathematics 3 s.h.
Special topics in graduate mathematics beyond the scope of regularly offered graduate classes. Offered as student interest and available staff permit. With approval of the advisor more than one special topics class may be taken. **Prerequisite:** Consent of the instructor.

MA 684 Topics in Operations Research 3 s.h.
Special topics in operations research beyond the scope of regularly offered graduate courses. Offered as student interest and available staff permit. **Prerequisite:** Consent of the instructor.

MA 685 Topics in Statistical Methods 3 s.h.
This variable content course is designed for the student who has knowledge of basic statistical principles including analysis of variance and covariance, regression, and nonparametric statistics. Advanced, innovative, or exploratory topics in applied statistics will be introduced. Content will vary according to the interests of the instructor and students. **Prerequisites:** MA 661, MA 663, and MA 665.

MA 688 Problems in Applied Mathematics 3 s.h.
The purpose of this course is to involve the students in the solution of the mathematical problems which arise in real-world applications or to present topics which apply mathematics to real-world situations. **Prerequisites:** MA 525, MA 564, MA 545, MA 546, and permission of the instructor.

MA 698 Internship 1-6 s.h.
Positions with participating companies or agencies provide students with experience in mathematics-related work under the supervision of agencies and faculty.

MA 699 Independent Study in Mathematics 3 s.h.
Under the guidance of faculty member, a student may study some area of mathematics not included in the regular courses.

MA 850 Thesis 3 s.h.

ME Masters in Education

Department of Professional Studies in Education
College of Education and Educational Technology

ME 661 Community and Culture 6 s.h.
This team-taught Thematic Unit is designed to provide graduate students with a strong theoretical and practical knowledge base of community and the culture in which the school resides. The Thematic Unit also emphasizes indirect educational variables such as community, culture, and language diversity that directly affect all public school learners. Upon the completion of this Thematic Unit, students will possess higher levels of self-efficacy and will be empowered to engage with the school, the community, and the culture in an educational and social context. **Prerequisite:** Formal program acceptance.

ME 662 Instruction and the Learner 6 s.h.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge base of instruction and the learner. Cognitive, humanist, and behavioral views of instruction are analyzed and identified with their corresponding classroom practices. In addition, various aspects of the learner are examined developmentally and within the instructional context. Students will have an opportunity to use a model of reflective thinking and teaching to apply their knowledge of instructional technology to facilitate classroom learning. Students will also learn to apply constructivist perspectives on instruction to personal classroom practice. **Prerequisites:** ME 661.

ME 663 Teacher As Researcher 6 s.h.
This Thematic Unit will provide teachers with the ability to use various research methods that will help them obtain practical knowledge that can be incorporated into their daily classroom practices. These research skills are intended to: a) improve teachers' awareness of and relationships to their students' lives; and b) stimulate the formation of relevant and sound teaching strategies that incorporate their findings into the classroom in ways that recognize, validate, and build upon their students' prior socialization, knowledge, and "meaning-making" strategies. This Thematic Unit will familiarize students with the conceptual frameworks, methods, and research traditions from both quantitative and qualitative perspectives. **Prerequisites:** ME 661, ME 662.

ME 664 Educational Change and Technology 6 s.h.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge base focusing on a number of educational changes occurring in schools today and into the twenty-first century. Topics include (but are not limited to) the possibilities and challenges of technology and the Information Highway, school organization, program design, instructional strategies, assessment practices, and the roles and relationships of educators, families, and community. **Prerequisites:** ME 661, ME 662, ME 663.

ME 665 Curriculum and Instruction 6 s.h.
This team-taught Thematic Unit is designed to prepare graduate students with a strong theoretical and practical knowledge of a variety of instructional design and delivery strategies. Through critical inquiry, students will explore the

organizational, academic, political, and social issues of curriculum and instruction. This Thematic Unit fosters and supports the concept of the teacher reflective practitioner. Students will be encouraged to link theory and practice through the relationship of projects and actual day-to-day classroom practice. The many facets of instructional design and delivery will also invite and support development of students' research assignments. **Prerequisites:** ME 661, ME 662, ME 663, ME 664.

ME 666 Teacher as Leader **6 s.h.**
What are the attributes of a teacher leader? What impact does adult development have on classroom teaching strategies? These two questions provide the overall focus for the Teacher as Leader Thematic Unit, which will present a variety of teacher leadership models as well as the theories related specifically to teachers and adult development. Students will plan and implement specific projects in their own school that relate to these two variables. In addition, students will be required to research and write papers and to develop simulations to enhance their understanding of these theories and models. **Prerequisites:** ME 661, ME 662, ME 663, ME 664, ME 665.

MG Management
Department of Management
Eberly College of Business and Information Technology

MG 613 Organizational Analysis **3 s.h.**
An integrative course oriented toward an empirical analysis of the phenomena and theories of large, complex, formal organizations. Intergroup phenomena are also treated as they pertain to the larger organization. Special study is made of the organization as an economic, decision-making, bureaucratic, and political system. The analysis and design of organizations is viewed from a number of perspectives, including classical theory and case analysis, to illustrate and extend the major topics of the course. **Prerequisite:** MG 310.

MG 623 Seminar in Personnel **3 s.h.**
Designed to offer the M.B.A. student the opportunity to research, study, and discuss various theories, principles, concepts, and issues of current interest to business and personnel managers. The case method will be emphasized, and the focus or theme of the seminar may be different each time it is offered. **Prerequisite:** MG 613.

MG 631 Management Development and Training **3 s.h.**
A survey of the major aspects, trends, and methodologies in management development and training as these specializations are being practiced in enterprises in the advanced Western nations. **Prerequisite:** MG 613.

MG 635 Seminar in Management and Organizational Leadership **3 s.h.**
Studies of theory and research in the leadership of groups and organizations with application to the management fields of business, industry, and labor. The debate, research, and study of controversial leadership issues of current interest to management and preparation of a research paper by the student in his/her occupational interest area are required. **Prerequisite:** MG 613.

MG 637 Operations Management **3 s.h.**
Acquaints the student with a broad range of strategic, tactical, design, and operating (day-to-day) decisions within the operations function in both service providing and goods producing businesses. Emphasis will be on the new paradigm of operations management with focus on current technologies, concepts, philosophies, and managerial practices. Students will obtain a comprehensive insight on a wide variety of topics including management of quality, productivity, technology, and inventory, product and process design, facility location and layout, project management, service and manufacturing management.

MG 642 Organizational Behavior **3 s.h.**
Study of human motivations and their constructive application to all aspects of business. Psychological basis of human relations will be developed as it applies in the business world. Major topics include employer-employee relations, labor relations, stockholder relations, customer relations, community relations, and public relations. **Prerequisite:** MG 613.

MG 651 International Management **3 s.h.**
Study of theories and problems of management in multinational corporations (MNCs). Examines the macro- and structural-level issues of MNCs. Focuses on planning, organization structure, managerial decision making, human resource management in global structures, and differences between MNCs and domestic organizations.

MG 681 Special Topics in Management **3 s.h.**
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and of the College of Business graduate coordinator.

MG 695 Business Policy **3 s.h.**
Provides the graduate student an opportunity to utilize, integrate, and apply the theories, concepts, principles, and tools acquired during his/her business education (accounting, finance, marketing, management, management information systems, statistics, etc.) to real-world business problems and situations. Utilizes lectures, case studies, library research, field research, simulations, role playing, group decision making, and other strategic planning exercises. **Prerequisite:** 15 hours of graduate business courses.

MG 699 Independent Study in Management **1-3 s.h.**
With the approval of the department, students will select one or more topics of critical importance in the field and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisite:** Approval of department chairperson and College of Business graduate coordinator.

MG 850 Thesis **4-6 s.h.**
For students writing the thesis, MG 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 s.h.), for which the student's adviser, two additional faculty members, the College of Business graduate coordinator, and/or the representative of the dean of the College of Business may constitute the committee.

MH Music History
Department of Music
College of Fine Arts

MH 503 Music of the Baroque Era **3 s.h.**
A survey of music from about 1600 to 1750.

MH 505 Music of the Romantic Era **3 s.h.**
A survey of music from about 1800 to 1910.

MH 507 Music of the Twentieth Century **3 s.h.**
A survey of the principal stylistic trends in music from 1900 to the present.

MH 508 Music of the Sixteenth Century **3 s.h.**
A survey of music from about 1500 to 1600.

MI Marine Science
Department of Biology
College of Natural Sciences and Mathematics

MI 500 Problems in Marine Science **3 s.h.**
Independent study for the advanced student in marine sciences. Topics are selected from areas offered by the Marine Consortium, and studies are directed by the instructor in that area. **Prerequisite:** Consent of instructor.

MK Marketing
Department of Marketing
Eberly College of Business and Information Technology

MK 521 Marketing Research **3 s.h.**
Research procedures and techniques applicable to problem solving in the marketing field. Critical analysis of research techniques with considerable emphasis placed on the use of information gathered. **Prerequisite:** MK 320.

MK 530 International Marketing **3 s.h.**
International marketing is analyzed with consideration given to the significance of government regulation, organization structures of export and import enterprises, and credit policies. **Prerequisite:** MK 320.

MK 603 Marketing Management 3 s.h.
An analytical and quantitative approach to decision making and the planning, development, implementation, and control of a marketing program. **Prerequisite:** MK 320.

MK 611 Marketing Communications 3 s.h.
Basic principles of marketing communications, such as sales promotion and advertising, together with a consideration of the major problems encountered in the management of those activities. Emphasizes the determination of basic promotional strategy, selection of advertising media, determination of advertising appropriations, and advertising research. **Prerequisite:** MK 603.

MK 681 Special Topics in Marketing 3 s.h.
Covers advanced or exploratory topics within the discipline. Specific content developed by instructor. Content will vary, depending upon the interests of instructor and students, with the instructor choosing specific topics. May be repeated by specific approval. **Prerequisite:** Permission of the instructor and of the College of Business graduate coordinator.

MK 699 Independent Study in Marketing 1-3 s.h.
With the approval of the department, students will select one or more topics of critical importance in the field and will meet with faculty for independent reading, analysis, and evaluation. **Prerequisite:** Approvals of department chairperson and College of Business graduate coordinator.

MK 850 Thesis 4-6 s.h.
For students writing the thesis, MK 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 s.h.) for which the student's advisor, two additional faculty members, the College of Business graduate coordinator, and/or the representative of the dean of the College of Business may constitute the committee.

MU Music
Department of Music
College of Fine Arts

MU 501 Advanced Choral Conducting 2 s.h.
Material will include large choral works with and without accompaniment. Student will be expected to develop skills in reading score.

MU 502 Advanced Instrumental Conducting 2 s.h.
An intensive study of large instrumental works. Skill development of each individual will be stressed.

MU 509 Piano Pedagogy 3 s.h.
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 510 Seminar in Music 3 s.h.
Subject matter will change each semester. Students will make presentations and write an extensive research paper. Seminar may be repeated (with departmental approval), provided subject matter is not. An in-depth study can be made of narrowly defined areas, such as life and/or works of a specific composer or group of composers.

MU 511 Composition 3 s.h.
Composition of music in various song forms through the rondos and the larger sonata allegro form. Careful analysis of similar forms of major composers. Instruction will be highly individualized and will depend considerably on personal interest of the student.

MU 512 Advanced Orchestration 3 s.h.
Consideration to problems of scoring for full symphony orchestra, string orchestra, and chamber orchestra. Students will produce a full score and orchestra parts so that orchestra may be tested by actual playing by the University Symphony.

MU 515 Canon, Double Counterpoint, and Fugue 3 s.h.
Application of contrapuntal techniques, through analysis and creative writing. Included will be study and writing of two- and three-voice canons; two- and three-part inventions; and two-, three-, and four-voice fugues.

MU 516 Analytical Techniques 3 s.h.
Study of representative compositions of various periods, with emphasis on formal harmonic and stylistic analysis. Student will develop basic analytical techniques necessary for analysis of music of any period.

MU 537 Techniques of the Marching Band 2 s.h.
Theory and practical application of fundamentals of precision drill. Also deals with building "half-time shows" and with materials and instrumentation of the marching band.

MU 540-550 Summer Music Workshop 1-3 s.h.
Concentration in special interest areas. Content varies.

MU 575 Music Ensemble 1 s.h.

MU 600 Bibliography of Music 3 s.h.
Introduces graduate students to various types of music, music literature, and bibliographical tools which exist and which may be used in research in music. As a project, students will prepare an extensive annotated bibliography of a music subject within their special interest.

MU 618 Comprehensive Musicianship 3 s.h.
Combines undergraduate concepts and skills in music theory, literature, and performance at an advanced level using an integrated approach. Prepares student to function in a variety of musical roles.

MU 619 Methods for Comprehensive Musicianship 3 s.h.
Includes learning strategies, experiences, and activities appropriate for introducing comprehensive musicianship at elementary and secondary school levels.

MU 620 Foundations of Music Education 3 s.h.
Study of historical, philosophical, and social foundation of music education, including educational thought and implications for school music programs.

MU 622 Composition II 3 s.h.

MU 623 Composition III 3 s.h.

MU 629 Advanced String Pedagogy 2 s.h.
Study of specific techniques and problems of teaching violin, viola, cello, and double bass in both individual and class situations.

MU 631 Administrative Problems in Music Education 2 s.h.
Review of conventional administrative organization of music education in public schools. Role of music director, music specialist, consultant, and music resources teacher will be carefully defined. Consideration of problems of scheduling in public school. Current issues concerned with music education and public education in general will be considered, including curriculum development.

MU 632 Research Techniques in Music 3 s.h.
Study of techniques appropriate for music and music education, including selection of research problem, collection of data, types of research, survey of current research studies in music, and use of library in connection with research problems. Elements of statistics are introduced as needed to interpret research reports. As part of requirements, student will prepare a written plan for research project or thesis.

MU 635 Psychology of Music Education 2 s.h.
An analysis of the latest evidence produced by the field of psychology in music as applied in actual classroom situations.

MU 636 Advanced Technology of Music Education 2 s.h.
Examination and application of modern communications media and their role in music education. Development of an experimental sound lab and use of electronic devices, synthesizers, and computers. Application of systems approach and programmed learning to music education.

MU 699 Independent Study in Music 1-6 s.h.

MU 850 Thesis 4 s.h.

NU Nursing

Department of Nursing
College of Health and Human Services

NU 615 Advanced Nursing Research **3 s.h.**
An exploration of various research methodologies and techniques. Students will be encouraged to develop a spirit of inquiry in response to nursing problems. Emphasis on the application and critique of selected research. Development of a research proposal will be a requirement. **Prerequisite:** GR 516.

NU 617 Issues in Health Care **3 s.h.**
Study of the ethical, legal, and political dimensions of health care. Current social issues are addressed as they pertain to professional nurses and their constituency.

NU 618 Professional Role Development **3 s.h.**
Advancement of the discipline through the study of nursing history and trends. Analysis of the current and changing roles of the nurse. Individual career planning.

NU 619 Leadership Strategies in Nursing **3 s.h.**
Characteristics and qualities of leadership in professional nursing. Effective leadership strategies for the nurse educator, administrator, and practitioner.

NU 620 Theoretical Foundation for Nursing **3 s.h.**
Contemporary theories of nursing, concept formulation, fundamental theory development, and application to nursing practice.

NU 621 Nursing Inquiry **3 s.h.**
A research course. Emphasis is placed on various strategies for data collection and analysis. Students will complete a research project investigating a nursing problem. Required course for all students electing a non-thesis option. **Prerequisites:** GR 516 and NU 615.

NU 640 Dynamics of Health in the Adult **3 s.h.**
Study of factors which affect the health of adults. Emphasis on normal development and physiological and psychosocial changes as the adult moves through the life span.

NU 641 Nursing Management of Adults Under Stress **3 s.h.**
Nursing interventions for adults with common health stressors. Focus on the most common health problems of our population. Clinical/laboratory component provides opportunity to develop advanced assessment and interview skills. Additional requirements: Professional liability insurance, CPR certification, health screening. **Prerequisite:** NU 640.

NU 699 Independent Study **3 s.h.**
Under the guidance of a faculty member with necessary expertise, the student may study in depth some aspect of nursing or health care not included in required courses.

NU 724 Curriculum Development for Nursing Programs **3 s.h.**
Development of curriculum philosophy, conceptual framework, objectives, and course content essential to undergraduate education in nursing. Overview of curriculum philosophies. **Prerequisites:** NU 615 and NU 620.

NU 725 Teaching Strategies for Nursing Curricula **3 s.h.**
Theories of learning, instructional modalities, teaching strategies, and methods of evaluation as pertaining to nursing education in the classroom setting. **Prerequisites:** NU 620 and NU 724.

NU 726 Clinical Instruction in Nursing **3 s.h.**
Design of clinical instruction for nurses. Instructional modalities, teaching strategies, and methods of performance evaluation as they pertain to nursing education in various clinical and laboratory settings. **Prerequisites:** NU 620 and NU 724.

NU 727 Principles of Nursing Management **3 s.h.**
Conceptual base for nursing management roles within health care organizations. Examination of the administrative role by relating behavioral sciences and organizational and administrative theories to the delivery of nursing services. Focus on the management process as well as on issues and trends that impact on nursing management. **Prerequisites:** NU 620 and MG 613.

NU 728 Administration of Nursing Services **3 s.h.**
Administrative role of the nurse executive is examined. Content focuses on evaluation and quality control within the nursing division and organizational and division finances, as well as current issues and problems of concern to nurse administrators. **Prerequisites:** NU 620, NU 727, and MG 613.

NU 740 Administration Practicum **3 s.h.**
Development of the role as a nurse administrator with guidance of the nursing faculty and a mentor in a nursing administrative position. Contact hours with the mentor and weekly conferences are designed to help the student synthesize previous course material in relation to the nurse administrator. Additional requirements: Professional liability insurance, CPR certification, and health screening. **Prerequisites:** MG 613, NU 620, NU 727, and NU 728.

NU 741 Education Practicum **3 s.h.**
Development of role as a nurse educator with the guidance of the nursing faculty and a mentor in a nursing education setting. Contact hours with the mentor and the weekly conferences are designed to help the student synthesize and apply previous course material. Additional requirements: Professional liability insurance, CPR certification, and health screening. **Prerequisites:** NU 620, NU 724, NU 725, and NU 726.

NU 742 Adult Health Nursing Practicum **3 s.h.**
Continued development of advanced clinical practice in adult health nursing. Clinical experience and conferences provide opportunity for synthesis of knowledge and skills necessary for advanced nursing practice in primary, secondary, and tertiary health care settings. Special emphasis on the nurse's role as coordinator of care. Additional requirements: Professional liability insurance, CPR certification, and health screening. **Prerequisites:** NU 640 and NU 641.

NU 850 Thesis **3-6 s.h.**
Thesis should be scheduled for the semester in which the student plans to complete degree requirements. A committee of faculty members will provide thesis supervision.

PC Psychology

Department of Psychology
College of Natural Sciences and Mathematics

PC 554 Developmental Psychology **3 s.h.**
A comprehensive study of human growth and development from conception to death. Major research findings and developmental theories will be considered.

PC 557 Abnormal Psychology **3 s.h.**
Theories of pathological behavior with reference to clinical and experimental data.

PC 574 Adult Development and Aging **3 s.h.**
A review of theories and research which apply to young, middle, and later adulthood, with particular emphasis on old age.

PC 578 Psychology of Death and Dying **3 s.h.**
Emphasizes the theories and research which delineate the psychological factors affecting the dying person as well as those people close to someone who is dying. Psychological, social, and cognitive factors affecting one's attitude toward death and approaches to coping with dying and death are studied. **Prerequisite:** Permission.

PC 581 Special Topics **3 s.h.**
Designed to examine a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PC 601 Research Methods in Psychology I **3 s.h.**
The design, statistical analysis, and report of laboratory experiments will be studied. **Prerequisite:** Permission.

PC 603 Evaluation Research **3 s.h.**
Introduction to the methodological issues involved in validly assessing the effectiveness of intervention programs relevant to psychology (e.g., human service programs), including a consideration of how the results of evaluation research can be used to improve such programs. Students will participate in either actual or simulated evaluation research projects. **Prerequisite:** Permission, PC 601 or equivalent.

PC 630 Methods of Intervention I 3 s.h.
Methods of studying and improving competency in interpersonal skills as a necessary ingredient of most models of therapy, such as psychoanalysis, client-centered, and behavior modification. Emphasis is placed on theory, research, and personal competence in communication. **Prerequisite:** Permission.

PC 631 Methods of Intervention II 3 s.h.
Emphasis is placed upon the systematic study and application of social influence techniques to the modification of clinical problems. A broad spectrum of cognitive, physiological, and behavior change procedures are studied and evaluated with regard to their cost and effectiveness. A general problem-solving model for decision making, case evaluation, and accountability is advanced. **Prerequisites:** PC 630 and permission.

PC 632 Models of Learning 3 s.h.
Several learning paradigms are described. Emphasis is on the theoretical assumptions underlying the models and their strengths and weaknesses. Applications of the models to changing maladaptive behavior are discussed. **Prerequisite:** Permission.

PC 633 Clinical Group Techniques 3 s.h.
Provides instruction and experience in a variety of group techniques. Includes lectures, demonstrations, and participation in group exercises useful in the clinical psychology profession. **Prerequisite:** Permission.

PC 634 Family Therapy 3 s.h.
Introduction to family and marital therapy. Both systems theory approaches and behavioral approaches will be considered. Process and outcome research will be reviewed. **Prerequisite:** Permission.

PC 635 Advanced Psychopathology 3 s.h.
An in-depth study of the description, causes, and treatment of behaviors considered abnormal by our society. Integrates and extends previous materials in abnormal behavior, assessment, therapy, research methodology, and professional practice. **Prerequisites:** Previous undergraduate course in Abnormal Psychology and permission.

PC 636 Personality Theory and Systems of Psychotherapy 3 s.h.
Several major personality theories are reviewed in a comparative manner with emphasis placed upon issues such as the assumptions about the basic nature of man, personality development, normal and pathological development, and philosophy of treatment for each theory. **Prerequisite:** Permission.

PC 637 Issues in Developmental Psychology 3 s.h.
The processes and structures of life span development are studied. Cognitive, emotional, social, and physical development will be explored, emphasizing the interactive effects of the person's environment, developmental level, and psychological state. **Prerequisite:** Permission.

PC 638 Racial, Cultural, and Gender Issues in Psychology 3 s.h.
The operation of cultural, racial, and gender issues in the theory, research, and practice of psychology is examined. The ways in which a psychologist's own culture, race, and gender may influence professional practice are explored.

PC 641 Psychological Assessment I 3 s.h.
Beginning course in theoretical issues and development of skills in assessing psychological functioning and in report writing. Beginning emphasis on intellectual assessment, followed by the development of an increasing variety of assessment tools. **Prerequisite:** Permission.

PC 642 Psychological Assessment II 3 s.h.
Continuation of PC 641 with increased emphasis on development of skills in areas of objective and projective tests, behavioral observations, self-report measures, and other assessment techniques. **Prerequisites:** PC 641 and permission.

PC 646 Drugs and Behavior 3 s.h.
Introduction to various aspects of drugs and behavior. Includes exploration of factors influencing drug effects, problems in drug research, therapeutic use of drugs, legal use and abuse of drugs, and social aspects of drug experience. **Prerequisite:** Permission.

PC 647 Clinical Neuropsychology 3 s.h.
The study of the relationship between human brain dysfunction and abnormal behavior. Includes assessment techniques used to diagnose brain damage. **Prerequisite:** Permission.

PC 658 Advanced Social Psychology 3 s.h.
Advanced survey of the relationship between the social environment and human behavior. Topics include social influence, attitude formation and change, attribution and social cognition, interpersonal attraction, aggression, altruism, small group interaction, and environmental psychology. **Prerequisite:** Permission.

PC 660 Child Clinical Psychology 3 s.h.
Approaches unique to child psychopathology, assessment, and intervention are explored. Ages from birth to adolescence are covered. **Prerequisite:** Permission.

PC 661 Psychology and Medicine I 3 s.h.
The area of health psychology and its role in behavioral medicine are introduced. Psychophysiology, which provides much of the foundation for health psychology, is studied through readings, lectures, and hands-on experiences with psychophysiological recording equipment. **Prerequisite:** Permission.

PC 670 Therapeutic Techniques Lab 2 s.h.
Presents didactic and experiential training in tactics of achieving insight, emotional awareness, emotional escalation or reduction, cognitive-perceptual change, and behavior change for use in individual psychotherapy. **Prerequisites:** PC 630 or equivalent, simultaneous enrollment in PC 631, and instructor permission.

PC 681 Special Topics 1-6 s.h.
Designed to examine a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PC 699 Independent Study in Psychology 1-6 s.h.
Individual students develop and conduct research studies in consultation with a faculty member. **Prerequisite:** Permission.

PC 704 Clinical Research Methods 3 s.h.
Introduction to data analysis techniques and methodological problems commonly encountered in clinical research. Methods appropriate for single subjects as well as groups are explored. **Prerequisites:** PC 601 and PC 641.

PC 706 Teaching of Psychology 1 s.h.
Basic dimensions of the teaching process are discussed, including course planning and structure, developing and presenting lectures, using alternative pedagogical techniques, evaluating student performance, addressing issues of diversity in the classroom, etc. Skill-practice in these areas is emphasized. **Prerequisite:** Instructor permission.

PC 743 Psychological Assessment III 3 s.h.
Continuation of PC 642 with emphasis on nontraditional assessment methods such as family observations, mental status ratings, and social skills assessment. Topics in clinical judgment and inference and a combination of assessment data and report writing are covered. **Prerequisite:** PC 642 or permission.

PC 760 Advanced Psychotherapy with Children 3 s.h.
Theories and treatment interventions used in therapy with children are explored. Opportunities to practice basic psychotherapeutic skills in interviewing, treatment planning, and intervention provided under intensive supervision. **Prerequisite:** PC 660 or permission.

PC 761 Psychology and Medicine II 3 s.h.
The roles of psychological and environmental variables in the development, maintenance, and recovery from disease are studied. Approaches to studying relationships between stress, coping, and disease are emphasized. **Prerequisite:** PC 661.

PC 763 Advanced Family Therapy 3 s.h.
Concerns current family therapy theories and methods with an emphasis on brief, problem-focused models of assessment and interaction. Integrative approaches and family systems consultation also will be considered. **Prerequisite:** PC 634 or its equivalent.

PC 764 Hypnotic Methods in Psychotherapy 2 s.h.
This course involves an in-depth study of theory, research, and the clinical practice of hypnosis. **Prerequisites:** PC 630, PC 635, or their equivalents, and instructor permission.

PC 770 Professional Issues 3 s.h.
An examination of professional problems in the field of clinical psychology. Includes topics such as training philosophies, licensure, legal issues such as involuntary commitment and expert witness, ethical standards, and professional organizations. **Prerequisite:** Permission.

PC 781 Special Topics 1-6 s.h.
Designed to examine a special topic in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PC 791 Family and Couples Clinic **1-6 s.h.**
Students will be assigned clients in the Family Clinic. A team training model is used with close supervision by the instructor. Available for variable credit and repeated enrollment. **Prerequisites:** PC 634 or its equivalent, successful supervised clinical experience, and instructor permission.

PC 792 Stress and Habit Disorders Clinic **1-6 s.h.**
A seminar/clinic in the assessment and treatment of stress and habit disorders. Clients are assigned to students from the Stress and Habit Disorders Clinic. Available for variable credit and for repeated enrollment. **Prerequisites:** PC 631, PC 635 or their equivalents, and instructor permission.

PC 793 Assessment Clinic **1-6 s.h.**
Students will be assigned clients from the Assessment Clinic. Emphasis is placed on skill development in interviewing, administration and scoring of psychological assessment instruments, writing of reports, consultation with referral sources, and supervision. A team training model is used with close supervision by the instructor. Available for variable credit and for repeated enrollment. **Prerequisites:** PC 641, PC 642 or their equivalents, and instructor permission.

PC 798 Advanced Psychological Practicum **1-21 s.h.**
Provides supervised experience in applied settings. Variable credit depending on setting. **Prerequisite:** Permission.

PC 799 Internship **3 s.h.**
An in-depth supervised experience designed to assure a professional level of competence in several skill areas and to assist in developing an identity as a health care professional. May be taken full-time for twelve months or half-time for twenty-four months. **Prerequisite:** Permission.

PC 850 Thesis **1-6 s.h.**
A supervised research project approved by a committee of faculty members. A thesis proposal must be approved by the end of the third full semester of graduate work, and the finished thesis must be defended within the following year. Students enroll for three semester hours for two semesters.

PC 950 Doctoral Project (Dissertation) **3-9 s.h.**
A culminating scholarly activity requiring the mastery of an area of professional interest. Requires a review of relevant literature and the collection and analysis of data. An oral presentation of the proposal and an oral defense of the finished product are required.

PH Philosophy
Department of Philosophy and Religious Studies
College of Humanities and Social Sciences

PH 560 Philosophy of Language **3 s.h.**
An investigation in the philosophy of language and related issues in linguistics (including anthropological linguistics, sociolinguistics, and psycholinguistics). Sample topics include the influence of language on perception, rationalistic/empiricist perspectives on language acquisition, language and political control, reference, meaning, and truth.

PH 581 Special Topics **3 s.h.**

PH 599 Independent Study **1-6 s.h.**

PS Political Science
Department of Political Science
College of Humanities and Social Sciences

PS 500 Research Methods in Political Science **3 s.h.**
This course provides students with a working knowledge of the statistical techniques commonly applied to the study of political phenomena and an understanding of the basic assumptions, limitations, and theoretical foundations of these various techniques. Specifically, the course will focus on measurement principles, research design and data collection, univariate distributions, sampling, and bivariate analysis.

PS 520 International Law **3 s.h.**
Study of the development, nature, and function of international law, including recent trends.

PS 521 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 550 The Presidency **3 s.h.**
Examines the office of President with attention to Constitutional foundations, evolution, structure, powers, and functions. Comparisons are made between Presidential and parliamentary systems and between offices of President and governor.

PS 551 The Legislative Process **3 s.h.**
Legislative process in the U.S. with emphasis on Congress. Focus on organization and function of legislative bodies, with American legislative institutions compared with those of other nations.

PS 553 American Political Parties **3 s.h.**
Role of people, parties, and pressure groups in politics of American democracy. Attention to sectional and historic roots of national politics, voting behavior, pressure group analysis, and campaign activities.

PS 554 Metropolitan Problems **3 s.h.**
Analyzes multiplicity of problems facing our metropolitan areas, such as urban renewal, shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities, and political consolidation.

PS 555 Intergovernmental Relations **3 s.h.**
Explores the characteristics of federal system of government with emphasis on theories, origins, institutions, and problems in intergovernmental relations in the U.S.; federal systems in other nations; and trends.

PS 556 Mass Media in American Politics **3 s.h.**
Variant theories of the symbiotic relationship between American politics and the press are examined in the light of American colonial-national experiences. The special Constitutional rights given to media are explored, with particular attention to radio and television.

PS 558 Judicial Process **3 s.h.**
Explores nature and limits of judicial power, courts as policymaking 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 559 Constitutional Law and Civil Liberties **3 s.h.**
Study of civil liberties and civil rights issues through leading Supreme Court decisions. Topics include First Amendment rights, procedural due process, and the Bill of Rights and equal protection problems.

PS 560 Classical Political Thought **3 s.h.**
Evolution of 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 state and sovereignty. Concepts of law, natural rights, liberty, equality, and justice are treated in detail.

PS 561 Modern Political Thought **3 s.h.**
Development of Western political thought since the mid-sixteenth century; classic liberalism; conservative thought; modern irrational ideologies such as fascism and national socialism; socialist thought; contemporary collectivist liberalism.

PS 562 American Political Thought **3 s.h.**
Develops an understanding of American political thinkers from the Puritans through the current Afro-American writers. Political phenomena are examined relating to past writings and inferences are made for future political behavior.

PS 570 Introduction to Public Administration **3 s.h.**
Examines the environment of public administration, organizational structure, executive functions, the politics and tools of administration, personnel processes, financial administration, and the problems of democratic control of bureaucracy.

PS 580 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 581 Special Topics **1-3 s.h.**
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.

PS 582-587 Political Studies **3 s.h.**
Comparative study of government and politics of a selected region.

PS 582 Africa

PS 583 Asia

PS 584 Middle East

PS 585 Central and Eastern Europe

PS 587 Latin America

PS 588 Political-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 589 Developing Nations **3 s.h.**
Deals with the political characteristics of emerging nations; the impact of economic and social change upon political structure; evolving patterns of political development; and techniques of nation-building.

PS 631 Human Resource Management in Public Sector **3 s.h.**
In-depth study of human resources management systems with special focus on public sector organizations. Emphasizes the development of an understanding of traditional functional systems as well as skills necessary to manage such systems successfully.

PS 666 Public Policy Analysis **3 s.h.**
Examines public policy, using analytical tools and policy models. Considered within this framework are values and resources, the cultural-political environment, the policymaking process, and evaluation methods and their application to major policy areas.

PS 668 Public Sector Financial Administration **3 s.h.**
Concerned with the administration of fiscal and monetary processes of government on all three levels. Included are topics related to revenue and expenditure, how the former are calculated and provided for, and how the latter are prioritized and allocated via the budgetary process; control systems which are concerned with recordkeeping and the monitoring of the flow of revenues.

PS 670 Foreign Policy Studies **3 s.h.**
Considers selected problems in international affairs. Emphasis on those problems and conflicts which have evolved in the postwar era, particularly as they relate to position of the United States in world affairs. Specific problems are approached both in terms of countries involved and the existing balance in world economic, ideological, and power structure.

PS 671 Seminar in Public Administration **3 s.h.**
Intensive study of role of agencies and their administrators in determining and developing public policy. Public administration in practice is emphasized by utilizing case studies.

PS 672 Comparative Political Studies **3 s.h.**
Theory, structure, and function of state, county, and municipal governments are analyzed from a cooperative point of view. Special emphasis on comparing and contrasting ideas and institutions with those of the U.S.

PS 674 Analytical Techniques **3 s.h.**
Exposes the student to approaches, methods, tools, focus, and boundary lines of political science study. As a research methods course in graduate political science, it should be scheduled early in the program.

PS 675 International Political Economy **3 s.h.**
Examines the interaction between governments and markets on economic issues. This examination will occur comparatively both within countries and between nations. Designed to acquaint students with the theoretical issues, trends, and findings of some of the major studies on and subfields within international political economy. Assumes a basic familiarity with foreign policy, comparative politics, and economics. The focus is on both international political economy as a subject and a field of study.

PS 681 Special Topics **1-3 s.h.**
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.

PS 698 Political Science Internship **3-6 s.h.**
Practical experience in government and politics. Students are individually assigned to a cooperating local or state government agency, political party, or interest group or to a federal or international agency when arrangements can be made. Students report periodically to professor in charge and undertake reading assignments and write such reports and papers as the professor may require. **Prerequisite:** Must have approval of instructor and department chairperson.

PS 699 Independent Study **1-3 s.h.**
Readings and written assignments on a specific topic determined by student and instructor in charge. May be repeated.

PS 850 Thesis **3 s.h.**

PY Physics
Department of Physics
College of Natural Sciences and Mathematics

PY 507 Introduction to Mathematical Physics I **3 s.h.**
Designed to provide background needed for most 500-level courses. Student will acquire skills in problem solving in areas of mechanics and wave motion utilizing calculus and vectors. **Prerequisite:** Permission of advisor.

PY 508 Introduction to Mathematical Physics II **3 s.h.**
A continuation of PY 507. Develops skills in problem solving in areas of electricity and magnetism utilizing vectors and calculus. **Prerequisite:** Permission of advisor.

PY 510 Introduction to Theoretical Physics **3 s.h.**
Application of mathematical methods to physical theory in area of mechanics, electricity, and magnetism, including partial differentials, vector calculus, and non-Cartesian coordinate systems. **Prerequisite:** Permission of advisor.

PY 511 Secondary School Physics Laboratory Practice **1-3 s.h.**
Designed not only to give the student training in use of PSSC and Harvard Project Physics laboratory materials but also to increase his/her ability to make the lab a more effective teaching tool.

PY 520 Advanced Laboratory Practice **3 s.h.**
Experimental physics. Experiments are made available to supplement student's previous training. Data interpretation and experimental techniques are emphasized. Topics can include but are not limited to various methods of measurement and analysis of radioactivity, interferometry, spectrometry, microwave optics, NMR, mechanical vibrating systems, and thermal properties.

PY 531 Modern Physics **3 s.h.**
An introduction to particle and wave properties of matter, atomic structure, quantum mechanics, and the quantum mechanical model of the atom.

PY 533 Thermal and Statistical Physics **3 s.h.**
A unified approach to the study of thermodynamics through use of statistical methods. Temperature, entropy, chemical potential, and free energy are introduced and applied to a monatomic ideal gas and systems of fermions and bosons in quantum and classical regions.

PY 535 Electronics **4 s.h.**
DC and AC circuits, diode circuits, and transistor circuits, such as the common emitter and emitter follower amplifiers, are extensively covered. Negative feedback, operational amplifiers, oscillators, and digital logic are introduced. These topics are discussed in lecture and investigated by the student in the lab.

PY 536 Advanced Electronics **3 s.h.**
Field effect transistors, noise problems, grounding and shielding, applications of digital logic, digital-to-analog-to-digital conversion techniques, transmission lines, and microprocessor applications. Two one-hour lectures and one three-hour lab. **Prerequisite:** PY 535.

PY 541 Analytical Mechanics I **2 s.h.**
Kinematics, particle dynamics, gravitation, free and forced harmonic motion. Treatment of these topics utilizes vector calculus and differential and integral calculus.

PY 542 Analytical Mechanics II **2 s.h.**
Central-force motion, high-energy collisions.

PY 545 Optics **3 s.h.**
Main concepts of modern optics utilized in areas of geometrical, wave, and quantum optics. Includes presentation of illustrative examples in areas of laser technology, complex optical systems, interferometry, and spectroscopy.

PY 551 Electricity and Magnetism I **2 s.h**
Coulomb's law, electrostatic potential, Gauss's law, and dielectrics will be presented using vector calculus in a modern field formalism. **Prerequisite:** PY 510.

PY 552 Electricity and Magnetism II **2 s.h.**
Biot and Savart's law, induced emf, vector potential, displacement current, special relativity, and electromagnetic radiation will be presented using techniques introduced in PY 551. **Prerequisite:** PY 551.

PY 555 Computer Interfacing **3 s.h.**
Designed to teach the fundamentals of interfacing the personal computer with its physical surroundings. Students will learn to collect data and to control experiments. In addition, they will learn to use digital to analog and analog to digital conversion techniques, as well as how to use virtual instruments. Students will also learn to use LabVIEW (or a similar software package) to design icon-based interfacing tools and to investigate the conditioning of analog and digital information. The students will complete a special project determined by the instructor and the student. **Prerequisites:** Experience in writing computer programs in the C language.

PY 561 Quantrum Mechanics I **3 s.h.**
Introduction to theory of linear vector spaces, linear operators, eigenvalues, eigenvectors, and eigenfunction and their application to the harmonic oscillator, hydrogen atom, electron in a magnetic field, scattering, and perturbations. **Prerequisites:** PY 541 and PY 531 or equivalent.

PY 565 Introduction to Nuclear Physics **3 s.h.**
Survey of introductory nuclear physics, including nuclear size, mass, types of decay, models, forces, elementary particles, reaction theory.

PY 575 Physics of Semiconductor Devices I **3 s.h.**
Develops the student's basic foundation of the theory of semiconductors. Elementary quantum concepts, the band theory of solids, electrical properties of solids, effective mass theory, and principles of semiconductor devices are discussed. **Prerequisites:** PY 533, PY 535, PY 545, or permission of instructor.

PY 576 Physics of Semiconductor Devices II **3 s.h.**
This course discusses the physics and operation of a number of discrete devices. These include bipolar transistors, MOSFETS, JFETS, various diode technologies, photovoltaic and photoconductive devices, solid state lasers, and light-emitting diodes. **Prerequisites:** PY 575 or permission of instructor.

PY 590 Solid State Physics **3 s.h.**
Reciprocal lattice, crystal structure, the quantization of fields to produce quasiparticles such as phonons, magnons, and excitons. Fermi gas of electrons, energy bands, semiconductor crystals, and photoconductivity. **Prerequisites:** PY 531 and 542.

PY 599 Special Studies **1-6 s.h.**
A special topic may be offered at the discretion of the department to fulfill a special necessity.

PY 600 Methods of Research in Physics **2 s.h.**
Offers the student practical training in special methods and materials of research in physics. Emphasis on types of research and use of physics and physics-related journals and library facilities. **Prerequisite:** Permission of department.

PY 601 Theoretical Physics I **3 s.h.**
Serves as a preparation in mathematical physics for graduate student. Included will be vector analysis, curvilinear coordinate systems, infinite series, complex variables and the calculus of residues, and ordinary and partical differential equations. **Prerequisite:** Permission of department.

PY 602 Theoretical Physics II **3 s.h.**
A continuation of PY 601, covering Tensor analysis, matrices, group theory, Sturm-Liouville theory, special functions, Fourier series, integral transforms, Green's functions, and integral equations. **Prerequisite:** PY 601.

PY 634 Statistical Mechanics **3 s.h.**
A quantum approach to statistical mechanics. Fermi, Bose, ideal gas, and imperfect gas systems are investigated. Special topics in kinetic theory of gases, transport phenomena, magnetic systems, and liquid helium. **Corequisite:** PY 561 or its equivalent.

PY 641 Advanced Mechanics I **3 s.h.**
Includes the following topics: Lagrange's equations, Hamilton's Principle. Two-body central force, Euler's Theorem, small oscillations, Hamilton's equations, canonical transformations. **Prerequisite:** PY 542 or its equivalent.

PY 642 Advanced Mechanics II **3 s.h.**
Rigid body mechanics, including angular momentum, Euler's equations, precessions, special relativity, covariant four-dimensional formulation, Hamilton-Jacoby Theory, introduction to classical field theory. **Prerequisite:** PY 641 or equivalent.

PY 651 Advanced Electromagnetic Theory I **3 s.h.**
Solution of boundary value problems using Green's functions and separation of variables techniques. Cartesian and spherical coordinate systems, multipole expansions, macroscopic electrostatistics and magnetostatistics, Maxwell's equations, and plane electromagnetic waves. **Prerequisite:** PY 552 or equivalent.

PY 652 Advanced Electromagnetic Theory II **3 s.h.**
Solution of electrostatic problems using cylindrical coordinates. Green's function for time-dependent wave equation, conservation laws, wave guides and resonant cavities, Special Theory of Relativity, simple radiating systems, and diffraction. **Prerequisite:** PY 651.

PY 657 Solid State Theory **3 s.h.**
Quantum approach to solid state. Topics include second quantization of fermion and boson systems, electron theory of metals, electron-phonon interactions, and superconductivity. Selected subjects in thermal transport, magnetic phenomena. **Corequisite:** PY 561 or its equivalent.

PY 661 Quantum Mechanics II **3 s.h.**
Fundamental concepts of quantum mechanics, theory of representations, and linear vector spaces. Approximation methods for stationary problems with applications to central potentials and for time-dependent problems with application to scattering and transition theory.

PY 662 Quantum Mechanics III **3 s.h.**
Classical and quantum fields; interactions between Fermi and Bose fields; relativistic quantum mechanics; and Dirac theory. Introduction to propagators and Feynman diagrams with application to quantum electrodynamics and many-particle systems.

PY 690 Research Problems in Physics **1-6 s.h.**
Introduction to advanced research problems through individual assignment. **Prerequisite:** Permission of department.

PY 699 Independent Study **1-6 s.h.**
Individualized in-depth study of an area 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. The topic must be approved by the supervising faculty member and by the administration prior to the semester in which the course is to be taken.

PY 850 Thesis **1-6 s.h.**

QB Quantitative Business

Department of Management Informations Systems and Decision Sciences
Eberly College of Business and Information Technology

QB 500 Foundations of Business Statistics **3 s.h.**
A conceptual course designed to familiarize students with the basic techniques for obtaining, organizing, summarizing, analyzing, presenting, interpreting, and acting upon numerical activities. Topics include descriptive statistics, random variables, probability distributions, statistical sampling and survey methods, testing of hypotheses, analysis of variance, regression analysis, and time series. Major attention is given to identifying and describing the process involved in carrying out a statistical analysis and how statistical methods may be used within the managerial and business decision process.

QB 601 Quantitative Methods **3 s.h.**
Introduction to the concepts and methods of scientific problem solving in management. Students will learn to formulate mathematical models of complex decision problems and to solve these problems using quantitative methods. Topics covered include linear programming, inventory models, network models, waiting line models, and simulation. **Prerequisite:** QB 215, MA 121.

SA Safety Sciences

Department of Safety Sciences
College of Health and Human Services

SA 541 Accident Investigation **3 s.h.**
Focuses on the 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 is placed on determining sequence of events to develop management actions which will prevent recurrence of accidents. **Prerequisite:** Permission of instructor.

SA 561 Air Pollution **3 s.h.**
Focuses on the various major aspects of the air pollution problem. These include sources of pollution, evaluation and engineering control of pollutants, government regulations, atmospheric chemistry and dispersion, and human and nonhuman effects. Particular emphasis is placed on information that is practical for the safety sciences and industrial health professionals. **Prerequisites:** CH 101 and 102 or equivalent and SA 301 or equivalent courses or permission of the instructor.

SA 562 Radiological Health **3 s.h.**
Involves the study of problems associated with ionizing radiation in the human environment. Emphasis is given to biological effects, radiation measurement, dose computational techniques, exposure control, and local and federal regulations. The study and use of various radiological instruments is included. **Prerequisite:** PY 112 and SA 301, or permission of instructor.

SA 565 Right-to-Know Legislation **3 s.h.**
Covers both the federal and selected state right-to-know laws and related legislation. The scope, application, and enforcement of the various laws including specific legal and moral obligations are discussed. Strategies are explored and developed to identify the means by which employers can gain compliance with regulatory requirements. **Prerequisites:** SA 301 and SA 311 or permission of the instructor.

SA 581 Special Topics **3 s.h.**
A dual-level elective offering in which the specific topic may vary from one term to the next. **Prerequisite:** Permission of the instructor.

SA 601 Concepts of Risk Assessment **3 s.h.**
The concept of risk is implicit in every justification for hazard control measures and is an important criterion in the evaluation of hazards. This course provides definitions and methods for risk measurement in various contexts. Rationale are developed for establishing acceptable risk levels and for safety management decision making.

SA 602 Quantitative Methods in Safety Management **3 s.h.**
Prepares individuals for the conduct of research in safety and its numerous subspecialties. Research paradigms, experimental design, data sources and collection, and statistical methods are covered in detail. The emphasis throughout is on quantitative approaches likely to produce valid new knowledge in the discipline of safety management. **Prerequisites:** SA 345 and MA 217 or permission of the instructor.

SA 603 Human Relations in Safety Management **3 s.h.**
Integrates various behavioral science theories into the practice of safety management. Areas covered are motivation, communications, managerial interactions, and controlling worker behavior as it relates to accident causation. **Prerequisites:** PC 101 and MG 642 or permission of instructor.

SA 604 Industrial Toxicology **3 s.h.**
Principles and techniques for evaluating toxicological properties of chemical substances are studied with particular emphasis on extrapolation of information to determine permissible exposure limits in the workplace. The student is acquainted with requirements for operating an animal toxicology facility as well as means of obtaining relevant human experience data. **Prerequisites:** CH 101, CH 102, MA 217 or permission of instructor.

SA 605 Advanced Principles of Safety Engineering **3 s.h.**
Prepares the student with a fundamental understanding of those hazards which can contribute to accidental injury and damage. These hazards are studied in an engineering context; their physical and chemical characteristics are studied in depth in order to make the appropriate hazard control measures better understood. **Prerequisites:** SA 111, SA 211, and PY 112 or permission of the instructor.

SA 606 Hazardous Materials Management **3 s.h.**
Offers the student a logical approach to the problem of hazardous materials management. Emphasis is on legislative controls with which industry must comply in shipping, storing, using, and disposing of hazardous materials. Program development in hazardous materials is covered in detail. **Prerequisites:** SA 311, CH 101, and CH 102 or permission of instructor.

SA 620 Safety Data Management **3 s.h.**
Covered are design of loss incident source documents and code dictionaries; procedures to collect accident cost and cause data; accident cause analysis; and data for management accountability and decision making. **Prerequisites:** SA 412 or permission of instructor.

SA 623 Advanced Safety Administration **3 s.h.**
Analyzes the management structure for its procedures, organizations, policies, and departmental competencies as they relate to safety. Ways to audit and improve management's safety effectiveness are covered. **Prerequisites:** SA 412 or permission of instructor.

SA 643 Construction Safety **3 s.h.**
Provides an in-depth treatment of hazard recognition, evaluation, and control principles used in the construction industry. Extensive coverage of federal standards is given, together with the means by which a construction safety program can be developed and administered. **Prerequisite:** SA 211 or permission of the instructor.

SA 644 Preventing Unsafe Acts **3 s.h.**
Accident cause analysis narrowed to behavior analysis to determine motivation problems and behavior skill deficiencies with appropriate intervention techniques are covered. Cost/benefit analysis of accident costs versus training program benefits and OSHA training requirements are presented. Proposals for funding of training programs as well as writing behavioral objectives are covered. Course descriptions and course, unit, and lesson outlines as well as lesson plan development are presented. Lesson plan presentations and evaluation techniques are included.

SA 663 Industrial Hygiene Laboratory Methods **3 s.h.**
Laboratory methods germane to industrial hygiene sampling and analytical methods are studied in depth. The student is introduced to a variety of laboratory procedures as well as biological monitoring. Sampling and analytical statistics are also emphasized. **Prerequisites:** SA 302 and SA 303 or permission of instructor.

SA 664 Industrial Noise Control **3 s.h.**
Provides an understanding of the physics of sound, functioning of the human hearing mechanism, instrumentation for measuring sound levels, and application of control strategies. Emphasis is placed on engineering controls, although administrative controls and use of personal protective equipment are discussed as well. Components of an overall continuing, effective hearing conservation program are reviewed in detail.

SA 672 Process Safety in the Chemical Industries **3 s.h.**
Designed to cover all important aspects of loss prevention as it is practiced in the chemical process industries. Its objective is to prepare the safety professional so that he/she may be able to work more effectively with chemists and chemical engineers in joint hazard identification, evaluation, and control projects. **Prerequisite:** SA 311 or equivalent or permission of instructor.

SA 673 Disaster Preparedness **3 s.h.**
Principles and techniques for preparing for various types of disasters. The students are acquainted with requirements necessary to develop workable plans for natural and industrial types of disasters. Loss prevention measures are discussed, directed toward preservation of organization resources. **Prerequisite:** SA 311 or equivalent or permission of instructor.

SA 674 Fire Safety in Building Design **3 s.h.**
The student is provided with the necessary concepts and principles for the safe design of buildings from a fire hazard standpoint. Emphasis is given to adequate understanding of fire properties as they influence selection of materials for construction, fire prevention facilities, and fire suppression considerations. **Prerequisite:** SA 311 or equivalent, or permission of instructor.

SA 681 Special Topics **3 s.h.**
A graduate-student-only elective offering in which the specific topics may vary from one term to the next. **Prerequisite:** Permission of instructor.

SA 699 Independent Study **3 s.h.**
Study in depth of a topic not available through other course work. Student works with supervising faculty member on carefully planned, student-initiated project. Prior approval is necessary. **Prerequisite:** Permission of instructor.

SA 850 Thesis **3 s.h.**
The thesis will require a committee review with one faculty member serving as the student's adviser. The committee will also include two additional faculty members and a representative of the dean of the College of Health and Human Services. **Prerequisite:** Permission of instructor.

SH Speech-Language Pathology
Department of Special Education and Clinical Services
College of Education and Educational Technology

SH 600 Neurolinguistics **3 s.h.**
An overview of basic anatomy of those portions of the central nervous system that control linguistic functions, hypotheses accounting for evolution of the linguistic system, and the neurological control of human communication. The course will prepare the student for advanced study of speech and language development and neurogenic communication disorders of children and adults. **Prerequisite:** Graduate status in Speech-Language Pathology or permission of the instructor.

SH 604 Diagnostic Methods **3 s.h.**
Evaluation of tests and techniques of diagnosis of speech and language disorders; interpretation of results and planning appropriate subsequent case management. Interviewing techniques appropriate to case history taking. Writing of diagnostic and case-history reports.

SH 610 Articulation **3 s.h.**
Linguistic approach to articulatory process and analysis of misarticulation as symptoms of language dysfunction; variables related to articulatory mastery; programmed, traditional, and sensory-motor methods of modifying articulatory behavior.

SH 616 Stuttering **3 s.h.**
Nature and causes of stuttering. Emphasis on diagnosis and management. Counseling and learning theory application as two main approaches to treatment. Consideration of the person as a stutterer. Review of pertinent and recent research topics.

SH 618 Voice **3 s.h.**
Scientific principles of voice production and modification with emphasis on physiology, pathologies, or malfunctioning which produce voice defects; relationship between disorders of voice and personality; diagnostic and therapeutic considerations for both organic and psychogenic disorders, including the laryngectomized.

SH 630 Language Disorders of Children **3 s.h.**
Anatomical, physiological, psychological, neurological, and environmental factors related to language delay or disordered language acquisition. An inventory of language skills and means of fostering their development or compensating for inadequacies; a holistic versus specific approach to programs of remediation. **Prerequisite:** SH 600.

SH 632 Neurological Communication Disorders **3 s.h.**
Consideration of language, speech, and related problems resulting from neurological insult. Neurological dysfunctioning will be highlighted. Diagnosis and management of persons with aphasia, agnosias, apraxias, and dysarthrias will be emphasized, as well as the role of the family in rehabilitation and family counseling.

SH 635 Seminar in Communication **1-3 s.h.**
Intensive study of one or more areas of speech science, speech and language pathology, or audiology. Topics vary to meet the student's needs and interests. Course may be repeated for credit with a change in area considered. **Prerequisites:** Speech-Language Pathology major, admission to degree candidacy, and advisor approval.

SH 640 Diagnostic Audiology **3 s.h.**
Identification and description of types of hearing impairment by standard audiometric procedures including pure tone, speech, and site of lesion batteries. Testing of special populations as well as evaluation for fitting of amplification.

SH 661 Advanced Clinical Practicum I **2-6 s.h.**
Supervised practicum experience in the University Speech and Hearing Clinic with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and administration of programs of therapy plus interviewing, diagnosing, counseling, and report writing.

SH 662 Diagnostic Clinic **1 s.h.**
Supervised practicum experience in performing in-depth diagnostic evaluations with individuals exhibiting any type of speech, hearing, or language dysfunction. Experience in taking case histories, conferring with patients, and report writing.

SH 663 Hearing Testing Clinic **1 s.h.**
Supervised practicum experience in performing diagnostic audiological tests.

SH 671 Advanced Clinical Practicum II **1-6 s.h.**
Similar to SH 661; students assume more responsibility, and experience may take place at approved off-campus sites. **Prerequisite:** SH 661.

SH 681 Special Topics

SH 696 Internship in Hospitals **6 s.h.**
Supervised clinical experience in off-campus hospital settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SH 697 Internship in Community Agencies **6 s.h.**
Supervised clinical experience in off-campus community agency settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SH 698 Internship in Schools **6 s.h.**
Supervised clinical experience in school settings with individuals exhibiting speech, language, and/or hearing dysfunction. Planning and implementing programs of therapy plus interviewing, diagnosing, counseling, and report writing. **Prerequisites:** Graduate methodology, on-campus practicum courses, permission of graduate coordinator, and undergraduate Professional Education Sequence.

SH 850 Thesis **3 s.h.**

SO Sociology

Department of Sociology
College of Humanities and Social Sciences

SO 527 Spouse Abuse **3 s.h.**
Considers the range of theoretical explanations for the pervasive violence between husband and wife, cohabitating partners, or dating couples. Research on spouse abuse and its implications for treatment programs, criminal justice intervention, and social policy are discussed.

SO 528 Child Abuse **3 s.h.**
The prevalence, etiology, and social implications of physical, sexual, and emotional abuse and child neglect are examined. Intervention strategies for individual perpetrator and victim and for the family unit and prevention strategies for the community are also presented and critiqued.

SO 542 Social and Cultural Aspects of Health and Medicine **3 s.h.**
Review of fields of medical sociology and anthropology; focuses on such topics as social background of illness, folk medicine, cultural differences in perceptions of health, and social organization of health facilities.

SO 581 Special Topics in Sociology **3-6 s.h.**
Seminar focuses on specialized areas in the discipline not covered by regular courses. Students will do extensive reading in the area. Courses may be repeated under different subtitles.

SO 610 Sociology of Human Services **3 s.h.**
Introduction to the theoretical and applied roles of human services in our society. Organizational theories, delivery systems models, and implementation issues are discussed.

SO 611 Human Services Administration **3 s.h.**
Examines the management of human service agencies, including personnel supervision, financial planning, public relations, and social policy issues. Evaluation design, program monitoring, and social impact measurement are also discussed.

SO 612 Methods for Human Service Practitioners **3 s.h.**
Enables students to apply sociological methods such as observation, interviewing, and questionnaire development to direct service situations. Students will work with service users in area agencies to help them identify their resources, concerns, and priorities and to develop family service plans.

SO 621 Sociology of Health Care **3 s.h.**
Examines the contrasting perspectives in the field of medical sociology, the structure of health care institutions, and the operation of health care providers. The social, environmental, and occupational factors in health and disease are considered as well.

SO 630 Seminar in Alcohol and Drug Abuse **3 s.h.**
The social and personal problems associated with alcohol and drug abuse are considered. Attention will be given to the etiology, social factors, and economics of abuse, as well as to prevention and intervention issues.

SO 632 Addiction and the Family **3 s.h.**
Assesses the impact of alcohol or drug addition on individuals and their families. Research on addiction patterns, codependency, and family treatment are discussed. Special attention is given to gender and racial differences in addiction and their impact on the family.

SO 636 Sociology of the Family **3 s.h.**
Involves the sociological analysis of the family from a variety of theoretical viewpoints such as functionalism, conflict theory, exchange theory, symbolic interactionism, systems theory, and developmental theory. Special emphasis is placed on the contemporary American family. However, cross-cultural and historical comparisons will be made, with the focal theme being the "decline of the family." Specific topics to be covered include: gender, the family in historical context, power relationships and family roles, parent-child interaction, marital satisfaction, marital disruption, and the interrelationships between race/ethnicity, social class, work roles, the family, and family policy. **Prerequisite:** Graduate only.

SO 642 Industrial Sociology **3 s.h.**
Examines structure and exercise of corporate power. Attention is given to relationships between industry, government, and communities and the transformation of the workplace in the twentieth century.

SO 654 Social Inequality **3 s.h.**
Examines central theoretical perspectives on social inequality. Considers such topics as the nature of social classes and inequality; characteristics of working class, poor, and super-rich; gender and racial inequality; and how social policies effect inequality in the United States.

SO 656 Social Change **3 s.h.**
Explores nature and consequences of social change, alternative theoretical perspectives on social change, and how social change might be implemented. Also discusses lessons to be learned from various planned change efforts.

SO 662 The Sociology of Deviance **3 s.h.**
Relationship between individual deviance and social and cultural factors is examined. How different groups set limits for acceptable behavior is analyzed in comparative and historical context.

SO 664 Research Seminar in Sociology **3 s.h.**
Examination of diverse research designs in the social sciences. Focuses on understanding and critique of designs in the social sciences and on integration of theory and research. Special attention given to development of thesis proposal. Required for M.A. in Sociology.

SO 665 Microcomputing Applications in Sociology **3 s.h.**
Analysis of data for social research, human service agencies, or policy organizations. Students develop database management systems which can be applied to social research, human service agencies, or policy organizations, as well as spreadsheets for program budgeting, evaluations, and forecasting. Required for M.A. in Sociology. **Prerequisite:** CO 101 or equivalent.

SO 667 Contemporary Sociological Theory **3 s.h.**
Examination of major systems of sociological theory and major theoretical controversies vying for attention in contemporary sociology. Emphasis given to theories in macrosociology, especially functionalism, neo-Marxian conflict theory, and societal evolutionism. Required for M.A. in Sociology.

SO 681 Special Topics in Sociology **3-6 s.h.**
Seminar focuses on specialized areas in the discipline not covered by regular courses. Students will do extensive reading in the area. Courses may be repeated under different subtitles.

SO 698 Internship **3-6 s.h.**
Supervised experience in public or private organizations that extends and complements classroom instruction. Students gain practical experience and apply their skills to human service agencies, policy organizations, or research settings. **Prerequisite:** Permission.

SO 699 Independent Study in Sociology **1-3 s.h.**
Students wishing to specialize beyond course work are encouraged to work on a one-to-one basis with faculty members in independent study. Students may elect up to a total of six semester hours of independent study.

SO 701 Social Policy Issues in Organizations **3 s.h.**
Analyzes impact and implementation of selected social policies (e.g., affirmative action, sexual harassment, substance abuse policy) in human organizations. Assesses efforts to enhance and respond effectively to ethnic, racial, social class, and gender diversity in organizations.

SO 764 Seminar in Applied Human Services Research **3 s.h.**
Emphasizes the analytical tools and methodologies relevant to students in human services administration and provides the foundation for the completion of the students' field experience and dissertation research requirements. Projects are assigned to facilitate an in-depth understanding and working knowledge of social science research processes, methodologies, and analytical tools, with emphasis on those especially applicable to program evaluation and needs assessment. In addition, by the end of the course, each student should have identified a dissertation topic and developed a preliminary dissertation research design. **Prerequisites:** SO 664 and GR 681 Statistics for Human Services.

SO 850 Thesis **3-6 s.h.**
For the student writing the thesis. A thesis proposal must be submitted to the department's graduate coordinator and approved by the Sociology Graduate Committee prior to registering for thesis credits. A completed thesis involves a supervised research project approved by a committee composed of the student's thesis advisor and two additional faculty members.

ST Student Affairs in Higher Education

Department of Student Affairs in Higher Education
College of Education and Educational Technology

ST 621 History of Higher Education in the United States **3 s.h.**
Growth and trends in higher education with emphasis on the twentieth century. In addition to the traditional modes of postsecondary education, continuing education programs, community colleges, and adult education will also be examined. A secondary focus will be the evolving role of student affairs.

ST 624 Student Affairs Functions in Higher Education **3 s.h.**
Overview of student affairs work in higher education, highlighting functional areas of student affairs, organization, philosophy, and the role of the services applied to the institution and the profession.

ST 625 Theories of Personality and Human Development **3 s.h.**
Exposes students to a variety of theoretical models underlying human behavior and development. Through presentations, demonstrations, small group discussions, experiential activities, readings, and position papers, students evaluate the practical applications of contemporary personality and human development theories.

ST 631 Student Development in Higher Education **3 s.h.**
Provides an overview of student development theories and the student development model. Includes the application of assessment, goal setting, intervention strategies, environmental management, and evaluation in higher education settings. Explores issues such as changing sex roles, sexual identity, life planning, and needs of special student groups.

ST 634 Assessment and Evaluation in Student Affairs **3 s.h.**
An overview of the fundamental principles of tests, assessment, and evaluation as they pertain to student affairs. Statistical measurement concepts, methodological principles in survey research, instrumentation for developmental and environmental assessment in student affairs, outcomes assessment, and program evaluation issues will be explored. **Prerequisites:** ST 621, ST 624, and ST 625.

ST 646 Interpersonal Sensitivity **3 s.h.**
Participants will explore their interpersonal interaction style in groups and individually. Human potential of the students will be developed as they enter into authentic, honest, and trusting relationships within the context of a small-group experience, encouraging an examination and understanding of oneself and one's impact on others.

ST 681 Special Topics **3 s.h.**

ST 731 Practicum in Student Affairs **3 s.h.**
Affords the student an opportunity to gain practical experience in dealing with theories of his/her specialties. Includes one or two semesters in one of the student affairs offices at IUP or another institution under the leadership of a departmental director or coordinator.

ST 733 Management of Organizational Behavior in Higher Education **3 s.h.**
The course teaches managerial concepts and skills for managing student personnel programs or services. Concepts covered include the Process School of Management, Situational Leadership, Ethics, and Management Theory models.

ST 735 Individual and Group Interventions **3 s.h.**
Students gain practical experience in skilled helping techniques, including practice in one-on-one interaction, skill in designing and implementing developmental group intervention (workshops), and skill in developing mentoring relationships. Students apply theoretical learning into practical application. **Prerequisites:** ST 621, ST 624, ST 625 and ST 631.

ST 737 The American College Student **3 s.h.**
An examination is made of the culture of undergraduate students in American higher education to prepare professionals for the clients they will serve. Focus is given to the changing student clientele and its subgroups and cultures. Undergraduate characteristics, attitudes and values, and broad issues regarding their participation in the educational experience will be explored.

ST 740 Contemporary Issues in Higher Education **3 s.h.**
Designed to introduce students to a variety of current issues in higher education that have a dramatic impact for students, the student affairs profession, and the work of student affairs administrators. Strategies to address major issues are discussed.

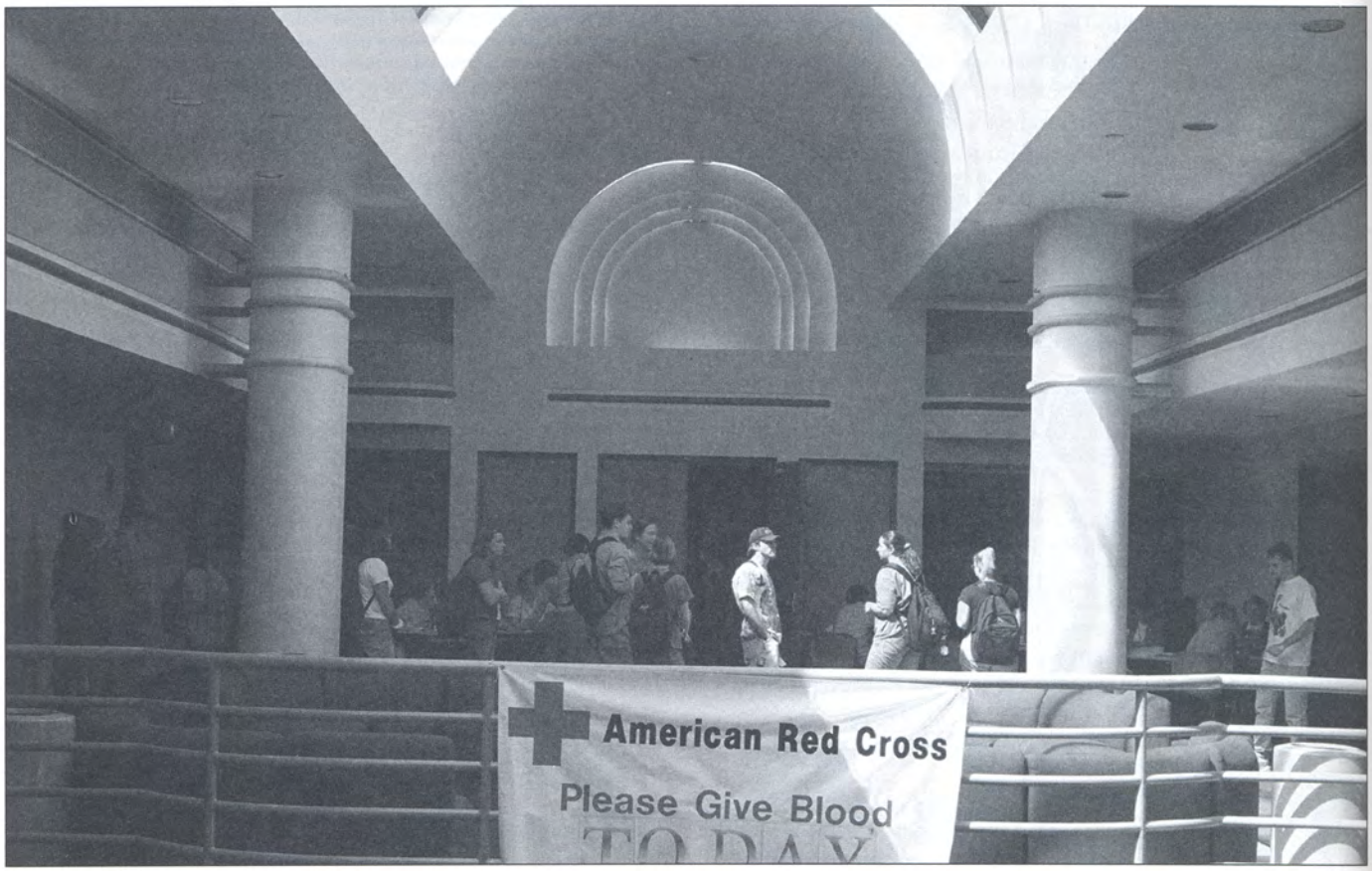
ST 850 Thesis **3-6 s.h.**

TH Theater

Department of Theater and Dance
College of Fine Arts

TH 586 Practicum in Production **1-6 s.h.**
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 for a maximum of six credits. **Prerequisite:** Permission.

TH 693 Internship **1-12 s.h.**
Supervised working experience in the context of a professional theater environment in a company employing professional actors, directors, and/or designers. **Prerequisite:** Permission.



Graduate School and Research Deadlines

The following dates are deadlines for applications for graduation and submission of thesis/dissertation materials.

Applications for Graduation and Submission of Thesis/Dissertation Materials

For a December Graduation:

May 15	Doctoral candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
August 15	Master's candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
October 1	Both master's and doctoral candidates must have filed an application for graduation with the Graduate School and Research.
November 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the Graduate School and Research.

For a May Graduation:

August 15	Doctoral candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
December 15	Master's candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
March 1	Both master's and doctoral candidates must have filed an application for graduation with the Graduate School and Research.
April 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the Graduate School and Research.

For an August Graduation:

December 15	Doctoral candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
May 15	Master's candidates must have filed a Research Topic Approval Form in the Graduate School and Research.
June 1	Both master's and doctoral candidates must have filed an application for graduation with the Graduate School and Research.
July 15	Archival copies of signed thesis and the necessary forms and fees must have been submitted to the Graduate School and Research.

Please note: The dates for filing the "Research Topic Approval Form" prior to writing a thesis or dissertation are also listed in the *Thesis/Dissertation Manual* available in the Graduate School and Research.



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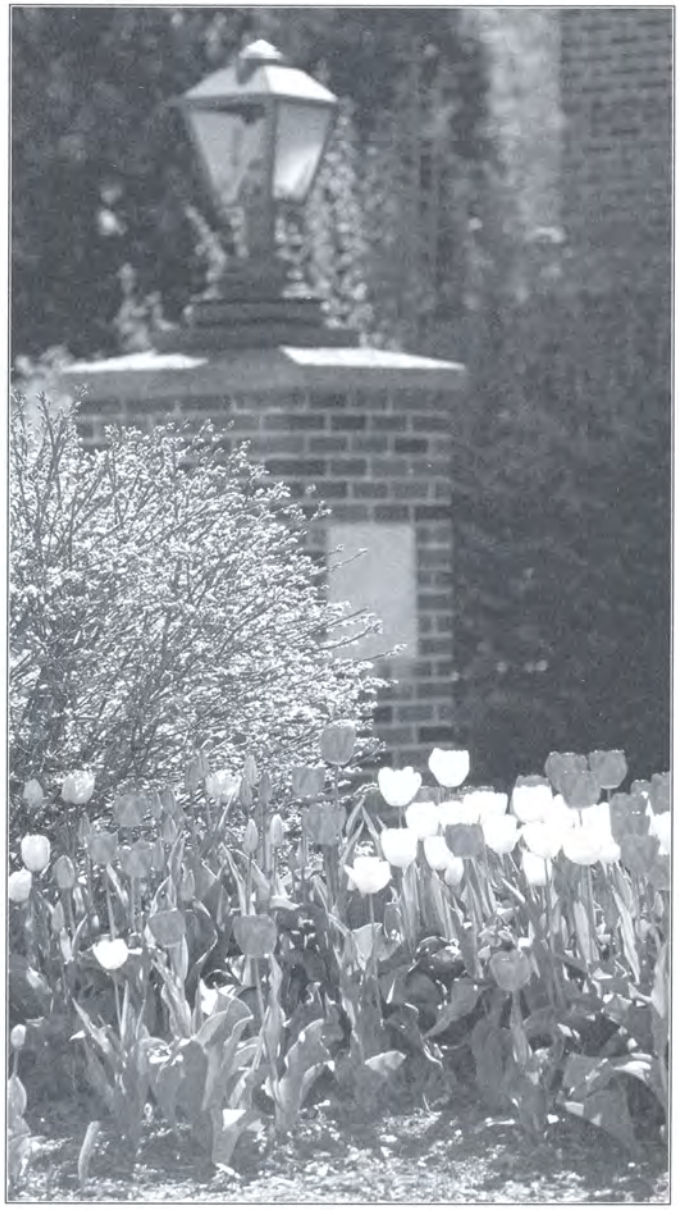
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Janice M. Baker, Special Education-Exceptionality
David W. Stein, Special Education-Speech/Language Pathology
Elaine H. Blair, Sport Sciences
Ronald Lunardini, Student Affairs in Higher Education
Frank Corbett, Jr., Teacher Certification
Jane A. Whisner, Vocational Education Certification





Faculty Members Eligible to Teach at the Graduate Level

Eberly College of Business and Information Technology

Department of Accounting

Ghobashy, Mohamed E., Hochschule fuer Wethandel; C.P.A.; Professor

Joseph, Jerry A., B.S., University of Colorado; M.S., George Washington University; M.H.A., University of Pittsburgh; Associate Professor

Pressly, Thomas, B.S., Youngstown State University; M.B.A., Youngstown State University; Ph.D., Kent State University; Associate Professor

Woan, Ronald, Ph.D., Florida State University; Associate Professor

Department of Finance and Legal Studies

Affaneh, Ibrahim J., B.S.C., Cairo University; M.B.A., University of Utah; Ph.D., University of Utah; Associate Professor

Ames, William Dennis, B.A., LaVerue University; M.B.A., University of Utah; J.D., Ohio Northern University; L.L.M., University of San Diego, Associate Professor

Duhala, Karen, B.S., Clarion University of Pennsylvania; M.B.A., Clarion University of Pennsylvania; Ph.D., Pennsylvania State University; Associate Professor

Ray, Terry T., B.A., Grove City College; M.Ed., Duquesne University; J.D., Duquesne University; Professor

Welker, James E., M.B.A., University of Pittsburgh; Assistant Professor

Department of Management

Ali, Abbas, B.C., University of Baghdad; M.B.A., Marshall University; Ph.D., West Virginia University; Professor

Ashamalla, Maali, M.B.A., Baruch College; M.Phil., City University of New York; Ph.D., City University of New York; Associate Professor

Falcone, Thomas, B.S., Pennsylvania State University; M.B.A., Mankato State College; D.B.A., Kent State University; Professor

Gibbs, Manton, B.A., University of Utah; M.B.A., University of Utah; Ph.D., Michigan State University; Professor

Mohamed, Ahmed A., Ph.D., University of Mississippi; Associate Professor

Nagendra, Prashanth B., B.S., Bangalore University; M.S., New Jersey Institute of Technology; M.B.A., Rutgers University; Ph.D., Rutgers University; Associate Professor

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Department of Management Information Systems and Decision Sciences

Albohali, Mohamed, B.S., University of Benghazi; M.S., Colorado State University; Ph.D., Kansas State University; Associate Professor

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Burky, Louise, B.A., Philadelphia Conservatory of Music; M.B.A., Duquesne University; Ph.D., University of Pittsburgh; Associate Professor

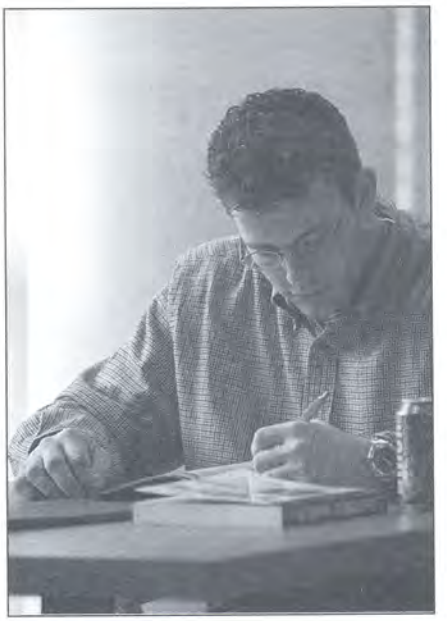
Halapin, Richard, Ph.D., University of Pittsburgh; Associate Professor
Nahouraii, Ata, B.S., University of Hartford; M.A., Duquesne University; Ph.D., University of Pittsburgh; Professor
Pierce, Elizabeth M., Ph.D., University of Michigan; Associate Professor

Department of Marketing

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Department of Technology Support and Training

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Szul, Linda, B.S., Indiana University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ed.D., University of Pittsburgh; Associate Professor
Wilkinson, Kelly L., Ph.D., University of Missouri; Assistant Professor
Woodland, Dawn E., Ph.D., Southern Illinois University; Assistant Professor



College of Education and Educational Technology

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Department of Communications Media

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Kornfeld, Paul, B.A., Brooklyn College; M.S.Ed., Northern Illinois University; M.E., Kent State University; Ed.D., Illinois State University; Associate Professor
Leidman, Mary Beth, B.S., Emerson College; M.S., Emerson College; D.Ed., Vanderbilt University; Professor
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Department of Counseling

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Guth, Lorraine J., Ph.D., Indiana University; Assistant Professor
L'Amoreau, Nadene A., M.A., Edinboro University of Pennsylvania; Assistant Professor
Witchel, Robert, B.A., Trenton State College; M.A., Bowling Green State University; D.Ed., University of Georgia; Professor
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Department of Educational and School Psychology

Barker, William, B.S., University of Wisconsin—Milwaukee; M.S., University of Wisconsin—Milwaukee; Ph.D., University of Pennsylvania; Professor
Briscoe, Roger L., B.S., Bowie State College; M.A., University of Michigan; Ph.D., University of Michigan; Associate Professor
Damiani, Victoria, B.A., Beaver College; M.A., West Chester University; Ed.D., College of William and Mary; Assistant Professor
Hoellein, Robert, B.S., Juniata College; M.S., West Virginia University; Ph.D., Ohio State University; Professor
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Quirk, John, B.A., Fairleigh Dickinson University; M.A., Fairleigh Dickinson University; Ed.D., University of Georgia; Professor
Rafoth, Mary Ann, B.S., Miami University; M.Ed., University of Georgia; Ph.D., University of Georgia; Professor
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Department of Foundations of Education

Rotigel, David E., B.S., Wayne State University; M.Ed., University of Toledo; D.Ed., University of Illinois; Professor
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Department of Professional Studies in Education

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Carreiro, A. Keith, Ed.D., Harvard University, Assistant Professor

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Department of Special Education and Clinical Services

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Reber, Clarice, B.S., Northwestern University; M.S., University of Michigan; Assistant Professor
Robertson, Shari A., Ph.D., University of Wisconsin, Assistant Professor
Smith, Alice, Ph.D., University of Iowa; Assistant Professor
Stein, David W., B.S.Ed., Indiana University of Pennsylvania; M.A., Kent State University; Ph.D., University of Pittsburgh; Associate Professor
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Department of Student Affairs in Higher Education

Belch, Holley A., Ph.D., Bowling Green State University; Assistant Professor
Hall, Linda M., D.Ed., Indiana University of Pennsylvania, Associate Professor
Lunardini, Ronald, B.S., Indiana University of Pennsylvania; M.Ed., Duquesne University; Ed.D., Pennsylvania State University; Associate Professor
Mueller, John A., Ph.D., Columbia University; Assistant Professor

Learning Center

Wilkie, Carolyn, B.S., Indiana University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ph.D., Pennsylvania State University; Professor

University School

Beisel, Raymond, B.S., Mansfield University of Pennsylvania; M.Ed., Mansfield University of Pennsylvania; Ph.D., Pennsylvania State University; Associate Professor
Ellermeyer, Deborah, B.S., Indiana University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; D.Ed., Indiana University of Pennsylvania; Assistant Professor
Hechtman, Judith, B.S., Kent State University; M.A.T., University of Pittsburgh; Ed.D., University of Pittsburgh; Professor



College of Fine Arts

Department of Art

Ben-Zvi, Paul, B.S., State University of New York at New Paltz; M.A., University of Iowa; M.F.A., University of Iowa; Associate Professor
Boerner, P. Parker, B.F.A., University of Texas at Austin; M.F.A., Maryland Institute; Assistant Professor
Burwell, Sandra L., B.S., Pennsylvania State University; M.Ed., Pennsylvania State University; Associate Professor
Clay, Vaughn, B.A., Westminster College; M.Ed., University of Pittsburgh; Ed.D., University of Pittsburgh; Professor
DeFurio, Anthony, B.S., Edinboro University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ph.D., Pennsylvania State University; Professor

Hedman, Donn W., B.F.A., University of Kansas; M.F.A., Washington State University; Professor
LaRoche, Lynda L., M.F.A., Indiana University, Assistant Professor
Mambo, Marjorie A., B.A., Harpur College; M.A.T., University of Nairobi; M.A., Columbia University; M.Ed., Columbia University; Ed.D., Columbia University; Associate Professor
Mitchell, Brenda, B.A., Eastern Illinois University; M.A., University of Illinois; Ph.D., University of Illinois; Assistant Professor
Nestor, James, B.A., Kent State University; M.A., Studio, Kent State University; D.A., Carnegie Mellon University; Professor
Palmisano, Susan M., B.A., University of Dayton; M.A., University of Cincinnati; Associate Professor
Villalobos Echeverria, Patricia, B.F.A., Louisiana State University; M.F.A., West Virginia University; Assistant Professor
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Department of Music

Bird, Gary, B.M.E., University of Wisconsin—River Falls; M.M., North Texas State University; D.M., Indiana University, Bloomington; Professor
Borst, David, B.M., Fredonia State University; M.M., University of Buffalo; D.M.A., University of Rochester—Eastman School of Music; Professor
Dietz, John L., D.M.A., University of Michigan, Professor
Godt, Irving, B.A., Brooklyn University; M.A., New York University; Ph.D., New York University; Professor
Kuehn, John, B.M., University of Wisconsin; M.M., University of Wisconsin; D.M.A., University of Colorado; Professor
Luchsinger, Joanne, B.S.; M.M.A., University of Illinois; Assistant Professor
Mantel, Sarah, B.A., Tulane University; M.M., University of Wisconsin; D.M.A.; University of Illinois Urbana-Champaign; Professor
Olmstead, Gary, B.M., University of Michigan; M.F.A., Ohio University; D.M.A., Cleveland Institute of Music, Case Western Reserve University; Professor
Perlongo, Daniel, B.M., University of Michigan; M.M., University of Michigan; Associate Professor
Radell, Judith, B.A., University of Illinois; M.M., University of Illinois; D.M.A., University of Illinois; Associate Professor
Rahkonen, Carl, B.A., Weber State College; M.M., University of Utah; M.L.S., Indiana University; Ph.D., Indiana University; Professor
Scandrett, John, B.M., Wittenberg University; M.M., University of Wisconsin; Assistant Professor
Staples, James G., D.M.A., Eastman School of Music, University of Rochester, Professor
Teti, Carol, B.M., University of Michigan; M.M., University of Michigan; D.M.A., University of Michigan; Professor
Wheatley, Susan, B.M., Michigan State University; M.M.Ed., University of Michigan; Ph.D., University of Michigan; Professor



College of Health and Human Services

Department of Food and Nutrition

Cessna, Mary Ann, B.S., Indiana University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; D.Ed., Pennsylvania State University; Professor
Dahlheimer, Susan, B.S., Carnegie Mellon University; M.S., Pennsylvania State University; Ph.D., University of Pittsburgh; Associate Professor
Johnson, Rita, B.S., Ball State University; M.S., Purdue University; Ph.D., Pennsylvania State University; Associate Professor
Moore Barker, Mia, B.S., University of Tennessee at Knoxville; Ph.D., University of Tennessee at Knoxville; Professor
Steiner, Joanne, B.S., Miami University; M.S., University of Wisconsin; Ph.D., University of Rhode Island; Professor
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Department of Health and Physical Education

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Blacksmith, William, B.S., Lock Haven State College; M.Ed., Indiana University of Pennsylvania; Ed.D., West Virginia University; Professor
Blair, Elaine, B.S., University of Pittsburgh; M.Ed., University of Pittsburgh; Ph.D., University of Pittsburgh; Professor
Klingaman, Linda R., B.S., Lock Haven University; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University; Associate Professor
Mill, James G., B.S., Slippery Rock University; M.S., Temple University; Ph.D., University of Pittsburgh; Professor
Paternostro-Bayles, Madeline, B.S., State University of New York at Stony Brook; M.S., Adelphi University; Ph.D., University of Pittsburgh; Assistant Professor
Smith, Jonathan B., Ed.D., Temple University, Assistant Professor
Thompson, Carolyn, B.S., Slippery Rock State College; M.S., Indiana University of Pennsylvania; Associate Professor

Department of Hotel, Restaurant, and Institutional Management

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Department of Human Development and Environmental Studies

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Department of Industrial and Labor Relations

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Department of Nursing

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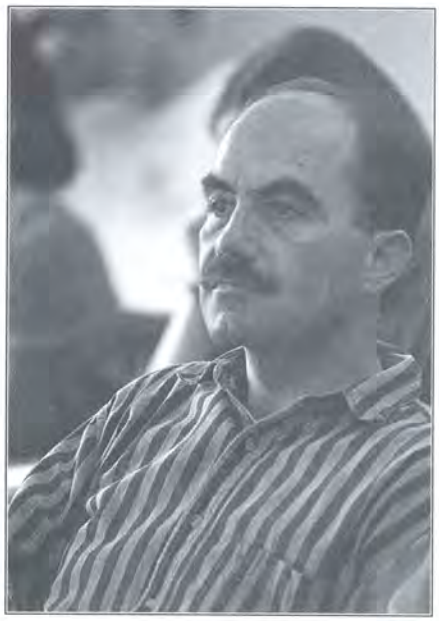
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Rivers, Philip, M.S., Central Missouri State University; Associate Professor



College of Humanities and Social Sciences

Department of Criminology

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Martin, Randy, B.A., West Liberty State College; M.A., University of Nebraska—Lincoln; Ph.D., University of Nebraska—Lincoln; Professor

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Myers, David L., B.S., Shippensburg University; M.A., Shippensburg University; Ph.D., Indiana University of Pennsylvania; Assistant Professor

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Martel, Arthur, B.A., St. Anselm's College; M.A., University of Massachusetts; Ph.D., University of Massachusetts; Professor

Radakovic, George, B.A., St. Vincent College; M.A., University of Pittsburgh; Ph.D., University of Pittsburgh; Professor

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Department of English

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Cahalan, James, Ph.D., University of Cincinnati; Professor
Carse, Wendy, B.A., University of Northern Colorado; M.A., University of Northern Colorado; Ph.D., Tulane University; Associate Professor
Comfort, Susan, Ph.D., University of Texas; Assistant Professor
Dandurand, Karen, Ph.D., University of Pittsburgh; Associate Professor
Donna, Jeannine L., Ph.D., University of Pennsylvania, Associate Professor
Downing, David, B.A., Beloit College; M.A., San Francisco State University; Ph.D., State University of New York at Buffalo; Professor
Emerick, Ronald, B.A., Susquehanna University; M.A., University of Pittsburgh; Ph.D., University of Pittsburgh; Professor
Gatti, Susan, B.A., Indiana University of Pennsylvania; M.A., Indiana University of Pennsylvania; Ph.D., University of Pittsburgh; Associate Professor
Gebhard, Jerry, B.A., Temple University; M.A., University of Hawaii; Ed.M., Columbia University; Ed.D., Columbia University; Professor
Guevara, Maurice K., B.A. and B.S., University of Pittsburgh; M.F.A., Bowling Green State University; Ph.D., University of Wisconsin; Professor
Hartwell, Patrick, B.A., University of California-Los Angeles; M.A., University of California-Los Angeles; Ph.D., University of California-Los Angeles; Professor
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Murphy, Patrick, B.A., University of California; M.A., California State University; Ph.D., University of California; Professor
Orchard, Christopher, B.A., University of London; M.Phil., Oxford University; D.Phil., Oxford University; Assistant Professor
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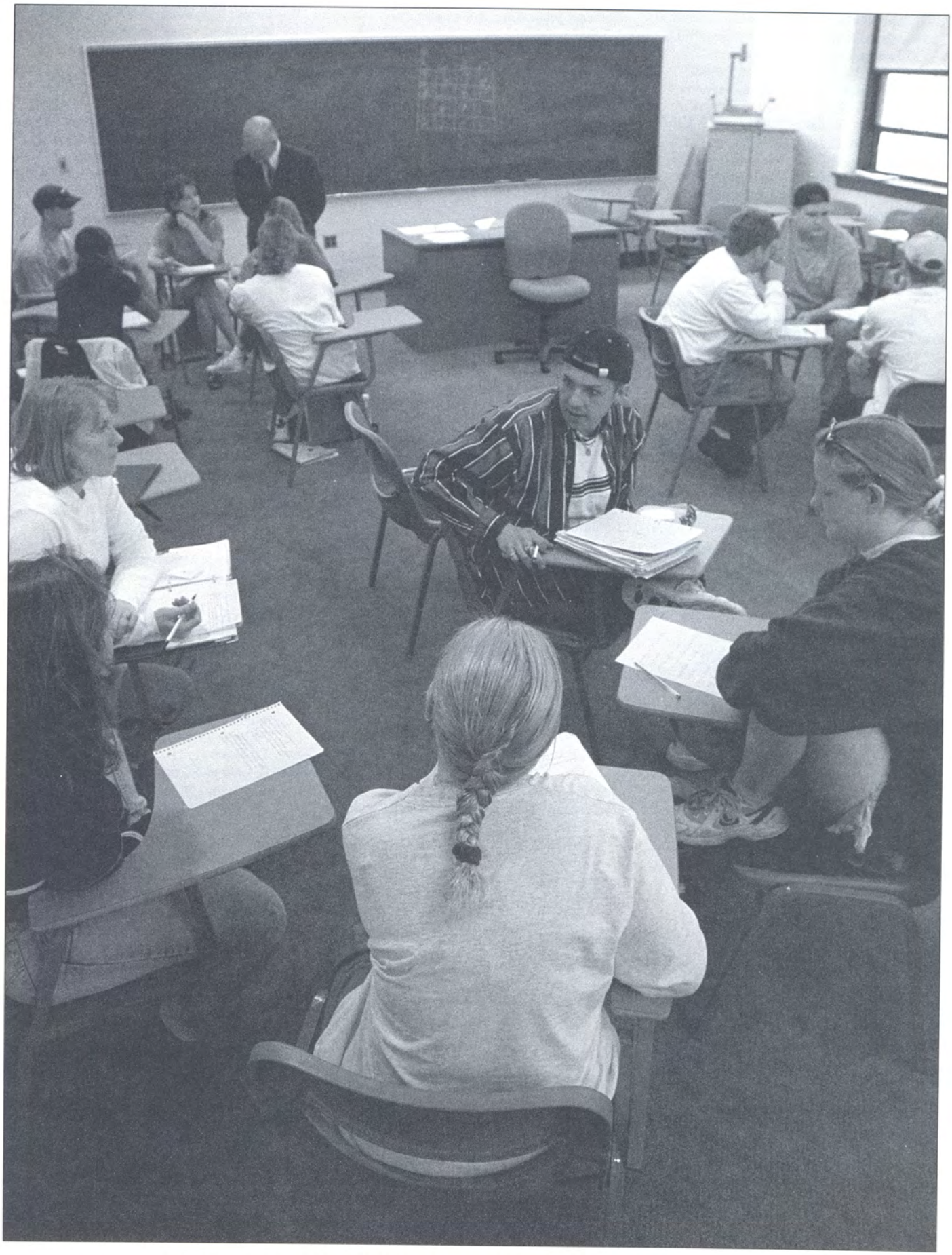
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Index

A

Academic Credits, 25
Academic Good Standing, 25
Academic Integrity Policy, 29
Accreditation, 6
Add/Drop Policy, 20
Administrative Officers, 113
Administrative Certification Programs, Specialist and Letter of Eligibility Programs, 15
Administration and Leadership Studies (D.Ed.), 46
Administration and Leadership Studies (Ph.D.), 67
Admission, 13
Admission Classifications, 14
Admission Procedures, 13
Admission Requirements, 13
Adult and Community Education Department, 40
Adult Education and Communications Technology *(see Adult and Community Education)*
Advisement, 20
Application Fee, 16
Application for Federal Student Aid, Free (FAFSA), 17
Applied Mathematics *(see Mathematics)*
Art Department, 50
Assistantships, 17
Audit Fee, 16
Audit Policy, 25
Auditing, Course, 25
Automobiles, 11

B

Billing, 16
Biochemistry *(see Chemistry)*
Biology Department, 69
Buildings and Grounds, 6
Business and Information Technology, Eberly College of, 37
Business Education, 39

C

Cable Television and Data Lines, 10
Calendar, inside front cover
Cancellation, Class *(see Inclement Weather Policy)*
Candidacy Examination, Doctoral, 24
Career Services, 10
Centers and Institutes, 8
Certification, Principal, 15, 40
Certification (Teacher Education), 27
Chemistry Department, 70
Clinical Psychology *(see Psychology)*
Cocurricular Activities and Student Organizations, 12
Completion of Degree Requirements, 22, 23
Comprehensive Examination, Doctoral, 24
Computing Services, 7
Computer Software Policy, 27
Conduct, Student, 12
Co-op Recreation Park, 12
Co-op Store, 12
Cooperative Programs, 23
Continuous Registration, 24
Council of Trustees, 113
Counseling Department, 41
Counseling and Student Development Center, 11
Counselor Education *(see Counseling Department)*
Course Advising, 20

Course Descriptions, 77-111
Adult and Community Education (AC), 77
Administrative Services (AD), 78
Accounting (AG), 78
Art History (AH), 78
Applied Music (AM), 79
Anthropology (AN), 79
Art (AR), 79
Business Education (BE), 79
Biology (BI), 80
Business Law (BL), 81
Counselor Education (CE), 81
Chemistry (CH), 82
Communications Media (CM), 82
Computer Science (CO), 83
Criminology (CR), 83
Consumer Services (CS), 84
Curriculum and Instruction (CU), 84
Education Administration (EA), 85
Economics (EC), 85
Education (ED), 85
Early Childhood Education (EE), 86
Elementary Education (EL), 86
Elementary and Middle School Mathematics (EM), 86
English (EN), 87
Educational Psychology (EP), 89
Education of Exceptional Persons (EX), 90
Foundations of Education (FE), 91
Finance (FI), 91
Food and Nutrition (FN), 92
Geography and Regional Planning (GE), 92
Graduate General Service (GR), 94
Geoscience (GS), 94
Home Economics Education (HE), 94
History (HI), 95
Health and Physical Education (HP), 96
Human Services, Admnistration and Leadership Studies (HS), 97
Information Management (IM), 97
Administration and Leadership Studies, D.Ed. (LP), 97
Industrial and Labor Relations (LR), 97
Literacy (LT), 98
Mathematics (MA), 99
Masters in Education (ME), 100
Management (MG), 101
Music History (MH), 101
Marine Science (MI), 101
Marketing (MK), 101
Music (MU), 102
Nursing (NU), 103
Psychology (PC), 103
Philosophy (PH), 105
Political Science (PS), 105
Physics (PY), 106
Quantitative Business (QB), 108
Safety Sciences (SA), 108
Speech-Language Pathology (SH), 109
Sociology (SO), 110
Student Affairs in Higher Education (ST), 111
Theater and Dance (TH), 111
Course Numbering, 26
Course Prefix Key, 35
Course Overlaps in Degree Programs, 26
Course Repeat Policy, 26
Course Withdrawal, 17
Credit Requirements, Doctoral, 23
Credit Transfers, 22, 23
Criminology Department, 58
Curriculum and Instruction, 46

D

Damage Fees, 17
Data Lines and Cable Television, 10
Degree Candidacy, Doctoral, 24
Degree Candidacy, Master's, 22
Degree Eligibility of IUP Teaching Staff, 26
Degree Fee, 16
Delinquent Accounts, 17
Department Chairpersons, 114
Dietetic Internship *(see Food and Nutrition)*
Dining Services, 10
Disability Support Services, 10
Discrete Course Withdrawal, 17
Dissertation, 24
Dissertation Committee, 24
Dissertation Process, 24
Dissertation Publication, 24
Doctoral Degree Programs, 23
Drop/Add Policy, 20
Dual-Level Courses, 26

E

Early Childhood Education *(see Professional Studies in Education)*
Eberly College of Business and Information Technology, 37
Education and Educational Technology, College of, 40
Education of Exceptional Persons *(see Special Education and Clinical Services)*
Educational and School Psychology Department, 43
Educational Services Fee, 16
Elementary and Middle School Mathematics *(see Mathematics)*
Elementary or Secondary School Counseling *(see Counseling Department)*
Eligibility and Application for Graduation, 22, 24
Eligibility, IUP Teaching Staff, 26
English Department, 60
Employment Programs, 19
Examination Requirements, GRE, GMAT, MAT, 15
Examinations, Comprehensive, 24

F

FAFSA, 17
Facilities Fee, 16
Faculty Eligible to Teach at the Graduate Level, 116
Federal College Work Study Program, 19
Federal Family Educational Loan Programs, 19
Federal Supplementary Loan for Students (SLS), 19
Fees, 16
Fellowships, 18
Filcik, Julius, Doctoral Fellowship, 18
Final Credits Policy, 26
Finances, 16
Financial Aid, 17
Fine Arts, College of, 50
Food and Nutrition Department, 53
Foreign Language/Research Tool Options, Doctoral, 24
Foundation for IUP, 8
Foundation Fellowship, 18
Free Application for Federal Student Aid (FAFSA), 17
Full Time Student, 16

G

General Information, 6, 25
General Policies and Procedures, 25
Geography and Regional Planning Department, 64
Grade Appeal Policy, 28
Grading System, 26
Graduate Course Scheduling by Undergraduates, 26
Graduate Management Admission Test, 9, 13
Graduate Merit Scholarships, 18
Graduate Record Examination, 9, 13
Graduate Scholars Program, 18
Graduate School and Research Deadlines, 112
Graduate Student Assembly, 12
Graduate Study Beyond the Master's Degree, 27
Graduation, 22, 24
Graduation Application, 22, 24
Grant Employment, Special Funded, 19

H

Hadley Union Building, 12
Harte, Margaret Flegal Scholarships, 18
Health and Human Services, College of, 53
Health and Physical Education Department, 54
Health Fee, 16
Health Insurance, 11
Health Services, 11
History Department, 65
History of the University, 6
Housing, 10
Humanities and Social Sciences, College of, 58

I

Inclement Weather Policy, 6
Independent Study, 27
International Student Applicants, 14
Internship Policy, 27
Industrial and Labor Relations Department, 55
Institute for Research and Community Service, 8
Insurance, Health, 11
IUP Foundation Fellowship, 18

J

Journal Publications, 8

L

Labor Relations *(see Industrial and Labor Relations)*
Late Registration Fee, 16
Law School Admission Test, 9
Letter of Eligibility Programs, 15
Library and Media Services, 7
Literacy *(see Professional Studies in Education)*
Literature and Criticism *(see English)*
Loan Programs, 19
Location, 4

M

M.A./TE *(see English)*
M.B.A. *(see Business)*
M.F.A. *(see Art)*
Master's Degree Programs, 21
Masters in Education *(see Professional Studies in Education)*
Mathematics Department, 71
Media Services, 7
Medical College Admission Test, 9
Merit Scholarships, Graduate, 18
Miller Analogies Test, 9
Music Department, 51

N

National Teacher Examination, 9
Natural Sciences and Mathematics, College of, 69
Nonprofit Loans, Private, 19
Nursing Department, 55
Nutrition, Food and, 53

O

Off-Campus Graduate Programs Withdrawal and Refund Policy, 17
Office of Housing and Residence Life, 10
Office for International Services, 15
Out-of-State Tuition, 16

P

Part-time Study, 16
Penn, The, 10
Physics Department, 73
Political Science Department, 65
Principal Certification, 15, 40
Private, Nonprofit Loans, 19
Professional Studies in Education Department, 45
Professional Growth, 76
Program Changes, 27
Psychology Department, 73
Public Affairs *(see Political Science)*
Public History *(see History)*
Publications, 10

Q

Quality Points, 26

R

Refund Policy, 17
Regional Planning (*see Geography and Regional Planning)*
Registration *(see Terminal Registration or Telephone Registration)*
Registration, Continuous, 20
Religious Life, 11
Repeat Policy, Course, 26
Requirements, Doctoral Degree, 23
Research Proposal, Doctoral, 24
Research Tool Options, Doctoral, 24
Residence Life, Office of, 10
Residence Halls, 10
Residency Requirement, 22, 23
Rhetoric and Linguistics *(see English)*
Rights and Responsibilities, Student, 27

S

Safety Sciences Department, 56
Scholarship Information, 18
Secondary School Mathematics *(see Mathematics)*
Schedule Adjustment, 20
Scheduling by Undergraduates, Graduate Courses, 26
Scholarships, 18
School Psychology, Educational and, 43
Sexual Harassment Policy, 2
Sociology Department, 66
Special Credits, 28
Special Education and Clinical Services Department, 47
Special Fees, 17
Specialist for Administrative Certification Program, 15
Specialist Programs, 15
Speech and Hearing Clinic, 10
Speech-Language Pathology *(see Special Education and Clinical Services)*
Sport Sciences *(see Health and Physical Education)*
Stafford Loan, 19
State System of Higher Education, 4
Student Activity Fee, 16
Student Affairs in Higher Education Department, 49
Student Conduct, Guidelines for, 12
Student Cooperative Association, 12
Student Development Center, Counseling and, 11
Student Employment, 19
Student Grade Appeal Policy, 28
Student Handbook, 10
Student Health Insurance, 11
Student Loan Programs, 19
Student Organizations, 12
Student Publications, 10
Student Rights and Responsibilities, 27
Student Status, 25
Students with Disabilities, 10
Summer Sessions Fees, 16
Supplementary Loan for Students, Federal (SLS), 19

T

TESOL *(see English)*
Teacher Certification, 9, 27
Teaching Associates, 18
Teaching of English to Speakers of Other Languages *(see English)*
Telephone Numbers, inside back cover
Telephone Registration (TELREG), 20
Telephone Service, 10
Terminal Registration (TERMREG), 20
Teaching English *(see English)*
Thesis/Dissertation Manual, 10
Time Limitations, 27
Transcript Fees, 17
Total Withdrawal from the University, 17
Transfer Credit, Doctoral, 23
Transfer Credit, Master's, 22
Trustees, 113
Tuition and Fees, 16

U

Undergraduates, Graduate Course Scheduling by, 26
University Employment, 19
University Health Service, 11
University Senate, 7
University Testing Services, 9
University Withdrawal, 17

V

Veterans, 19

W

Withdrawal Policy, Individual Course, 17
Withdrawal Policy, Refund Policy, 17
Withdrawal Policy, Total University, 17
Work-Study Program, 19
Workshops, 28

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Industrial and Labor Relations	357-4470
Journalism	357-4411
Management	357-2535
Marketing	357-6231
Mathematics	357-2608
Management Information Systems and Decision Sciences	357-2929
Music	357-2390
Nursing	357-2557
Philosophy	357-2310
Physics	357-2370
Political Science	357-2290
Professional Studies in Education	357-2400
Psychology	357-2426
Safety Sciences	357-3018
Sociology	357-2730
Special Education and Clinical Services	357-2450
Student Affairs in Higher Education	357-1251
Technology Support and Training	357-3003
Theater and Dance	357-2965

Other Frequently Called Numbers

University Operator	357-2100
Campus Dining (ARAMARK)	357-2570
Campus Police and Parking/Traffic Control	357-2141
Career Services	357-2235
Co-op Store (Bookstore)	349-1194
Financial Aid	357-2218
Graduate School Admissions	357-2222
Office of Housing and Residence Life	357-2696
Pechan Health Center	357-2550
Registrar	357-2217
Stapleton Library	357-3006

Indiana University of Pennsylvania



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