



Indiana University of Pennsylvania
INDIANA, PENNSYLVANIA 15705



2009-2010 GRADUATE CATALOG

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: March 2009

IUP's Civility Statement

As a university of different peoples and perspectives, IUP aspires to promote the growth of all people in their academic, professional, social, and personal lives. Students, faculty, and staff join together to create a community where people exchange ideas, listen to one another with consideration and respect, and are committed to fostering civility through university structures, policies, and procedures. We, as members of the university, strive to achieve the following individual commitments:

- To strengthen the university for academic success, I will act honestly, take responsibility for my behavior and continuous learning, and respect the freedom of others to express their views.
- To foster an environment for personal growth, I will honor and take care of my body, mind, and character. I will be helpful to others and respect their rights. I will discourage intolerance, hatred, and injustice and promote constructive resolution of conflict.
- To contribute to the future, I will strive for the betterment of the community, myself, my university, the nation, and the world.

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, sexual orientation, or veteran's status. Each member of the university community has a right to study and work in an environment free from any form of racial, ethnic, and sexual discrimination. In accordance with federal and state laws, the university will not tolerate racial or ethnic discrimination or discrimination on the basis of disability.

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:

Director of Social Equity and Civic Engagement
Indiana University of Pennsylvania
Suite B17
920 Grant Street
Indiana, PA 15705
Telephone: 724-357-3402
Fax: 724-357-3404

TD: Telecommunications Device available in the:

Advising and Testing Center, 724-357-4067 (V/TD)
(8-4:30, M-F)
Campus Police, 724-357-2141 (TD) (24 hours)

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:

Director, Advising and Testing Center/
Disability Support Services
504 Coordinator
Pratt Hall, Room 216
201 Pratt Drive
Telephone: 724-357-4067

Employee Concerns:

Director of Social Equity and Civic Engagement
Suite B17
920 Grant Street
Indiana, PA 15705
Telephone: 724-357-3402

Specific inquiries regarding Title IX should be directed to:

Director of Social Equity and Civic Engagement
Suite B17
920 Grant Street
Indiana, PA 15705
Telephone: 724-357-3402
Fax: 724-357-3404

IUP's Affirmative Action Policy

Indiana University of Pennsylvania is committed to provide leadership in taking affirmative action to assure equal education and employment rights for all persons without regard to race, color, sex, religion, national origin, sexual orientation, age, disability, or veteran's status. We believe that respect for the individual in the academic community must not be 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, sex, religion, national origin, age, disability, or veteran's status.
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, and 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 IUP is 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 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 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 Director of Social Equity and Civic Engagement.

Any employee having suggestions, problems, or complaints with regard to Equal Employment or Educational Opportunity or Affirmative Action is encouraged to contact the Director of Social Equity and Civic Engagement by calling 724-357-3402.

Students with suggestions, problems, or complaints should contact the Office of the Vice President for Student Affairs, 211-216 Sutton Hall, or by calling 724-357-4040.

Employees having inquiries regarding accommodations for persons with disabilities should contact the Director of Social Equity and Civic Engagement, Suite B17, 920 Grant Street, or by calling 724-357-3402.

Students with inquiries regarding accommodations should contact the 504 Coordinator/ADA Student Concerns, 216 Pratt Hall, or by calling 724-357-4067.

Specific inquiries regarding Title IX should be directed to the Director of Social Equity and Civic Engagement, Suite B17, 920 Grant Street, or by calling 724-357-3402.

University Policy on Sexual Harassment

Indiana University of Pennsylvania is committed to maintaining a learning and work environment that is free from sexual harassment. Acts of sexual harassment seriously undermine the atmosphere of trust and respect that is essential to a university community. Moreover, sexual harassment is legally prohibited and will not be tolerated. Sexual harassment is a form of sex discrimination that is prohibited under Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and the Pennsylvania Human Relations Act. It is imperative that all employees, students, and vendors comply with both the spirit and intent of federal, state, and local laws, government regulations, and court orders which relate to sexual harassment. It is the purpose of this policy to define prohibited conduct and provide guidance on the procedures for addressing complaints.

All students, managers, administrators, faculty, staff, and vendors have a responsibility to adhere to the contents of this policy. Members of the university community are encouraged to report complaints of sexual harassment promptly in accordance with the Sexual Harassment Complaint Procedures set forth below. Any persons found to be in violation of this policy will be subject to disciplinary action up to and including expulsion for students and termination for employees.

IUP prohibits retaliatory action against persons filing an informal or formal complaint of sexual harassment or any person cooperating in the investigation of such a charge, as a complainant, respondent, witness, or other participant. Nor will the university tolerate knowingly false charges of sexual harassment. Acts of retaliation or knowingly false charges shall constitute misconduct subject to disciplinary action up to and including expulsion for students and termination for employees.

To the extent possible, all complaints of sexual harassment shall be considered confidential, and only those persons who are necessary for the investigation and resolution of the complaints will be given information regarding the matter. As much as possible, consistent with the university's legal obligations to protect the rights and security of its employees and students, the university will respect the confidentiality of both the complainant and the accused.

Questions about the Sexual Harassment Policy should be referred to the Director of Social Equity and Civic Engagement, Suite B17, 920 Grant Street, or by calling 724-357-3402.

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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 30,000 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 Pennsylvania 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 Pennsylvania 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 a similar 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 fourteen thousand, with students from forty-five states and seventy-three 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.

IUP started awarding M.Ed. degrees in 1958 and had awarded 516 by 1965. In December 1965, Indiana was redesignated Indiana University of Pennsylvania and given the authority to expand its curriculum and to grant additional degrees at the master's level. At this time the first doctoral program was initiated.

IUP was recognized in the Princeton Review's 2009 edition of *The Best 368 Colleges* and in *Careers and Colleges* magazine. The Robert E. Cook Honors College has been featured in two editions of *Cool Colleges* by Donald Asher.

Graduate Education at IUP

Graduate education was inaugurated at IUP in September 1957. 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.

IUP is classified by the Carnegie Foundation for the Advancement of Teaching as a doctoral/research university with a predominant doctoral focus in humanities/social sciences. In addition, the foundation describes IUP as a "very high undergraduate" focus university with more than 2,000 (out of 14,000) students engaged in graduate education.

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 School of Graduate Studies and Research staff is assisted in its daily functioning by a) the University-Wide 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 Commission on Higher Education,* 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 Art and Design, American Psychological Association for its psychology curriculum, the National Association of School Psychologists for its school psychology curriculum, the Council on Academic Accreditation of the American Speech-Language-Hearing Association for its speech language curriculum, the Council for Exceptional Children in Education of Exceptional Persons, the Commission on Collegiate Nursing Education for its nursing curriculum, the Commission on Accreditation for Dietetic Education of the American Dietetic Association for its internship program, Commission on Accreditation of Athletic Training, Commission on Accreditation of Allied Health Education and Programs, National Association for Sport and Physical Education, and the Association to Advance Collegiate Schools of Business—International for its business 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.

*Inquiries concerning Middle States accreditation may be directed to 3624 Market Street, Philadelphia, PA 19104. Telephone: 267-284-5000. Website: www.msche.org.

Buildings and Grounds

In 1875, the main campus consisted of 12 acres and one building, John Sutton Hall. Since then, with constant growth, the university now consists of approximately 374 acres and sixty-three buildings.

In addition to the main campus, IUP operates residential, educational facilities at the Punxsutawney Regional Campus in Jefferson County in four buildings where approximately six acres provide the real estate for the IUP Living and Learning Centers and the Academy of Culinary Arts program.

The Indiana University of Pennsylvania Northpointe Regional Campus in Armstrong County provides facilities for specialized electro-optics training along with various other undergraduate and graduate-level courses. Northpointe is a commuter-only campus located on approximately 5.5 acres of ground with adequate parking to serve its commuter population adjacent to the building completed in 2005.

The Monroeville Center Regional Facility is a graduate education center located in Penn Center East in Wilkins Township and provides various graduate-level programs for traditional and nontraditional students.

The Student Cooperative Association owns and operates the Hadley Union Building complex which is located adjacent to the main campus. The facility contains a large fitness center, several handball and racquetball courts, a food court and catering area, multiple computer lounges, meeting rooms, and the IUP Bookstore. In addition to the main campus facility, the Student Cooperative Association also owns and maintains a 280-acre outdoor recreational park that consists of nature trails, a meeting lodge, a ski hut, softball fields, and an exercise-station trail.

Administration and Finance Division

The Division of Administration and Finance provides internal and external constituents of the university with the highest-quality services in the most supportive and cost-effective manner. In contributing toward the fulfillment of IUP's mission of teaching, research, and public service, the division is responsible for the development, support, stewardship, enhancement, integrity, and stability of the university's fiscal, human, and physical resources.

Major responsibilities of the division are organized and operated from the departments of Facilities Management, Finance and Budget, Human Resources, Public Safety and University Police, and Purchasing and Central Stores.

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 classes or programs and events will be held during periods of adverse weather conditions is based on the overall concern for the university community. Because of the university's residential nature, the university will remain open in all cases, and classes and events will continue as scheduled if at all possible during periods of inclement weather.

Closure of the university: Should adverse weather conditions arise or be anticipated that would make it inadvisable to conduct classes or events on a given day, the president may, at his or her discretion, cancel classes or events. In the event of cancellation of classes or events, notification will be provided to the following radio and television stations: WDAD Radio-1450 (Indiana), WCCS Radio-1160 AM (Homer City), U-92 FM-92.5 (Indiana, Punxsutawney, Greensburg), *Indiana Gazette*, KDKA-TV and KDKA Radio-1020 AM (Pittsburgh), WPXI-TV (Pittsburgh) and WTAE-TV and WTAE Radio-1250 AM (Pittsburgh), and WJAC-TV (Johnstown). In addition, inclement weather information will be posted on the IUP website, www.iup.edu, and on the IUP information line, 724-357-7538.

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 and Finance, 233 Sutton Hall, IUP. Policy implemented March 6, 1995 (revised March 10, 2008).

IUP Libraries

The IUP Libraries consist of the Stapleton/Stabley central facility, Cogswell Music Library, and regional campus libraries in Northpointe and Punxsutawney. The University Libraries maintain extensive print and media collections with a growing number of full-text on-line resources. These on-line resources include full text journals, dissertations, and books. IUP is a designated Select Depository for federal and state government publications. A wide range of resources and services are available to support teaching, learning, and research for on-campus students and for distant education. Detailed information about the libraries' collections and services is available through the home page at www.iup.edu/library.

Librarians are available to help with becoming familiar with resources and to assist with research. The Reference Desk is open until 10:00 p.m. Sunday through Thursday and 5:00 p.m. on Friday and Saturday. Individual appointments may be made by calling the Reference Desk at 724-357-3006. The library also offers chat and e-mail reference services, accessed through the web page under "Library Services." For those teaching courses, librarians offer sessions about library resources and research to students as part of the courses. See the "Instructor Services" section on the library home page.

If IUP does not own the books or other material needed for research, a variety of access points are available for obtaining these at no cost to users. Books can be requested through PALCI EZ-Borrow, which searches Pennsylvania, New Jersey, and West Virginia university libraries, accessed through the library home page under "Books and More." Books are delivered and returned to Stapleton Library. U-Borrow allows users to request books from any of the Pennsylvania State System libraries (including the State Library in Harrisburg); books will be delivered to the library of choice. The books may be returned to any of the libraries. Access to U-Borrow is through PILOT, the on-line catalog. If these two options do not prove successful, users may initiate a request through ILLIAD, the library's interlibrary loan service; the form is on the library's home page under "Books and More." Journal articles not available at IUP may be requested through ILLIAD as well.

The library provides a comfortable, safe environment with space for individual and group study. Stapleton Library has a limited number of shared and individual locked carrels for faculty and doctoral students. Users may apply for a locked study carrel during the first two weeks of each semester at the Circulation Desk. Successful applicants pay a \$20 refundable key deposit.

Java City Coffee Bar is on the first floor of Stapleton, adjacent to the collection of current and leisure reading. The food and drinks policy states that all drinks need a protective cover and that only Java City food may be eaten in the library.

Room 201 in Stapleton Library is the Graduate Student Lounge. It provides a quiet study environment, video viewing equipment, and two computers. Keys for the room may be obtained in the administrative office by paying a \$20 refundable deposit.

Library Technology and Security (LTS) provides modern digital equipment to support the academic mission, such as digital cameras, digital camcorders, voices recorders, and other production equipment. This equipment closely mirrors the equipment used in the classroom. The equipment is conveniently located at the LTS Service Desk adjacent to the Reference Desk, along with an extensive collection of DVDs, CDs, and video cassettes. After video or audio recording, Multimedia Pods equipped with the latest software are available to assemble the final production.

Help Desk Services provided through LTS include but are not limited to wireless configuration, Microsoft Office support, Adobe product support, multimedia applications, e-mail, password issues, and general consultation.

A public computer lab with 30 computers is located in Stapleton. The lab is available for public use at times when it is not reserved for library instruction. There are more than 120 computers throughout the library. Wireless laptops for in-library use can be checked out at the LTS Service Desk. The wireless network within the building allows users to connect laptops to the university network. Additionally, three network ports are available for patron laptop use.

Stapleton Library is open 104 hours per week when classes are in session. Hours are:

Monday-Thursday	7:45 a.m.-2:00 a.m.
Friday	7:45 a.m.-7:00 p.m.
Saturday	11:00 a.m.-5:00 p.m.
Sunday	1:00 p.m.-2:00 a.m.

The library is open extended hours during the week of final examinations. The current schedule of library hours may be obtained by calling 724-357-2197.

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.

The University Senate approves all curricular matters before implementation and can study any issue of university governance and make recommendations to the president and Council of Trustees.

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, a voting 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, staff, and administrative members must be employees in good standing at the time of election or appointment and during terms of service, and students must be enrolled and in good standing at the time of election or appointment and during terms of service. "Student" refers to both the undergraduate and graduate student bodies. The student segment shall consist of undergraduate and graduate students in proportion to their FTE enrollment—but no segment shall be less than 20 percent of the total student contingent—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.

University-Wide Graduate Committee

The University-Wide Graduate Committee (UWGC) is a subcommittee of the University Senate that comprises faculty, the Vice Provost for Research and Dean of Graduate Studies, the Dean's Associate, and graduate students. The UWGC is responsible for matters involving degree requirements, general policies for admission, scholarships, assistantships, and other matters pertaining to graduate students and the School of Graduate Studies and Research. The committee's primary role is in all areas of graduate curricula, including the review and approval of new courses, programs, or methods of delivery.

Computing Services

All students have access to an extensive set of web-based services, including class registration, schedule planning, and records management. Students are also provided with an e-mail account and a network account, which afford personal disk space for e-mail, projects, and web pages. In addition, students enrolled in a course utilizing WebCT, a course management system, are provided an account for this system. Technical support is available via the IT Support Center at www.iup.edu/itsupportcenter.

In addition to the IT Support Center, computing support is provided by technical staff assigned to each college. The college staff provides computational support for undergraduate and graduate students and for faculty and staff. Information on college support personnel can be found at www.iup.edu/itsupportcenter/collegesupport.

Connectivity for student computers in the residence halls is provided through the Office of Housing and Residence Life. The administrative needs of the university are served by the IT Support Center.

The university's computing infrastructure consists of Windows-based clients and servers and Unix-based servers. High-speed access to the network is provided from every campus building, including the residence halls, utilizing a fiber optic backbone. Wireless network access is provided from various locations across campus, including most academic buildings and spaces such as the Oak Grove. Students living off campus need to contract with an Internet Service Provider (ISP) for Internet access. IUP is connected to the Internet and Internet2 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 are intended to support specific programs. Information on the public computing labs can be found at www.iup.edu/ats/labs.

Journal Publications

Scholarly journals edited by IUP faculty members and/or published at IUP include the following: *Advances in Competitiveness Research*; *The Benjamin Mays Monograph Series*; *Competitiveness Review*; *Competition Forum*; *Criminal Justice Policy Review*; *Early Childhood Journal*; *Hispanic Journal*; *International Journal of Commerce and Management*; *Journal of Business and Information Technology*; *Journal of Digital Business*; *Journal of E-Business*; *Journal of Global Competitiveness*; *National Association of Business Teacher Educators Review*; *PAACE Journal of Lifelong Learning*; *Studies in the Humanities*; *The Talking Drum*; and *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-one-member Board of Directors. 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. The Residential Revival is also being led and supervised by the Foundation for IUP. The net assets of the Foundation for IUP now exceed \$48 million. The offices of the Foundation for IUP are in John Sutton Hall.

IUP Centers and Institutes

Centers and institutes serve a variety of functions. Each center and 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 and 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 and institutes strengthen the research and public service missions of the university and, therefore, enhance the quality of education.

Center/Institute	Program Director	Telephone
Administration and Leadership Studies Research and Training Center	John Anderson	717-720-4431
American Language Institute	Dan Tannacito	724-357-2402
Applied Media and Simulation Games Center	Allen Partridge	724-357-5967
Applied Research Lab	Christoph Maier	724-357-4530
Archaeological Services	Beverly Chiarulli	724-357-2659
Biotechnology Research Institute	Carl Luciano	724-357-2352
Center for Applied Psychology	Kimberely Husenits	724-357-6228
Center for Career and Technical Personnel Preparation	Donald Gamble	724-357-4434
Center for Counselor Training and Services	John McCarthy	724-357-3807
Center for E-Commerce and Technology Support	Krish Krishnan	724-357-2522
	Raj Murthy	
Center for Educational and Program Evaluation	Mark Staszkievicz	724-357-7670
Center for Family Business	Ellen Ruddock	724-357-4818
Center for Film Studies	Thomas Slater	724-357-4879
Center for Health Promotion and Cardiac Disease Prevention	Robert Alman	724-357-4410
	Madeline Bayles	
Center for Middle Eastern Studies	Gawdat Bahgat	724-357-2290
Center for Music Teaching and Learning	Jack Stamp	724-357-2390
Center for Northern Appalachian Studies	James Dougherty	724-357-4070
Center for Research in Criminology	Rosemary Gido	724-357-2720
Center for Rural Gifted Education	Victoria Damiani	724-357-2300
Center for Statistics Education in Pennsylvania at IUP	Larry Feldman	724-357-6239
Center for Teaching Excellence	Laurel Black	724-357-7800
Center for the Study of Religion in Pennsylvania	Stuart Chandler	724-357-5612
Center for Turning and Furniture Design	Steve Loar	724-464-3123
Center for Teaching Excellence	Mary Ann Cessna	724-357-7800
Center for Videoconferencing	David Lind	724-357-7517
Child Study Center	Lynanne Black	724-357-2445
Community Nutrition Services	Susan S. Dahlheimer	724-357-4357
Criminal Justice Training Center	Roger White	724-357-2752
Digital Media Institute	Erick Lauber	724-357-5967
Excellence in Entrepreneurial Leadership (ExcEL) Center	Joette Wisniewski	724-357-3871
	Eric Palmer	
First Commonwealth Center for Economic Education	James Jozefowicz	724-357-2640
	Stephanie Brewer Jozefowicz	
Frederick Douglass Institute	Veronica Watson	724-357-3299
Government Contracting Assistance Program	Ron Moreau	724-357-7824
Highway Safety Center	Allen Robinson	724-357-3975
Institute for Information Assurance	William Oblitey	724-357-2524
Institute for Mine Mapping, Archival Procedures, and Safety	John Benhart	724-357-2250
Intercollegiate Athletic Institute for Sports Camps	Frank Condino	724-357-2782
John P. Murtha Institute for Homeland Security	Jeffrey Crane	724-357-3400
Literacy Center	Anne Creany	724-357-3293
Management Services Group	Robert Boldin	724-357-2179
	Steve Osborne	
Mid-Atlantic Addiction Research and Training Institute	Robert Ackerman	724-357-4405
National Emergency and Disaster Information Center	Rebecca Zukowski	724-463-8315/ext 19
Pennsylvania Center for the Study of Labor Relations	Charles McCollester	724-357-2645
Pennsylvania/OSHA Consultation Program	David Rhodes	800-382-1241
Small Business Development Center	Tony Palamone	724-357-7915
Small Business Incubator	Robert Boldin	724-357-2179
Small Business Institute	Stephen Osborne	724-357-5760
Software Development Center	H. Edward Donley	724-357-3792
Speech, Language, and Hearing Clinic	Karen Stein	724-357-2451
Teacher Education Center for Science, Mathematics, and Technology	Brian Sharp	724-357-2600
Translation Services		724-357-7769

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, Pearson VUE, Psychological Corporation, Law School Admissions Council, and College Board. The Career Development Center sponsors IUP's University Testing Services as part of its comprehensive mission to assist students in finding appropriate occupations and professional and graduate programs. In addition to paper-and-pencil testing, IUP operates a computer-based testing (CBT) facility located in 311 Pratt Hall. Tests available in the CBT format include the GRE General Examination, GMAT, CLEP, MAT, TOEFL, and Praxis I (PPST). Examinees may schedule appointments for tests by calling 724-357-4994. Pre-registration is required for all tests, and examinees are encouraged to register early to ensure that appointments are available. 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 (IUP administers the subject tests in November and April). Information and registration booklets are available from the School of Graduate Studies and Research, University Testing Services, or may be downloaded from the GRE website at www.ets.org/gre. Registration forms for the subject tests must be sent directly to ETS in Princeton, New Jersey. On-line registration is also available.

The Miller Analogies Test (MAT) is administered on the computer by appointment. To obtain registration materials, contact the Testing Center at 724-357-4994. All School of Graduate Studies 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. Registration booklets are available on line at www.mba.com, from the MBA coordinator in the Eberly College of Business and Information Technology, from University Testing Services, or from the School of Graduate Studies and Research. On-line registration is required.

The Praxis Series is administered on seven nationally established dates (September, November, January, March, April, June, and July/August). These tests are required for teacher certification in Pennsylvania and many other states. The PPST (Praxis I) is available in the CBT format by appointment or the paper-and-pencil format on four national test dates at IUP (November, January, April, and July). Examinees who wish to take the computer-based test may call 724-357-4994 to schedule an appointment.

The Test of English as a Foreign Language (TOEFL) is exclusively computer based and is administered only on specific dates. See the TOEFL website for current dates. Students whose native language is not English may be required to take this examination. Check with the School of Graduate Studies and Research for more information on this requirement.

Law School Admission Test (LSAT) information is available at the Testing Center or by contacting the director of the Pre-Law Program for the College of Humanities and Social Sciences. The LSAT is offered at IUP in October and December.

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 School of Graduate Studies and Research or to the graduate institution(s) to which the student is applying. Questions regarding specific registration matters and test agency information and registration materials may be directed to the CBT Center, 311 Pratt Hall, 724-357-4994 or to the Career Development Center, 302 Pratt Hall, 724-357-2235.

Career Development Center

The Career Development Center, 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, on-line job opportunities, an extensive Career Library, and programs that assist students and alumni in networking. Visit the Career Development Center's Web page at www.iup.edu/career.

Publications

The Penn, IUP's campus newspaper, is published two times per week during the fall and spring semesters, by students wishing to gain practical experience with journalism, advertising, business, marketing, design, and leadership. Interested students are advised to attend organizational meetings held each week in the *Penn* office.

Thesis/Dissertation Manual

Thesis/Dissertation Manual is available in the School of Graduate Studies and Research and on the web at www.iup.edu/thesismanual 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 (and) who may wish to use accommodations should register with the office, as it serves as the official primary service coordinator for disability support services for the university. 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; braille; and general advising and counseling. Further information may be obtained in 216 Pratt Hall, by calling 724-357-4067 (V/TD), by e-mailing Advising-Testing@iup.edu, or on the website www.iup.edu/disabilitysupport.

Speech and Hearing Clinic

The Speech and Hearing Clinic, located in Davis Hall, offers diagnosis of speech and language problems, hearing 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 for a nominal fee 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 suite and apartment housing suitable for single graduate students. A cluster of apartments is reserved in University Towers for graduate-level students and consists of two-person, one-bedroom furnished apartments. An intensive study cluster of suites is reserved in the Northern Suites for students who wish to have a quiet living environment. Cable TV and all utilities, as well as local telephone hookup and monthly service fees, are included in the housing fee. IUP will assign roommates to students who do not self-select roommates.

Single-occupancy residence hall rooms are available in McCarthy Hall on a first-come basis. There is no housing on campus that meets the requirements for family housing.

Information may be obtained Monday through Friday from 8:00 a.m. to 5:00 p.m. at 724-357-2696, by fax at 724-357-5762, or by e-mail at iup-ohrl@iup.edu. Visit www.iup.edu/house for more information about the housing program.

Dining on Campus

Dining Services/ARAMARK—Go to www.iup.campusdish.com for menus, hours, locations, special events, and more.

Dining Services Meal Plans are designed to make life easier. IUP Dining Services offers everything from restaurant-style dining to a convenience store to enhance the dining experience, not to mention a great place to meet with friends. New, great tastes are continuously created as they come along—offering traditional American cuisine, international fare, popular national brands like **Quiznos**, **Chick-fil-A**, and **Starbucks**, and healthy eating, including low-fat, low-carb, and vegetarian/vegan meal options.

Foster Dining Hall Students can meet friends for breakfast, lunch, or dinner at a comfortable, all-you-care-to-eat residential dining facility. It is open seven days a week, Monday through Friday, serving breakfast, lunch, and dinner. Saturday and Sunday brunch and dinner are served. You will find a wide variety of foods from Mediterranean cuisine to international delights and American favorites. (*Accepts meal plan, flex dollars, cash, and credit/debit cards*)

HUB Rock II Food Court is conveniently located next to the Hadley Recreation Center. The HUB Rock II offers fast, friendly service, convenience, and variety. Check out **Zoca** (Mexican concept), **The Works**, **Tuscan Market**, **Grill Works**, **Salad Garden**, and **Chick-fil-A**. (*Accepts meal cash credit [up to \$4.40] at The Works, Tuscan*

Market, Grill Works, and Salad Garden, flex dollars, cash, and credit/debit cards. Chick-fil-A® and Zoca accept flex, cash, and credit.)

Folger Food Court is home to **Starbucks**, **Quiznos**, **JUMP Asian and Sushi**, **Freshens Smoothies**, the **Fireplace** brick-oven pizza, and **Home Zone**. **Home of IUP Wing Nights**. (*Accepts flex dollars, cash, and credit/debit cards. Home Zone and Fireplace accept meal cash credit [up to \$4.40].*)

Foster MunchBox offers take-along options for breakfast, lunch, and dinner. Grab a boxed meal at the MunchBox. Munch on the way to class or work. (*Accepts meal plan, flex dollars, cash, and credit/debit cards*)

Java City has two locations on campus—Foster Hall and Stapleton Library—Java City distinguishes itself with a combination of great coffee, specialty and espresso drinks, and plenty of snacks! (*Accepts flex dollars, cash, and credit/debit cards*)

Eberly Café is open for “business.” Those who work or go to class in Eberly, or even those who are just passing by, can stop by the Eberly Café for deli sandwiches, piping hot gourmet soups, and more. (*Accepts flex dollars, cash, and credit/debit cards*)

The Oak Room is located on the lower level of Foster Hall and is the perfect place to get away from the office or classroom. Enjoy all-you-care-to-eat fine dining at an affordable price! It is also possible to reserve a private dining room for meetings. (*Accepts flex dollars, cash, and credit/debit cards*)

Shafer Convenience Store, located in Shafer Hall, is the place to stop for all your snacking needs. (*Accepts flex dollars, cash, and credit/debit cards*)

Meal Plan Options

Students living in the residence halls are required to choose from one of the following meal plans:

Plan A/F	19 meals per week + \$100 flex dollars
Plan A/F+	19 meals per week + \$150 flex dollars
Plan B/F	14 meals per week + \$150 flex dollars
Plan B/F+	14 meals per week + \$200 flex dollars
Plan B	14 meals per week
Plan C/F	Any 165 meals per semester + \$150 flex dollars
Plan C/F+	Any 165 meals per semester + \$200 flex dollars
Plan D/F	Any 10 meals per week + \$200 flex dollars
Plan K/F	Any 125 meals per semester + \$200 flex dollars

Note: One (1) meal may be used per meal zone, up to three (3) meals per day.

Flex Dollars are added in eight of the nine meal plan options for residents and provide the ultimate in flexible dining. They are accepted at all dining locations and work on the same principle as a bank debit card in that each time a purchase is made, the total is subtracted from the balance in the flex account. Flex can be used to treat a friend to dinner or to pay the difference if the \$4.40 meal cash credit is exceeded.

Meal Cash Credit means that a meal from a meal plan can be traded for a \$4.40 meal cash credit at specified locations at the HUB and Folger.

Guest Meals are included in each meal plan for five (5) guest meals per semester that can be used at Foster Dining Hall and Punxsutawney. Diners simply notify the cashier that a guest pass is needed.

Special Dietary Needs A dietician is available for consultation for students who need to follow specific diets for health reasons. Individually prepared meals can be provided. In addition, nutritional information is available on the Dining Services website for all menu items in each dining facility.

Meal Zones—there are four specific meal zones:

Breakfast	7:00 a.m.–11:00 a.m.
Lunch	11:00 a.m.–4:00 p.m.
Dinner	4:00 p.m.–7:30 p.m.
Late Night	7:30 p.m.–11:00 p.m.

Miscellaneous Meal Plan Information

- The meal plan contract is for the *full* academic year.
- Meal plan changes are permitted through the *first week of class* during the fall and spring semesters *and* must be submitted in writing to the Office of Housing and Residence Life. E-mails will be accepted.
- Weekly meal plans *do not* carry meals over from week to week.
- Unused flex dollars will carry over to the spring semester.
- Flex balances remaining at the end of spring are forfeited.
- Financial aid can be used to purchase flex dollars if all other fees are paid.

For dining hours, go to the website www.iup.campusdish.com.

Automobiles

Students, faculty, and staff members who park vehicles in campus parking areas must register their vehicles with the University 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 in the Robertshaw parking lot will be available, for a fee, to resident students not meeting the aforementioned criteria. Reserved parking spaces may be purchased in the parking garage. The University Police Office is located at University Towers, 850 Maple Street, and can be contacted for information on parking; copies of the current rules and regulations and other parking information can be found at www.iup.edu/police.

Spiritual Life

The IUP Interfaith Council (IFC) is an interdenominational body in which graduate and undergraduate students of all faiths are welcomed and included as equal partners. The IFC recognizes and affirms the spiritual part of every human being. The IFC is composed of campus ministers, advisors to recognized campus religious organizations, and representatives of Indiana churches who have chosen to affiliate. Contact Michael.Lemasters@iup.edu or access www.iup.edu/religiousgroups/interfaithcouncil for further information.

University Health Service (Center for Health and Well-Being)

The mandatory student health fee is assessed each fall and spring semester based upon enrollment status at the university. Graduate students and part-time undergraduates are assessed Health Fee B. Full-time undergraduates are assessed Health Fee A. Clinical care at the health service is provided by board-certified physicians, certified registered nurse practitioners, and registered nurses.

Fee A provides access to the clinical services provided at the campus Health Center as well as community health programs. (For those students who have paid “Fee A,” there may be additional visit and product fees for clinical products and services.)

Health Fee B, mandatory for full-time graduate students and part-time undergraduate students, covers the cost of community health programs. Students who have paid “Fee B” can use the self-care center, which provides access to over-the-counter cold remedies and wound care supplies. A visit fee would be assessed for visits to a health care provider.

In the summer there is no mandatory health fee. Fees apply only if a student uses the health service.

Students enrolled in Health Fee B or who are not required to pay a health fee are welcome to upgrade their service to Fee A at any time by sending an e-mail to health-inquiry@iup.edu or by stopping by the Health Center on the corner of Maple and Pratt. Spouses of IUP students may enroll in either Fee A or Fee B.

Services provided outside of the campus Health Center, such as laboratory work, x-rays, and referrals to outside medical providers/specialists, are not included in the health fee. Additional information about fees and services can be found at the health center website (www.iup.edu/healthcenter). For students needing health care at locations off campus, the Health Center has a van to transport students to local medical facilities for scheduled appointments within three miles of campus.

For emergency care, the local emergency room is available (Indiana Regional Medical Center). Emergency Room services and all other services provided outside of the campus Health Center are not included in the student health fee. IUP has a contract with a local ambulance service. IUP students who need an ambulance, and have paid Fee A, will not be required to pay out-of-pocket expenses for ambulance service.

The health fee is not an insurance plan. Students are encouraged to have a health insurance plan. All graduate students enrolled for one or more credits or undergraduates enrolled for six or more credits are eligible to purchase the insurance plan offered by Consolidated Health Plans, Inc. More information is available by contacting health-inquiry@iup.edu or by calling the Health Center at 724-357-6475.

International students at IUP on J visas are required to have health insurance. Refer to www.iup.edu/healthcenter for specific insurance requirements.

The health fee is mandatory. Waivers will be considered only for students living more than fifty miles from campus or for students who are on internships or student teaching assignments at a site more than twenty-five miles from campus. A form for requesting a waiver is available using URSA.

The Counseling Center

The Counseling Center is composed of faculty psychologists, a faculty counselor from the Haven Project, and advanced graduate trainees from the departments of Psychology and Counseling. 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. One of the groups offered each semester is a support group for graduate students. The Counseling Center is part of the Center for Health and Well-Being. Beyond the Health Services fee, additional fees are not charged for counseling services.

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' rights coupled with an acceptance of full responsibility for one's behavior and the resulting consequences. 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 and behavioral violations as well as violations of federal, state, and local ordinances. The primary intent of this educational system is to promote a positive behavioral change in students while also protecting the rights and promoting the safety and security of the members of the university community. The system holds 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/studentconduct/source

Student Cooperative Association

The Student Cooperative Association has played a broad role in the cocurricular life of the university for seventy-five 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 owns and operates the Hadley Union Building (HUB) complex and the Co-op Recreational Park. The HUB, built by association members through the Activity Fee, offers many facilities and programs for use by the university community. Some of these include the Co-op Store, Fitness Center, Computer Lounges, Food Court, Meeting Rooms, and two large rooms that will accommodate several hundred people each. The Co-op Recreational Park comprises 280 acres of wooded hillsides and fields. Located at the site are a lodge building that will accommodate groups of up to two hundred people, a ski hut, an eighteen-station exercise course, cross-country skiing, hiking and biking trails, picnic shelter, archery range, and two ball fields.

Cocurricular Activities and Student Organizations

Learning is not just an academic experience centered on textbooks and classes. It is a lifetime process of interacting with others and participating in surrounding opportunities. Participating in the arts, becoming involved in civic activities, going to a lecture, or being active in an organization have a lot to do with academic success and future happiness and well-being.

All students, including those in graduate study, are encouraged to reinforce and broaden their experiences by attending programs that are both familiar and new to them. With the opportunity to choose from such a wide variety of events and student organizations, students can expand their perspectives on life and develop new appreciation for various forms of art, entertainment, and leadership. While students cannot involve themselves in all that is available, a carefully planned level of participation can lead to a truly enriched university experience.

Graduate Student Assembly

On a university wide basis, the Graduate Student Assembly (GSA) is the graduate students' organization. The GSA is composed of two representatives (and frequently an alternate) from each graduate program. It serves graduate students through voting representation on several committees of the University Senate, by making recommendations about graduate student affairs to the dean of the School of Graduate Studies 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. GSA website: www.coop.iup.edu/gsa. The GSA office is located in Room 210A of the HUB; telephone 724-357-3180.

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 averages do not meet minimum standards will be required to submit a Miller Analogies Test (MAT) score. If the MAT was taken prior to October 1, 2004, the required score is 47; if taken after October 1, 2004, the required score is 395. (This change reflects the new MAT score.)
Note: Some programs may require a higher cumulative GPA than described above.
3. Graduate Record Examination (GRE) scores or Graduate Management Admissions Test (GMAT) scores must be submitted prior to admission review as required by individual departments. Please refer to the section on Examination Requirements for further details concerning test requirements.

Application for Admission

A completed application for admission to graduate study at IUP will include the following components:

1. Application Form—All application forms are contained in the application packet received from the School of Graduate Studies and Research or may also be found on the website www.iup.edu/graduate. You may also apply on line at www.iup.edu/graduate. (The application packet sent to Doctor of Psychology and M.B.A. Executive Track applicants differs somewhat from the regular packet.)
2. Official Transcripts—Official transcripts from each undergraduate and graduate institution attended, regardless of whether or not a degree was earned, must be submitted as part of the application packet. These transcripts must be sealed by the registrar and remain sealed until their arrival at the School of Graduate Studies and Research. If the course(s) or the degree was completed at IUP, the applicant is not required to secure the transcript.
3. Letters of Recommendation—Two letters of recommendation are required of each applicant.
4. Goal Statement—The required goal statement, dated and signed, is an important component of the application process, as it reflects the applicant's career and academic goals.
5. Application Fee—A nonrefundable application fee in the amount of \$40 must accompany the application. This fee may be mailed or paid by credit card. Please contact the Office of the Bursar at 724-357-6461 to make a credit card payment. If you are paying by check, it should be payable to "IUP." Note: The application cannot be processed without this fee.

Note: Some programs have additional application requirements. Please refer to our website at www.iup.edu/graduate to learn what, if any, additional application information you may need to provide.

Admission Classifications

Applicants for admission to the School of Graduate Studies and Research are notified of their admission status by the dean of the School of Graduate Studies and Research prior to the beginning of the term of planned study. Applications must be complete before an admissions decision can be determined. Admission 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 School of Graduate Studies and Research and the academic department.
2. **Certification-only Admission.** Credits taken under the Certification category are not intended to lead to a degree program. This category is designed to assist teachers pursuing Certification credits only. This is a nondegree admission status.
3. **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 admissions who wish at a later time to pursue a graduate degree must apply to the degree program before the completion of twelve credits. Only under exceptional circumstances will courses taken under Special Status be applicable toward the degree.
4. **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 School of Graduate Studies and Research is not required. One Course Only forms are available from the School of Graduate Studies and Research office. Students who use this form to take their first course must apply and be admitted to the School of Graduate Studies and Research before taking additional courses.
5. **Certificate of Recognition (COR) Admission.** This is a nondegree status. Applicants must submit a complete application and meet the admission requirements as set forth by the School of Graduate Studies and Research and the department offering the COR.
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 School of Graduate Studies and Research will receive a letter from the dean of the School of Graduate Studies and Research informing them of the decision.
8. **Inactive Classification.** Because of the demand for the various programs, an admission offer is valid for one year. If a student has not enrolled for any courses during that period of time, he or she may contact the School of Graduate Studies and Research to discuss the possibility of deferring for the following year. However, if a student has not enrolled for any courses during the extension period, he or she will be classified as inactive and will need to reapply for admission. NOTE: Certain programs do not permit admission to be deferred to a semester different from the one stated on the application.

Application Deadlines

The School of Graduate Studies 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.

Department	Program	Admission	Application Deadline
Administration and Leadership Studies	Nonprofit and Public Sectors (Ph.D.)—Indiana	Fall Admission-every two years (even years)	February 15
Administration and Leadership Studies	Nonprofit and Public Sectors (Ph.D.)—Harrisburg	Fall Admission-every two years (odd years)	February 15
Art	M.A. and M.F.A.	Fall Admission	February 15 and May 1
Clinical Psychology	Psy.D.	Fall Admission only	December 15
Community Counseling and School Counseling	M.A.—Monroeville M.Ed.—Monroeville	Fall Admission Only	Early admission deadline—April Call the School of Graduate Studies and Research at 800-845-0131 for specific date. Regular Admission deadline—June Call the School of Graduate Studies and Research at 800-845-0131 for specific date.
Community Counseling and School Counseling	M.A.—Indiana M.Ed.—Indiana	Fall Admission Spring Admission	April—Contact IUP’s Department of Counseling by calling 724-357-2306 for specific date. October – Contact IUP’s Department of Counseling by calling 724-357-2306 for specific date
Curriculum and Instruction	D.Ed.—Indiana even years/ Monroeville odd years	Fall Admission	March 15
Education of Exceptional Persons	M.Ed. .	Summer Admission Fall Admission Spring Admission	March 1 March 1 July 15
Educational Psychology	M.Ed.	Fall Admission	February 1
Elementary Education	M.Ed.—Monroeville	Fall Start	
Post-Master’s Certification in School Psychology		Fall Admission	February 1
School Psychology	D.Ed.	Summer Admission	February 1
Principal Certification		Summer Admission Fall Admission Spring Admission	April 1 July 1 November 1
Safety Sciences (on-line program)	M.S.	Summer Admission	April 1
Speech-Language Pathology	M.S.	Fall Admission	March 1
Student Affairs in Higher Education	M.A.	Fall Admission	February 1

Cohort Beginning Terms

Indiana Campus

Administration and Leadership Studies, Education Track (D.Ed.)	Summer Only (Public School Personnel) Fall only (Higher Education Personnel)
Administration and Leadership Studies, Nonprofit and Public Sectors (Ph.D.)	Fall, every two years (even years); Application deadline: February 15

IUP at Monroeville*

Adult and Community Education (M.A.)	Fall, Spring, or Summer
Business Administration (MBA), Executive Track	Fall
Community Counseling (M.A.)	Fall
Criminology (M.A.)	Fall, Spring, or Summer
Curriculum and Instruction (D.Ed.)	Fall (odd years)
Education for those holding an Instructional I or II Certificate (M.Ed.)	Fall (even years)
Elementary Education and Initial Certification (M.Ed.)	Fall
Nursing (M.S.) Administration Track Education Track	Fall or Spring
School Counseling with Certification (M.Ed.)	Fall

*Note: Contact IUP's School of Graduate Studies and Research by calling 1-800-845-0131 or by e-mailing grad-ocp@iup.edu to inquire further about specific starting dates.

Dixon Center (Harrisburg)*

Administration and Leadership Studies, Nonprofit and Public Sectors (Ph.D.)	Fall, every two years (odd years); Application deadline: February 15
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*Note: Call the coordinator for this program, John Anderson, Ph.D., Department of Sociology, at 724-357-2730 or 717-720-4098; or e-mail JAA@iup.edu.

IUP at Northpointe*

Education for those holding an Instructional I or II Certificate (M.Ed.)	Fall (odd years)
Nursing (M.S.)	Fall

*Note: Contact IUP at Northpointe by calling 1-800-889-0872 or by e-mailing northpointe-campus@iup.edu to inquire further about specific starting dates.

International 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 School of Graduate Studies and Research will not process applications from international applicants until official TOEFL scores which meet minimum requirements are on file in the School of Graduate Studies and Research. While the School of Graduate Studies and Research sets a minimum (paper-based) score standard of 500 (equivalent to a computer-based score of 173), 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. or access the website www.toefl.org)

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., \$24,000 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; notarized copies of transcripts are not acceptable.

Upon admission of the international applicant to the university, the staff of the School of Graduate Studies and Research will notify the Office of International Education at IUP. The Office of International Education will mail official acceptance letters, immigration documents, information on housing, arrival dates, and other general information about the university. Questions concerning immigration documents and other legal matters should be addressed directly to the Office of International Education, Indiana University of Pennsylvania, Suite B25, Delaney Hall, 920 Grant Street, Indiana, PA 15705-2295, U.S.A., or sent via e-mail to intl-affairs@iup.edu.

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

Indiana University of Pennsylvania offers a 15-credit K-12 Principal Certification Program, distinguished by its performance approach for administrative certification. Various projects within each of six major competency areas are developed in the foundational course, EDAD 756. These plans are then implemented within the context of the candidate's home school district during 12 credits of supervised internship, EDAD 798, and are expected to improve learning for both students and staff. Applicants must be admitted to the School of Graduate Studies and Research, have a minimum of five years of successful practice in their area of certification, and hold either a master's degree or enrollment status in a master's program. For further information contact Program Director Dr. C. Kaufman, Professional Studies in Education Department, 305 Davis Hall; 724-357-2400; or visit the program site at www.iup.edu/principal.

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, Nonprofit and Public Sectors (Ph.D.)
- Communications Media/Instructional Technology (Ph.D.)
- Criminology (Ph.D.)
- Educational Psychology (M.Ed.)
- Food and Nutrition (M.S.)
- Geography (M.A.) (M.S.)
- History (M.A.) (M.S.)
- Information Technology (currently not open to new applicants)
- Nursing (Ph.D.)
- Political Science/Public Affairs (M.A.)
- Clinical Psychology (Psy.D.)*
- School Psychology (D.Ed.)
- Sociology (M.A.)
- Speech-Language Pathology (M.S.) Note: Evidence of passing Praxis I may be substituted in lieu of GRE scores for the Speech-Language Pathology program.

*In addition to the general test, the Clinical Psychology program requires the Psychology subject test.

Graduate Management Admission Test (GMAT)

Applicants to the M.B.A. program, including Executive Track, 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 a cumulative undergraduate GPA below the minimum requirement of 2.6 (if bachelor's degree was earned within the last five years) or 2.4 (if bachelor's degree was earned more than five years ago) will be required to take the MAT. If the MAT was taken prior to October 1, 2004, the required score is 47; if taken after October 1, 2004, the required score is 395.

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

FINANCES

Tuition and Fees, 2008-2009

Fees for the academic years 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 eight 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.

Questions about the residency classification should be directed to the Residency Classification office, Clark Hall, 724-357-2217.

Tuition—Fall 2008 and Spring 2009

- Pa. resident full-time \$3,215 per semester
- Pa. resident part-time \$357 per credit
- Non-Pa. resident full-time \$5,144 per semester
- Non-Pa. resident part-time \$572 per credit hour

Tuition—Summer 2009

- Pa. resident \$357 per credit hour
- Non-Pa. resident \$572 per credit hour

Health Service Fees

Health Fee A (fall and spring only)

\$150/semester (offers access to clinical care)

Mandatory for full-time undergraduates (optional for all other students)

Health Fee B (fall and spring only)

\$30 (health and wellness programs and services)

Mandatory for full-time graduate students and part-time undergraduate students

There are no mandatory health fees in the summer. Summer fees are based on services that are provided.

The Health Fee can be waived for students commuting from a distance outside of a fifty-mile radius of Indiana or for students having an internship which is more than twenty-five miles from Indiana. Consideration for waivers may be obtained by submitting an electronic request using the form located in the University Records and Systems Assistant (URSA).

Student Cooperative Activity Fee

- Full-time student \$126.50 per semester
- Part-time student \$53.00 per semester
- Summer \$12.50 per credit (\$150.00 maximum total fee)

Exceptions to Activity Fees: Information regarding exceptions to this fee structure may be found by accessing the Student Cooperative website at www.iup.edu/coop (select Activity Fee Policy) or by contacting the Student Cooperative Association at 724-357-2590. In general, students are eligible to have the activity fee waived if they are doing dissertation work only, commuting at least fifty miles one way to campus, or participating in summer workshops that last one week or less. Also, students who reside and hold internships or student teaching assignments twenty-five miles or more from campus are eligible for a 75-percent fee reduction (100-percent reduction if sixty or more miles away). Any request for a waiver or reduction of the fee

must be initiated by the student. Forms may be processed on line by going to www.iup.edu/coop and selecting Activity Fee Policy, or they may be obtained at the Student Cooperative Front Desk, located in the Hadley Union Building.

Instructional Fee (Mandatory)

- Full-time student \$482.25
- Part-time student \$53.55 per credit
- Summer \$53.55 per credit

Application Fee \$40 (nonrefundable)

Registration Fee

- Full-time, part-time \$32
- Summer \$32

Late Registration Fees

Beginning with the Spring 2008 semester, late registration fees will be assessed to students whose initial semester registration occurs during the following timeframe.

Spring 2009

\$100 will be assessed if the initial spring registration occurs after the last day of the previous fall term.

\$200 will be assessed if the initial spring registration occurs on or after the first official day of the spring term.

Fall 2009

\$100 will be assessed if the initial fall registration occurs after the last day of the previous spring term.

\$200 will be assessed if the initial fall registration occurs on or after the first official day of the fall term.

New students are exempt from this fee their first term of enrollment.

Audit Fee (Same as Tuition)

Special Fees

Damage Fee

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

Transcript Fees

Students can request official transcripts in several ways. If on campus during business hours, the student can go to the Registrar's Office in the lobby of Clark Hall and complete a transcript request form. *There is no charge to students for ordering official transcripts which require routine processing.* Any special handling requests can also be made at that time, and these will have fees assessed. When in the Registrar's Office in person, the student can pay for any special handling requests with cash, check, or a credit card (Discover or MasterCard only). The Registrar's Office is open Monday through Friday, 8:00 a.m. to 5:00 p.m. Summer hours are 8:00 a.m. to 4:00 p.m.

Students can also download a Transcript Request form from the website www.iup.edu/registrar, complete it, and either mail or fax it to the Registrar's Office.

Special handling fees:**RUSH**—mail/pickup next day - \$4/copy**FAX**—faxed next day - \$4/copy**SAME DAY**—mail/pick up same day - \$10/copy**SAME DAY**—faxed same day - \$10/copy

The deadline for Same Day, Rush, and Fax transcript requests is 2 p.m. EST. Same Day transcripts will be available for pick-up by 3 p.m.

Because of the Family Education Rights and Privacy Act (FERPA), the Registrar's Office is not permitted to process requests made over the telephone, by e-mail, or by anyone other than the student whose transcript is being requested. Written permission from the student is required for anyone other than the student to pick up the transcript.

The address for the Registrar's Office is Clark Hall, 1090 South Drive, IUP, Indiana, PA 15705. The office fax number is 724-357-4858. For questions, the office telephone number is 724-357-2217.

All fees are subject to change without notice.

Transcripts will be withheld by IUP if a student has an outstanding financial account with the university. Payment of the bill or establishment of a payment plan satisfactory to the university will be required for release of 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.

The current refund policy and/or sample calculations may be obtained from the Office of the Bursar. The refund policy may also be obtained from the web page www.iup.edu/bursar.

Other Provisions

Formal withdrawal procedures must be initiated through the School of Graduate Studies 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 Office of the Bursar 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 Office of the Bursar, Clark Hall, which is responsible for implementing the refund policy. Students may appeal the decision rendered by the Student Accounts Receivable Office to the Bursar.

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 URSA.

Following the close of the established withdrawal period, the student will need to petition the dean of the School of Graduate Studies and Research for approval of a request for an exceptional withdrawal. The request must first be endorsed by the course instructor and the student's department chair or graduate studies coordinator, in that order. Requests for course withdrawal after the published date will be considered only in cases that are unexpected and reflect exceptional circumstances.

Financial Aid

The Financial Aid Office, located at Clark Hall, offers financial information and counseling to all students attending IUP. The types of financial assistance offered for graduate students 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 loans and federal work-study. 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) in a degree-granting program 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.

An academic year at IUP is composed of a minimum of thirty weeks of instruction in which a full-time graduate student enrolls for at least 18 credit hours. All course work must be taken at IUP with the exception of approved study abroad programs. These standards are used in determining eligibility for federal student aid.

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

Assistantships

A limited number of assistantships are awarded yearly to degree-seeking graduate students.

Graduate assistantships at IUP are intended for the use of highly qualified graduate students who have been admitted to degree programs. Assistantships requiring roughly 20 hours of work weekly for both the fall and spring semesters (maximum of 600 hours over the period of the assistantship) provide, at a maximum, a specific stipend amount along with full tuition remission during the academic year. In addition, the student is eligible for up to 12 degree-required credits of tuition waiver in the summer following the assistantship. Graduate students working roughly 10 hours of work weekly for both the fall and spring semesters (a maximum of 300 hours over the period of the assistantship) receive, at a maximum, one-half the total stipend amount and a 50-percent tuition waiver in the academic year. In addition, the student is eligible for a maximum waiver of six credits of degree-required academic work the following summer. Both 10-hour and 20-hour assistantships are awarded on the basis of academic excellence rather than financial need.

Highly qualified graduate students who have been admitted to degree programs and who are enrolled part time (six credits in the fall; six credits in the spring) for the academic year are eligible for 10-hour graduate assistant support. Part-time graduate students awarded an assistantship work roughly 10 hours weekly, receive one-half the usual

stipend, a one-half tuition waiver in the academic year (three credits in the fall; three credits in the spring), and are eligible for a waiver of up to three credits of degree-required course work during the summer following the assistantship. Assistantships for part-time students are awarded on the basis of academic merit rather than financial need.

Since stipends for assistantships may change from year to year, potential applicants should check with the School of Graduate Studies 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 for Administration, School of Graduate Studies and Research.

Teaching Associates

Each year, the School of Graduate Studies 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. All 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 the specific 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 the student with a financial award to a maximum of \$5,000.

To be considered for a fellowship, the student must be nominated by his or her academic department. In addition to a completed admissions application, the nominee must provide the School of Graduate Studies 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. Awards will be announced by June 1. For further information, please contact the Assistant Dean for Administration, School of Graduate Studies and Research, 101 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Graduate Merit Scholarships—Funding for this scholarship is made possible by the President's Fund for Excellence. 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 this scholarship, eligible students must be nominated by their academic department. For further information, please contact the Assistant Dean for Administration, School of Graduate Studies and Research, 101 Stright Hall, 210 South Tenth Street, IUP, Indiana, PA 15705.

Additional Scholarships—Graduate students are encouraged to seek outside scholarship opportunities to help finance their education. A number of scholarship search websites can be accessed through www.finaid.org

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 25 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, but placement assistance is available through the Student Employment Center at 724-357-2235.

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 Serve-Study FWS program. Contact the Student Employment Center located in 302 Pratt Hall at 724-357-2235 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 25 hours per week when classes are in session and 40 hours per week during vacation periods. This employment program is not based on financial need, and submission of the FAFSA is not required. 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 for Research, the School of Graduate Studies and Research, 113 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 \$20,500 per academic year. Of this amount, up to \$8,500 may be subsidized, which means the principal and interest are deferred while the student is enrolled on at least a half-time basis and during a six-month grace period.

Eligibility for the subsidized loan is based upon financial need as determined by the FAFSA. For any unsubsidized loans awarded, interest must be paid by the student on a quarterly basis or capitalized during the in-school and grace periods. For Stafford Loans disbursed on or after July 1, 2006, the interest rate is 6.8 percent. There are some deferment options available after leaving school.

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

Graduate PLUS Loan—The Federal PLUS Loan program has been expanded to allow graduate students to borrow on their own behalf; the student (not the parent) is the borrower and must pass a credit check. Students may borrow up to the cost of attendance minus other financial aid. This program is intended to supplement funding already received through the Federal Stafford Loan program. The interest rate is fixed at 8.5 percent, and interest accrues from the date of disbursement; students may choose to make interest-only payments while in school.

Private Alternative Loans

There are a number of privately funded educational 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 or at the website www.iup.edu/financialaid.

Veterans Educational Benefits

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 can be processed to receive their G.I. Bill benefits. The Office of the Veterans Counselor is in Clark Hall; the telephone number is 724-357-3009.

Scholarships and Fellowships

A number of professional organizations, government agencies, and private foundations offer scholarship assistance to graduate students. Many of these opportunities may be found by using web searches to match academic program and interests with appropriate funding sources. The Financial Aid Office website offers the information to begin the search process.

Further Information

For further information on financial aid, please contact:

Financial Aid Office

Indiana University of Pennsylvania
Clark Hall, 1090 South Drive
Indiana, PA 15705-1093

Voice: 724-357-2218

Fax: 724-357-2094

E-mail: financial-aid@iup.edu

Web: www.iup.edu/financialaid

REGISTRATION

Advisement

Immediately after a student has been admitted to the School of Graduate Studies and Research, he/she should consult the department chairperson or graduate coordinator of 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 for Administration, School of Graduate Studies and Research. Many departments believe strongly that their students should be advised well before registration for each semester or summer term. Students are responsible for knowing their department's scheduling advisement rules.

University Records and Systems Assistant (URSA)

Students enrolled at IUP can register for classes only on the web by going to www.iup.edu/ursa. This is the IUP student's tool for class registration and schedule planning.

Billing

Beginning Summer 2008, the university implemented on-line billing and on-line payment services through *IUP-EasyPay*. Students no longer receive a paper bill in the mail. E-mails are sent to each student's official IUP e-mail address when the e-bill is available for review. Students must access their bills through URSA.

Employer Reimbursement Policy

Nontraditional students who are working and taking classes on a part-time basis may have employer-paid education benefits. The purpose of the employer tuition reimbursement agreement is to allow employees who receive reimbursement to defer payment of their tuition and fees until after grades are available at the end of the semester. IUP accepts employer benefit plans through arrangements with the Bursar's Office that include completing an employer tuition reimbursement agreement. An employer reimbursement form may be downloaded at www.iup.edu/bursars/forms along with complete details.

Schedule Adjustment and Drop/Add Policy

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 can be found on the web under Academic Calendar at www.iup.edu/registrar.

MASTER'S DEGREE PROGRAMS

The School of Graduate Studies 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 School of Graduate Studies and Research policies set forth in this catalog and any additional special requirements imposed by the program and/or its department.

Under certain circumstances, a specific School of Graduate Studies 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 School of Graduate Studies and Research after approval by the student's department.

Master of Arts degrees are offered in the following:

Adult and Community Education
 Adult Education and Communications Technology Track
 Applied Archaeology
 Art
 Chemistry
 Community Counseling
 Criminology
 Employment and Labor Relations
 English:
 Generalist
 Literature
 Teaching English
 TESOL
 Geography
 History
 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
 Health Services Administration
 Information Technology (currently not open to new applicants)
 Nursing
 Physics
 Safety Sciences
 Science for Disaster Response
 Speech-Language Pathology
 Sport Science

Master of Education degrees are offered in the following:

Business/Workforce Development
 Education of Exceptional Persons
 Educational Psychology
 Elementary Education and Teacher Certification
 Elementary or Secondary School Counseling
 Elementary and Middle School Mathematics Education
 Health and Physical Education
 Mathematics (for secondary Mathematics teachers)
 Master's in Education
 Literacy

Master of Business Administration degree (MBA)

Master of Fine Arts degree (M.F.A.) offered in the following:

Studio Art

Transfer Credits

Up to 6 credits of graduate work taken as a graduate student at another institution **or** up to 12 graduate credits through approved interinstitutional agreements 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.

Up to 12 graduate credits originally earned in one graduate program at IUP may be applied toward a different graduate program if: 1) the receiving department and 2) the School of Graduate Studies and Research both approve the credits as meeting degree requirements. These courses must have been completed within the past five years, and the grade earned must be a "B" or its equivalent or better. The combination of transfer credits earned at another institution and those earned at IUP may not exceed 12 credits.

To request the transfer of credits, the student provides the School of Graduate Studies and Research with a written request indicating the course to be considered for review. A catalog course description or course syllabus must accompany the request. 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 School of Graduate Studies and Research and the academic department. After a decision is rendered by the School of Graduate Studies and Research, the student's department and the student are notified of the transfer decision.

It is strongly recommended that students wishing to transfer credits from another institution while enrolled at IUP receive advance written authorization for credit acceptance from the School of Graduate Studies and Research and the academic department prior to enrolling in that course. The review process is as described in the preceding paragraph.

If credits earned at another institution are approved for transfer, 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. Credits earned at IUP that are approved for transfer to a second program will not be posted to the transcript a second time.

Degree Candidacy

Students are reviewed for degree candidacy the semester following the completion of 12 hours of graduate credits. (Some departments require more than 12 credits for candidacy.) Students must be enrolled in course work to be reviewed 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 12 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 School of Graduate Studies 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 credits as defined in the section titled "Transfer 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. Graduation application instructions for applying on line are available at www.iup.edu/commencement/howto. Applications must be filed by the following deadlines: March 1 for May graduation, June 1 for August graduation, and October 1 for December graduation. If all requirements have been met, the degree will be awarded at the next established diploma-award date.

DOCTORAL DEGREE PROGRAMS

The School of Graduate Studies 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, Education Track), English (Literature and Criticism, Composition and TESOL), Psychology (Clinical Psychology), Sociology (Administration and Leadership Studies, Human Services Track), Communications Media, and Nursing

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 persons 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 doctoral programs in curriculum and instruction and administration and leadership studies maintain cooperative arrangements with other universities in the Pennsylvania State System of Higher Education, whereby some part of the requirements may be fulfilled at these schools.

The following doctorates are offered:

- Doctor of Education in Administration and Leadership Studies
- Doctor of Philosophy in Administration and Leadership Studies, Nonprofit and Public Sectors
- Doctor of Psychology in Clinical Psychology
- Doctor of Philosophy in Communications Media/Instructional Technology
- Doctor of Philosophy in Criminology
- Doctor of Education in Curriculum and Instruction
- Doctor of Philosophy in English
- Doctor of Philosophy in Nursing
- Doctor of Education in School Psychology

Requirements for the Doctoral Degree

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

Under certain circumstances, the School of Graduate Studies 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 School of Graduate Studies and Research, after first obtaining the written approval of the student's department.

Credit Requirement

A minimum of 60 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

Residency requirements are established at the program level, thus doctoral and M.F.A. students will find that residency requirements may vary from program to program. Students should check with their departments, the graduate coordinator, or the program handbook to determine the residency requirement for a particular program.

Transfer Credit

Up to 6 credits of graduate work taken as a graduate student at another institution or up to 12 graduate credits through approved interinstitutional agreements 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.

Up to 12 graduate credits originally earned in one graduate program at IUP may be applied toward a different graduate program if: 1) the receiving department and 2) the School of Graduate Studies and Research both approve the credits as meeting degree requirements. These courses must have been completed within the past five years, and the grade earned must be a "B" or its equivalent or better. The combination of transfer credits earned at another institution and those earned at IUP may not exceed 12 credits.

To request the transfer of credits, the student provides the School of Graduate Studies and Research with a written request indicating the course to be considered for review. A catalog course description or course syllabus must accompany the request. 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 School of Graduate Studies and Research and the academic department. After a decision is rendered by the School of Graduate Studies and Research, the student's department and the student are notified of the transfer decision.

It is strongly recommended that students wishing to transfer credits from another institution while enrolled at IUP receive advance written authorization for credit acceptance from the School of Graduate Studies and Research and the academic department prior to enrolling in that course. The review process is as described in the preceding paragraph.

If credits earned at another institution are approved for transfer, 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. Credits earned at IUP that are approved for transfer to a second program will not be posted to the transcript a second time.

Degree Candidacy

Each student admitted to a doctoral program must receive doctoral degree candidacy after completing at IUP no less than 9 nor more than 15 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 School of Graduate Studies 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/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 Policy (Candidacy Examination/Comprehensive Examination)

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 University-Wide Graduate Committee. Exceptions to this policy for programs can be made only with the approval of the University-Wide 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. The candidate must follow departmental procedures for the proposal defense. 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, and a Research Topic Approval Form must be fully signed and approved by the department, by the college, and by the School of Graduate Studies and Research, before the candidate may proceed with the dissertation. The *Thesis/Dissertation Manual* outlines this procedure and is available from the School of Graduate Studies and Research and on line at www.iup.edu/thesismanual.

Dissertation Approval 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. The candidate shall then request a formal meeting of the dissertation committee, at a time convenient to all members, to defend the dissertation and secure dissertation approval. The dissertation must be approved in writing by each member of the committee, as well as by the Assistant Dean for Research, School of Graduate Studies and Research.

Publication of the Dissertation

Once the dissertation has been approved by the committee and the format has been approved by the Thesis/Dissertation Office, the approved dissertation can be submitted either electronically or in paper form to the School of Graduate Studies and Research. If submitting electronically, the candidate submits the PDF file of the dissertation to ProQuest Information and Learning, which will be sent to the Assistant Dean for Research for review and approval. If submitting paper copies, a minimum of three copies of the dissertation must be submitted to the Assistant Dean for Research for review and approval. The dissertation must also be microfilmed according to the plan provided by ProQuest Information and Learning. Guidelines and forms for both submission options are provided in the *Thesis/Dissertation Manual*, which is available from the Thesis/Dissertation Office in the School of Graduate Studies and Research or on line at www.iup.edu/thesismanual.

Application for Graduation

Applications for graduation must be submitted by the following deadline dates: March 1 for May graduation, June 1 for August graduation, and October 1 for December graduation. Deadline dates are also available in the *Thesis/Dissertation Manual*, as well as in each semester's schedule of classes. Graduation application instructions for applying on line are available at www.iup.edu/commencement/howto.


Continuous Registration Credit

Beginning with the Fall 2004 term, this policy became binding for all doctoral students; it became binding for all Master of Fine Arts (M.F.A.) students beginning Fall 2007. Following completion of all course, language, and skill requirements and of the comprehensive examination requirement where applicable, doctoral and M.F.A. students must enroll for at least one credit of dissertation or thesis, or one credit of continuous registration each semester (Fall and Spring) annually through the graduation of the student or until the time limit is exceeded (See Time Limitation Policy for Doctoral or Master's students). For this period, the student will be considered a full-time doctoral or M.F.A. student. Until the dissertation or thesis is

successfully defended, a grade of "R" will be assigned to each registered credit. Upon successful completion of the dissertation or thesis, the grade assigned by the dissertation or thesis director will apply to all registered dissertation or thesis credits. Students must pay tuition and mandatory university fees (equal to the part-time mandatory fees) and may choose to pay Student Health and Activity Fees if the associated services will be used.

Note: The Continuous Dissertation policy has been in place since 1990. There have been minor language changes since that time, but the requirement for doctoral students to be registered has not changed. Further, since this is a university requirement, students failing to register as directed will be registered by their program coordinator and billed accordingly. If it is the doctoral or M.F.A. student's intent to "quit" the program, he/she should schedule an appointment with the graduate coordinator as soon as possible to avoid any further registration and subsequent assessment.

GENERAL POLICIES AND PROCEDURES

 Graduate students are expected to assume full responsibility for knowing graduate program procedures and regulations. General School of Graduate Studies 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 School of Graduate Studies 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 or progress. 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.

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 their degree program as well as from the School of Graduate Studies and Research 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 School of Graduate Studies and Research, has received permission to audit from the course's instructor, and has been approved for course enrollment by the dean of the School of Graduate Studies 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

With departmental and School of Graduate Studies and Research approval, a student may use the same course to count in two different IUP graduate degree programs, if the course meets the published graduation requirements in both programs. However, the number of overlap credits counted toward a second graduate degree will be limited to a maximum of 12 in the second graduate degree program. Should credits be requested for use in a second degree program, they will be treated as transfer credits and will therefore count toward the 12-credit maximum permitted by the Transfer Credit Policy.

In order to receive the doctorate as a second degree, doctoral students using credits earned in a previous IUP graduate degree program must meet the minimum doctoral degree credit requirement of 60 graduate credits earned beyond the bachelor's degree, exclusive of dissertation credits and course overlap credits.

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:

Only one course may be repeated for each graduate degree program the student attempts or completes.

This one course may 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) earned 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. Note: Graduate credits taken by an undergraduate student may not be reviewed for transfer if they were counted toward the undergraduate degree.

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 School of Graduate Studies and Research after obtaining departmental approval.

Grading System

The following grades are used in reporting the standing of students at the end of each semester or summer term:

A Excellent	L Late Grade, Continuing Course
B Good	Q Total Semester Withdrawal
C Fair	R Research in Progress
F Failure	W Withdrawal
I Incomplete	

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, L, Q, R, and W.

The designation 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. Changes of grade to convert designations of "I" must be received in the Office of the Registrar no later than the final day of classes in the next regular (fall/spring) semester after the designation was assigned. If the faculty member does not change the "I" designation using a Change of Grade Form, it will be converted to an F.

In rare circumstances the student and/or faculty member may ask for an extension of the deadline. In this event, the dean of the college in which the course is taught may approve the extension, providing the faculty member concurs. To monitor designations, the registrar shall submit to department chairs routine semester reports of outstanding "I" designations.

A faculty member assigning the "I" designation must complete an Incomplete Grade Form, indicating the work to be completed, deadlines for completion (it is not necessary to permit the maximum allowable time), and guidelines to establish a final grade. Copies of the completed form will be sent to the department chairperson, the dean of the college in which the course was taught, and the student receiving the "I" designation.

Upon completion of the course work, or notification by the student that the course work will not be completed, the faculty member must submit a Change of Grade Form to indicate the final course 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 "E". 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 *Special Credits*)

Internship Policy

To qualify for a graduate internship appointment, the graduate student must have a minimum of 12 IUP graduate credits earned and a minimum 3.0 grade point average, and must meet departmental internship criteria. No more than 6 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 School of Graduate Studies 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.

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 members of the university community to adhere to this policy and to enforce it with regard to those they supervise. If members of the community have questions regarding the propriety of using software, they are responsible for contacting their supervisor for direction. The supervisor may in turn refer the questions to the Director of IT Services 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 IT Services. The Director of IT Services can be reached by phone at (724) 357-4000.

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 School of Graduate Studies and Research for a decision about which requirements apply.

Student Rights and Responsibilities

Upon admission to the School of Graduate Studies 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 Teacher Education. 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 Teacher Education 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. The Pennsylvania Department of Education also provides opportunities in certain curriculum areas to add a second certification by passing a related Praxis II examination.

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 School of Graduate Studies 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.

Special Credits Policy

A graduate program offered by a department constitutes a rationally structured and well-defined body of information and techniques deemed appropriate to the discipline. Consequently, the number of special credits that each master's and doctoral candidate may count toward a degree is restricted.

Special credits are defined as those earned through Independent Study, Individualized Instruction, Special Topics courses, workshops, or any combination therein.

A master's degree candidate may submit for credit toward the degree no more than six (6) semester hours of special credits approved by the department offering the degree.

Doctoral candidates may submit (a further) 6 semester hours of special credits beyond the master's or its equivalent if approved by the department offering the degree.

Note: Should a special credit offering later become a catalog-listed course that is part of the degree program, while the student is still working towards the degree, the student may request from the department a retroactive reclassification of credits so earned. In such cases, the student may again submit up to 6 semester hours of special credits.

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" or "error," 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.
- 3. Error:** Demonstrable, objective determination that a mathematical or clerical error resulted in the entry of an incorrect grade.

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 member of the Graduate Student Assembly 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 APSCUE, two members elected by and from the Senate University-Wide Graduate Committee (one faculty member and one student), the vice provost and dean of the School of Graduate Studies and Research or his or her designee, and one student appointed by the Graduate Student Assembly. A quorum consists of a majority of the committee. To take action, a majority of those present must be faculty members. If a quorum of the Level II committee is not available to meet within the designated time limits, the Provost's Office will seek additional members from the appointing bodies. If these bodies are unable to respond in a timely manner, the Provost's Office may select additional members from the appropriate groups.
- 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 it 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 preparing to graduate.) The Provost's Office will notify the appropriate dean, department chairperson, faculty member, and the president of the Graduate Student Assembly 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: the vice-provost's designee (from the School of Graduate Studies and Research) and four faculty members. The Graduate Student Assembly Executive Committee designee 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. Using random selection methods, 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 Office of the Provost will supplement the pool using appropriate random selection methods.
- C. Procedure:**
- 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.
 - 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 (knowledgeable in the discipline but excluding the faculty member against whom the complaint was lodged), who will review the student's work and recommend the appropriate grade or suitable remedy. The panel will incorporate this information in its determination, which it then forwards to the Provost's Office for implementation, ordinarily within thirty days. The Provost's Office will initiate the processing of grade changes resulting from Level III decisions.
 - 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. Both the student and the faculty member have the right to review all documents related to the appeal. All documents supporting the report will be sealed and

kept only as long as necessary (normally one year) to ensure the appropriate action is taken before they are destroyed or returned to the individual presenting the evidence.

Ancillary Provisions

- A. 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.
- B. Discrimination in this policy generally means unlawful discrimination:** To the extent that any form of discrimination identified in this definition is not unlawful discrimination, this definition shall not be taken to create a cause of appeal against the university. In such cases, the final appeal procedures stated in this policy will be final and binding on the student.
- C. Tenure and Promotion Committee Membership on Grade Appeals Committees:** Members of the universitywide tenure and promotion committees may not serve concurrently on grade appeals committees.
- D. Support Mechanism:** The Provost's Office, after consultation with the Senate University-Wide Graduate Committee and APSCUF, will be responsible for identifying a pool of at least ten faculty members well versed in the preparation of grade appeals who will be available upon request to help students or faculty prepare documentation for the grade appeals process.
- E. Training/Support:** The Provost's Office will offer yearly information sessions/workshops to assist deans, chairs, grade appeals panel/committee members, and members of the Graduate Student Assembly/University-Wide Graduate Curriculum Committee in identifying issues and to provide guidance for the resolution of grade appeals.
- F. Dissemination of Grade Appeal Information:** The Provost's Office will annually report to the university community a statistical summary of grade appeal data that does not compromise confidentiality including 1) the number of appeals filed, 2) the resolutions at levels II and III, and 3) the final implementation of Level III decisions.
- G. Appeals on Procedural Grounds:** Decisions may not be challenged merely because the Provost's Office fails to comply with Ancillary Provisions D, E, or F above.
- H. Intentional Misrepresentation:** Intentional misrepresentation in the filing of grade appeals by students will be referred to the university judicial system for students. Intentional misrepresentation by faculty in the grade appeals process will be referred to the Provost's Office.
- I. Confidentiality:** Students, faculty, administrators, and staff involved in processing and hearing grade appeals must respect the confidentiality of all aspects of these proceedings. Those breaching confidentiality subject themselves to possible disciplinary action. This shall not abridge the First Amendment rights of the student appellant nor the instructor against whom the appeal has been filed.
- J. Intended Purpose:** The grade appeal procedures are designed simply as a means to resolve differences between students and faculty related to grading. Unless there is intentional misrepresentation, the results of a grade appeal may not be used for disciplinary action of personnel.

K. 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.

L. Review of Policy: Every five years the Senate University-Wide Graduate Committee will review, in consultation with the campus community, the operation of the Grade Appeals Policy and recommend changes deemed appropriate.

***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.

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.

I. Academic Integrity Policy and Procedures

The university's academic integrity policy is part of an ongoing effort to develop a community where trust, honesty, ethical principles, and personal integrity guide interactions with others, thereby providing for orderly academic and scholarly processes. The following policy and procedures have been established to preserve the academic integrity of the university community, while also providing a process that provides opportunities for students to respond to allegations that the policy has been violated.

II. 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 acknowledgment 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

aforsaid 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 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 as addressed by university computing policies including, but not limited to: using or attempting to use computing accounts or other information for which the student is not authorized; providing false or misleading information to obtain a computing account or access to other information resources; attempting to obtain information resource access codes (usernames, passwords, PINs, etc.) for another user's computing accounts; sharing information resource access codes (usernames, passwords, PINs, etc.) with other individuals; attempting to disguise the identity of a computing account or other information resource; using or attempting to use university network resources to gain or attempt to gain unauthorized access to remote computers including, but not limited to, port scanning; violating the terms of intellectual property rights, in particular, software license agreements and copyright laws; using information resources to monitor another user's data communications, or to read, copy, change, or delete another user's files or software without permission of the owner; using or installing or attempting to use or install software not properly licensed.
9. Noncompliance by failure to comply with previously imposed sanctions for academic violations under this policy.
10. Class behavior which significantly disrupts the learning process or is a threat to others.
11. Buying, selling, stealing, or engaging in unauthorized exchange of, or improperly using, any assignments, papers, or projects.
12. Making fraudulent claims to gain academic credit or to influence testing or grading.

The university reserves the right to discipline any student for the above policy violations and any other 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 a faculty member or administrator. 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 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.

III. Procedures

A. Options for Resolution: A faculty member or administrator must use one of the following options to resolve alleged violations of academic integrity:

1. **Option I: Informal Resolution.** The faculty member/administrator shall notify the student of the charges and schedule a meeting within ten calendar days of the observation or discovery of the incident and agree at such meeting to resolve the issue without submitting any formal documentation. If the violation pertains to work being judged or that has been judged by a committee (examples might include dissertations, theses, 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 the faculty member/administrator and student to complete a statement that summarizes the incident, meeting, and agreed-upon resolution. The factual statement should be signed by both parties and copies provided to the student and the faculty member/administrator. By resolving the charges informally, the student waives his/her right to appeal sanctions which have been agreed upon in the resolution process. If agreement cannot be reached, or at the discretion of the faculty member/administrator, a more formal process as outlined in this policy must be initiated by the faculty member/administrator. No formal record is kept if the case is satisfactorily resolved at this level.
2. **Option II: Resolution by Documented Agreement**
 - a. If no resolution is reached under Option I, or if the faculty member/administrator deems this step to be more appropriate, the faculty member/administrator may schedule a conference with the student in an attempt to reach a mutually agreeable resolution. This conference must be scheduled/requested within ten calendar days of the observation or discovery of the alleged violation or of the failure to resolve through Option I. If an agreement is reached, the faculty member/administrator must complete a Documented Agreement Referral 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 or that has been judged by a committee, the conference must involve a majority of the committee and the Documented Agreement Referral Form must be agreed to and signed by a majority of the committee and the student. Copies are distributed to the student, the faculty member/administrator filing the agreement, the department chair, and the Office of the Provost. The Office of the Provost will file the official documents with the Office of Student Conduct. The form must be filed within ten calendar days of the conference.
 - b. By signing 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 for the student is on record, the matter will be referred to an Academic Integrity Board (see section D, Multiple Violations).

- d. If a documented agreement is not reached, the faculty member/administrator shall initiate the formal adjudication process by filing an Academic Integrity Referral Form with the department chair, within ten calendar days of the conference with the student.

3. Option III: Resolution by Formal Adjudication

A. 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 the following sanctions:

- awarding a failing grade on a project or exam (such as a graduate qualifying for a comprehensive exam or dissertation) when resubmitting the project or retaking the exam is not possible
 - involuntary withdrawal from part of IUP's academic or other programs
 - suspension
 - expulsion
 - rescission of a conferred degree
- a. The faculty member/administrator should file an Academic Integrity Referral Form with the department chair, within ten calendar days of the observation or discovery of the violation or within ten calendar 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 if the student is found to have violated this policy.
- b. The department chair will forward a copy of the Academic Integrity Referral Form to the student, within ten calendar 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 (within ten calendar days of being notified of the allegation by the department chair).
- d. This hearing will involve the student, the department chair, the faculty member/administrator, and the Dean of the School of Graduate Studies and Research (or Dean's designee); all parties may invite others with pertinent information. The student and the faculty member/administrator must be given the opportunity to submit and review written, physical, and testimonial evidence, and to question 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.
- 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 unless the sanction is suspension, expulsion, or rescission of a degree. Suspension, expulsion, or rescission of a degree must be implemented by the president's designee.
- g. If the accused student receives proper notification of the hearing and fails to appear when the hearing has been scheduled, the

hearing will be held in the student's absence and the department chair will render a decision based upon information presented by the faculty member/administrator.

- h. Following the hearing, the department chair will render a determination based on the information presented at the hearing. Within ten calendar days of the hearing, the department chair will forward a written report summarizing the hearing that includes the outcome, the factual basis for the determination reached, the sanction to be issued, and the appeal procedures. The original report is sent to the student with copies to the faculty member/administrator and Office of the Provost. The Office of the Provost will file the official documents with the Office of Student Conduct.
- i. 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/designee will determine the appropriate individual to fulfill the department chair's role and inform the student and the faculty member/administrator filing charges within ten calendar days of receiving notification of the allegation.
- j. If a prior academic violation for the student is on record, the case must be referred to the Academic Integrity Board (see section D, Multiple Violations). Otherwise, if there is no appeal, the recommended sanction will be imposed.

B. Academic Integrity Board (AIB): The AIB may be asked to hear appeals of cases filed at Option III: Resolution by Formal Adjudication. In addition, the AIB will hear all cases in which appeals to the chair's decision are accepted by the Provost/designee (see sections C.1. and C.2., Appeals). The AIB will also review sanctions in cases of multiple violations (see section D).

1. For graduate-level hearings and reviews, the AIB will be made up of four (4) faculty members, one of whom will chair the board, and two (2) graduate students. For undergraduate hearings and reviews the AIB will be made up of four (4) faculty members, one of whom will chair the board, and two (2) undergraduate students. A quorum requires the presence of four persons, at least one of whom must be a graduate student (for cases at the graduate level) or an undergraduate student (for cases at the undergraduate level). All members, including the chair, are voting members.
2. When an AIB hearing is called, the AIB will be convened by the Provost/designee. 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 and the recommended sanction. 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 no sooner than ten calendar days from the date of notification to the student.
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 AIB will hear evidence appropriate to the nature of its review (see section C, Appeals).
6. The student shall have a fair and reasonable opportunity to answer, explain, and defend against information and witnesses' statements presented at the hearing. The student shall also have the opportunity to submit written, physical, and testimonial evidence, and to call relevant witnesses on his/her behalf.
7. 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.
8. After hearing all evidence, the AIB will privately make its decision based upon the evidence presented and within the scope of its review. A majority vote of the AIB shall be required for any decision. If the AIB finds that the student more likely than not committed the misconduct or infraction, and the student has no prior academic violation on record, it may accept, reduce (but not increase), or modify the recommended sanction. If the student does have a prior academic violation on record, the AIB may increase the recommended sanction (see section D, Multiple Violations).
9. 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.
10. 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.
11. The AIB must submit a written report of the decision within ten calendar days to the Provost/designee, who will forward the decision to the involved parties.

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.

1. If, after receiving the department chair's report on the outcome of the hearing, the faculty member/administrator or the student disagrees with the decision, the sanction, or both, he/she may appeal to the Provost/designee within ten calendar days of receiving the report. This appeal must be in writing and 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
2. The Provost/designee may deny the appeal or direct the appeal to be heard by an AIB within ten calendar days. All appeals involving sanctions of involuntary withdrawal from part of IUP's academic or other programs, suspension, expulsion, or rescission of a degree will be heard by an AIB.
3. Unless the recommended sanction is suspension, expulsion, or rescission of a degree, the decision of the AIB is final and will be implemented by the Provost/designee.
4. Suspension, expulsion, or rescission of a degree may be recommended by the AIB but can only be implemented by the President's designee, who is responsible for verifying that due process was followed.

D. Multiple Violations:

1. Information about prior violations is not relevant to determining whether a student violated the policy in the current case. However, such information is pertinent in determining the appropriate sanction.
2. If a student is found in violation of academic integrity two or more times, all materials within the student's past and present academic integrity files shall be used in determining appropriate sanctions. Students with multiple academic integrity violations of record may be subject to additional sanctions, including possible suspension or expulsion from the university.
3. For cases previously resolved by documented agreement or through formal adjudication at the department chair's level, an AIB hearing will be scheduled. 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.
4. 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.
5. The AIB must submit a written report of the decision within ten calendar days of its decision to Provost/designee, who will forward the decision to the involved parties.
6. The student may appeal any new sanction 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 a second AIB.

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 may 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. Rescission of a degree:** A student may have his/her degree rescinded if found to have plagiarized or not to have conducted his/her own research on an undergraduate thesis, graduate thesis, or graduate dissertation.
- e. 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 himself/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.
- f. 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, expulsion, and rescission of a degree can be recommended by a faculty member/administrator, department chair, and AIB but can be imposed only by the President's designee for suspension, expulsion, and rescission of a degree; the designee is responsible for verifying that due process was followed.
- g. Other:** Further sanctions, including rescission of a graduate degree, may be recommended through written agreement approved and signed by the faculty member and the Dean of the School of Graduate Studies and Research.

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 filed with the Office of Student Conduct. 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 filed with the Office of Student Conduct. They are maintained as formal disciplinary records in accordance with IUP judicial system recordkeeping policies. Records of cases involving suspension, expulsion, or rescission of a degree must be maintained for a minimum of seven 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.** If the student has withdrawn and has been found to violate the policy, another grade, including an F, may be placed on the transcript. If the student has withdrawn and has not been found to violate the policy, the "W" will remain on the transcript.
- 4.** The ten-day requirement within this policy is a period of time intended to reasonably assure swift notification of an alleged violation and a swift response while allowing the student a reasonable opportunity to prepare a response. Either a faculty member/administrator or student may request an extension of time for good cause, which may be granted by the Provost/designee.
- 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 of notice or opportunity to be heard.
- 7.** This policy will be reviewed by the Senate Academic Committee after five years.

The various forms described in this policy are available from the Office of the Provost, the Office of the Vice President for Student Affairs, deans' offices, or department offices. Questions concerning the Academic Integrity Policy and Procedures can be directed to the Office of the Provost.

COURSE PREFIX KEY

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

Accounting.....	ACCT	Finance.....	FIN
Administration and Leadership.....	LDRS	Food and Nutrition.....	FDNT
Administration and Leadership Studies.....	ALS	Foundations of Education.....	FDND
Adult and Community Education.....	ACE	Geography and Regional Planning.....	GEOG
Anthropology.....	ANTH	Geoscience.....	GEOS
Applied Music.....	APMU	Graduate General Service.....	GSR
Art.....	ART	Health and Physical Education.....	HPED
Art Education.....	ARED	Health Services Administration.....	HSAD
Art History.....	ARHI	History.....	HIST
Biology.....	BIOL	Information Management.....	IFMG
Business Law.....	BLAW	Interdisciplinary Program.....	SDR
Business Technology Education.....	BTED	Library.....	LIBR
Business Technology Support and Training.....	BTST	Literacy.....	LTCY
Chemistry.....	CHEM	Management.....	MGMT
Child Development and Family Relations.....	CDFR	Marine Science.....	MRSC
Communications Media.....	COMM	Marketing.....	MKTG
Computer Science.....	COSC	Master's in Education.....	MEDU
Counselor Education.....	COUN	Mathematics.....	MATH
Criminology.....	CRIM	Music.....	MUSC
Curriculum and Instruction.....	CURR	Music History.....	MUHI
Early Childhood Education.....	ECED	Nursing.....	NURS
Economics.....	ECON	Philosophy.....	PHIL
Education.....	EDUC	Physics.....	PHYS
Education Administration.....	EDAD	Political Science (Public Affairs).....	PLSC
Education of Exceptional Persons.....	EDEX	Psychology.....	PSYC
Education of Persons with Hearing Loss.....	EDHL	Quantitative Business.....	QBUS
Educational and School Psychology.....	EDSP	Rehabilitation.....	RHAB
Elementary Education.....	ELED	Safety Sciences.....	SAFE
Elementary Mathematics.....	ELMA	Sociology.....	SOC
Elementary/Teacher Certification.....	ELTC	Speech-Language Pathology.....	SPLP
Employment and Labor Relations.....	ELR	Student Affairs in Higher Education.....	SAHE
English.....	ENGL	Theater.....	THTR
		Vocational Education.....	VOED

EBERLY COLLEGE OF BUSINESS AND INFORMATION TECHNOLOGY

The Eberly College of Business and Information Technology offer three graduate programs: the Master of Business Administration (MBA) with full-time, part-time evening, and executive tracks (Pittsburgh area); the Master of Education in Business/Workforce Development (M.Ed.); and the Master of Science in Information Technology (M.S.I.T.).

Master of Business Administration (MBA)

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 MBA may be taken on either a part-time 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 four undergraduate-level prerequisite courses that are designed to provide a foundation in the basic concepts and techniques used in the various functional areas of business and to prepare the student for the graduate courses in business administration. Core I requirements can be met by completing the prerequisite courses at IUP, by completing equivalent courses at other accredited universities/institutions, or through successful completion of College Level Examination Program (CLEP) tests in these subjects (with a grade of "C" or better). At the time of admission, the MBA program coordinator will evaluate the academic transcripts of the student for Core I course waivers and give the student a plan for completion of courses needed for this stage. Course descriptions may be required to establish equivalency of courses completed elsewhere.

Core II of the program consists of 36 semester hours in courses that provide advanced knowledge in the functional and applied areas of business. Students may elect to graduate with a general MBA or complete nine credits of additional prescribed course work and receive a concentration.

Normally, a student with a recent bachelor's degree in Business Administration from an accredited university will have completed the entire Core I courses. This will enable the student to complete a general MBA program in one year of full-time study, whereas a non-business major will require 1.5 years—one semester for the Core I or undergraduate courses and one year for the Core II or graduate course requirements. An additional semester of work will be required for students seeking a concentration. Part-time students typically require about three years completing the program.

Admissions Criteria

In addition to meeting admission requirements of the School of Graduate Studies and Research, students seeking enrollment in the MBA program must achieve a satisfactory score on the Graduate Management Admission Test (GMAT) before admission to the degree program (450 in GMAT or a combination of 1,000 points from GMAT score plus 200 times GPA on a 4.0 scale). Admission decisions

are based on academic track record of the applicant, GMAT scores, prior work experience, strength of recommendation letters, and clarity of goal statement presented by the candidate. International applicants are required to submit a Test of English as Foreign Language (TOEFL) score report as part of the MBA application.

Program Requirements

Core I

Complete the following prerequisite courses or equivalent with a grade of "C" or better

ACCT 201	Accounting Principles I
ECON 122	Principles of Economics II
FIN 310	Finance I
MATH 214	Probability and Statistics

Core II (36 cr.)

Complete 36 credits in the following graduate MBA courses:

A. Required:

QBUS 601	Data Analysis and Decision Making	3 cr.
ECON 634	Managerial Economics	3 cr.
MGMT/MKTG 650	International Business	3 cr.
ACCT 607	Management Accounting	3 cr.
IFMG 640	Management Information Systems	3 cr.

or

IFMG 645	IS Architecture and Concepts	3 cr.
MGMT 613	Organizational Analysis	3 cr.
FIN 630	Financial Management	3 cr.
MKTG 603	Marketing Management	3 cr.
MGMT 695	Business Policy	3 cr.
MGMT 637	Operations Management	3 cr.
BTST 670	Organizational Communication	3 cr.
BLAW 633	Case Problems in Business Law	3 cr.

B. Optional Concentration Requirements:

Students seeking to specialize can take nine additional credits of prescribed coursework and receive a concentration in the following areas:

Entrepreneurship

The entrepreneurship concentration helps current and prospective entrepreneurs and small business owners in all facets and phases of starting and successfully operating a small business. It also helps individuals in understanding how to be innovative in a larger organization and how creativity and agility can help teams and departments in organizations.

Finance

The in-depth Finance courses will enable the student to appropriately integrate financial theory with challenging problems in the finance field. Specializing in finance will help students become attractive candidates for employment in the areas of investment banking, commercial banking, risk management, and derivatives.

International Business

This concentration helps students to learn to manage in a global business setting such as a multinational company. It is important for today's managers to understand the nuances of working in a global and cross-cultural setting. Students will gain expertise in the management and marketing aspects of a global business.

Human Resources Management

The HRM concentration prepares students to be human resources generalists in smaller businesses or to be specialists that can work in appraisal, labor relations, and related human resource functions.

Marketing

Marketing concentration entails courses that provide MBA students with an in-depth knowledge in specific functional areas of marketing, which would enable them to make strategic and tactical decisions pertaining to the marketing-related activities of their firms. The courses have been developed to provide the MBA students with the tools and the theories to deal with all three key areas of marketing: External Marketing—to make realistic promises of product and service offerings to B2B and/or B2C customers; Internal Marketing—to interact with the customers efficiently and effectively to deliver them the promised product and service offerings, thereby converting them to profitable, long-term customers.

Professional Accountancy

The Professional Accountancy Concentration is designed for non-accounting majors who do not have an undergraduate degree in accounting but want to further their understanding of accounting concepts and principles. Completion of the program will help to prepare students for entry into the accounting profession and in most U.S. states satisfy the educational requirements to sit for the CPA licensing exam. (Since educational requirements may differ between states the student should check with the regulatory agencies in the respective state in which they plan on sitting for the exam to verify their requirements.)

Supply Chain Management

Managing supply chains has become increasingly important in today's business environment where customers, manufacturers, service providers, and suppliers are spread around the world. This concentration prepares students to manage operations with good understanding of supply chains and logistics, enterprise resource planning (ERP), balanced scorecard, quality management, project management, inventory management, capacity management, strategic alliances, outsourcing, facility location/layout, and related topics.

Students seeking to specialize in a specific area of business can take additional nine credits of prescribed coursework as described below and receive a concentration in that area only in conjunction with the MBA degree. All concentrations may not be available for the MBA, Executive Track students. The MBA program director will advise the Executive Track students about the available concentrations during the time of admission.

Entrepreneurship

Any three of:

- MGMT 571 Opportunity Launch and New Venture Development
- MGMT 572 Organizational Entrepreneurship
- MGMT 503 Small Business Planning
- MGMT 581/681 Special Topics in Management

Finance

- FIN 635 Principles of Investments in Securities
- Two of the following:*
- FIN 510 Financial Institutions and Markets
- FIN 520 Investment Analysis
- FIN 524 International Financial Management

Human Resources Management

Any three of:

- MGMT 500 Compensation Management
- MGMT 501 Training and Development
- MGMT 505 Staffing
- MGMT 581/681 Special Topics in Management
- MGMT 698 Management Internship

International Business

Any two of:

- MGMT 551 International Management
- MGMT 554 International Competitiveness
- MGMT 698 Management Internship*

Any one of:

- MKTG 530 International Marketing
- MKTG 606 Advances in Global Marketing
- MKTG 581/681 Special Topics in Marketing
- MKTG 698 Marketing Internship*

* Only one three-credit internship will count towards the concentration.

Marketing

Any three of:

- MKTG 611 Marketing Communications
- MKTG 521 Marketing Research
- MKTG 534 Marketing Logistics
- MKTG 539 Internet Marketing
- MKTG 581/681 Special Topics in Marketing
- MKTG 698 Marketing Internship
- MKTG 606 Global Marketing

Professional Accountancy

Any three of:

- ACCT 531 Auditing
- ACCT 521 Federal Tax I
- ACCT 541 Accounting for Government and Nonprofit Organizations
- ACCT 512 Advanced Cost Accounting

Supply Chain Management

Any three of:

- MGMT 537 Supply Chain Management
- MKTG 534 Marketing Logistics
- MGMT 534 Quality Management
- MGMT 581/681 Special Topics in Management
- MGMT 698 Management Internship

Other:

Students may take a maximum of 6 credits of electives in their concentration area from 581/681 Special Topics courses offered with the following prefixes: ACCT, BLAW, BTST, FIN, IFMG, MGMT, MKTG, and QBUS.

A student with an undergraduate degree in a functional area cannot obtain an MBA concentration in the same area. For example: An MBA student with a Marketing undergraduate degree cannot obtain an MBA concentration in Marketing.

Master of Business Administration, Executive Track (MBA)

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 MBA degree while continuing their working career. A Saturdays-only class format allows participants to complete a general MBA in four trimesters (1.5 years) or a specialized MBA in five trimesters (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, take all the required courses together, and typically complete the program as a group, facilitates the formation of long-term study groups, extends a peer group or cohort experience to the participants, and creates 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. Such a learning forum provides exposure to peers from all organizational settings in a cohesive, networking environment.

The MBA, 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

In addition to meeting admission requirements of the School of Graduate Studies and Research, students seeking enrollment in the EMBA program must achieve an undergraduate degree (no specific major—minimum GPA of 2.6 on a 4.0 scale), official GMAT scores (450+ or a combination of 1,000 points from GMAT score plus 200 times GPA on a 4.0 scale), three or more years' 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 MBA, 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 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 and the administration of the college. Thirty-three semester hours of MBA course work are required for the general MBA degree. Up to nine semester hours of MBA, Executive Track prerequisites are to be completed before starting graduate-level course work for students who do not have business background.

A. Prerequisites

QBUS 500	Foundations of Business Statistics	3 cr.
ECON 501	Foundations of Modern Economics	3 cr.
FIN 500	Foundations of Finance	1.5 cr.
ACCT 500	Fundamentals of Financial Accounting	1.5 cr.

At the time of admission, the MBA program coordinator will evaluate the academic transcripts, experience, and other credentials of the student for course waivers of one or more of the above four prerequisite courses. Students can complete the above courses offered at IUP before each cohort group starts if the courses are not waived.

B. Required Courses

QBUS 601	Data Analysis and Decision Making	3 cr.
ECON 634	Managerial Economics	3 cr.
MGMT/MKTG 650	International Business	3 cr.
BTST 670	Organizational Communication	3 cr.
ACCT 607	Management Accounting	3 cr.
MGMT 613	Organizational Analysis	3 cr.
FIN 630	Financial Management	3 cr.
MKTG 603	Marketing Management	3 cr.
MGMT 637	Operations Management	3 cr.
IFMG 640	Management Information Systems	3 cr.
or		
IFMG 645	IS Architecture and Concepts	3 cr.
BLAW 633	Case Problems in Business Law	3 cr.
MGMT 695	Business Policy	3 cr.

Students seeking to specialize can take nine additional credits of prescribed course work and receive a concentration in the areas described under the MBA program, after completing Core I. All concentrations may not be available for the MBA, Executive Track students. The MBA program director will advise the Executive Track students about the available concentrations during the time of admission.

Department of Technology Support and Training

**Master of Education in Business/
Workforce Development (M.Ed.)**

The Master of Education in Business/Workforce Development, offered by the Department of Technology Support and Training, is designed to meet the needs of a wide variety of individuals. This program includes a common core of 18 credits plus 12 credits in one of three areas of specialization—Business, Workforce, and Administrative. Within each area of specialization, students are encouraged to enroll in courses that meet their professional areas of interest.

The **Business Specialization** is of interest to individuals desiring to enhance their knowledge of pedagogy, study current business issues and trends, and expand the use of technology in the learning environment. In addition, an opportunity is available for an individual to complete the requirements for initial Pennsylvania K-12 teaching certification in Business, Computer, and Information Technology (business education)—this opportunity requires the completion of additional course work beyond the 30 credits required for the M.Ed.

The **Workforce Specialization** is of interest to individuals desiring to broaden their understanding of business, to enhance their knowledge of industry training, and to update their understanding of new technologies used in the workforce.

The **Administrative Specialization** provides an option for candidates interested in curriculum development and supervision of vocational programs. An enhancement of this specialization is the opportunity to complete the requirements for Pennsylvania Department of Education certification as a supervisor of vocational education. This opportunity requires the completion of additional coursework beyond the 30 credits required for the M.Ed.

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.

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

I. Professional Development Area (9 cr.)

- * **Humanistic Studies** (3 cr.)—One of the following:

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

- * **Behavioral Studies** (3 cr.)—One of the following:

COUN 639	Group Counseling	3 cr.
EDSP 747	Advanced Psychology of Adolescent Education	3 cr.
EDSP 748	Advanced Studies in Behavior Problems	3 cr.
EDSP 578	Learning	3 cr.
EDSP 704	Advanced Educational Psychology	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.

Elements of Research (3 cr.)

- | | | |
|---------|----------------------|-------|
| GSR 615 | Elements of Research | 3 cr. |
|---------|----------------------|-------|

II. Business/Workforce Core (9 cr.)

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|----------|-----------------------------------------------------|-------|
| BTST 650 | Issues and Trends in Business/Workforce Development | 3 cr. |
| BTST 656 | Applied Research in Business/Workforce Development | 3 cr. |
| BTST 670 | Organizational Communication | 3 cr. |

III. Specialization (12 cr.)

Student will select one of the three specialization areas.

Business Specialization (12 cr.)

- | | | |
|----------|------------------------------------------------------------|-------|
| BTST 642 | Training and Development in Business/Workforce Development | 3 cr. |
| BTST 680 | Technical Update | 3 cr. |
| *** | Advisor Approved Elective | 3 cr. |
| *** | Advisor Approved Elective | 3 cr. |

Workforce Specialization (12 cr.)

- | | | |
|---------------|------------------------------------------------------------|-------|
| BTST 642 | Training and Development in Business/Workforce Development | 3 cr. |
| BTST 680 | Technical Update | 3 cr. |
| BTST/COMM 614 | Instructional Computing Basics | 3 cr. |
| BTST/COMM 631 | Interactive Multimedia | 3 cr. |

Administrative Specialization (12 cr.)

- | | | |
|---------------|-------------------------------------------------------------------------|-------|
| BTED/VOED 600 | Curriculum Development in Vocational Education | 3 cr. |
| BTED/VOED 601 | Curriculum and Instructional Leadership in Vocational Education | 3 cr. |
| BTED/VOED 602 | Conference Leadership and Communication Methods in Vocational Education | 3 cr. |
| EDSP 577 | Assessment of Student Learning | 3 cr. |

IV. Certificate Option (21 cr. **)

- *Pennsylvania Business, Computer, and Information Technology Certification
- | | | |
|----------|----------------------------------------|-------|
| BTED 693 | Seminar in Teaching Business Subjects | 3 cr. |
| EDSP 704 | Advanced Educational Psychology | 3 cr. |
| BTED 694 | Clinical Studies in Business Education | 3 cr. |
| EDSP 577 | Assessment of Student Learning | 3 cr. |
| BTED 695 | Professional Semester-Student Teaching | 6 cr. |
| EDEX 650 | Exceptional Children and Youth | 3 cr. |

* Must meet Eberly College undergraduate core business education requirements (see current undergraduate catalog).

** Certification candidates must meet teacher certification requirements of IUP College of Education and Educational Technology.

*** Electives selected based on individual candidate's background.

According to Pennsylvania commonwealth guidelines, students must be certified K-12 and not in separate areas.

Master of Science in Information Technology (currently not open to new applicants)

The Master of Science in Information Technology prepares students for positions involving the development, implementation, and management of technology in the information technology arena. The theory, skills, and knowledge learned will place a graduate of the program in an advantageous position in the competitive labor market.

The departments of Management Information Systems and Technology Support and Training, with the cooperation of Computer Science, are offering a unique 30-credit Master of Science in Information Technology (M.S.I.T.) with two areas of specialization—Information Systems Management and Information Technology Management. The Information Systems Management area focuses on the management of systems, including data warehousing, data mining, and systems development. The Information Technology Management area concentrates on management of technology, including the Web, security issues, and integration of new technologies. Students complete a common core of 15 credits and a specialization area of 15 credits.

This program is intended for individuals seeking post baccalaureate training and credentials in information technology. Students must demonstrate proficiency in technology by meeting admissions criteria.

Admissions Criteria

Students seeking admission to the M.S.I.T. program must meet all of the following:

- Meet the admission requirements of the School of Graduate Studies and Research
- Achieve a minimum combined score (Verbal and Quantitative) of 900 on GRE or a minimum score of 450 on the GMAT
- Have completed undergraduate course work, or documented work experience, or passed exams in information systems (CLEP and/or vendor-specific certification), computer hardware, software applications, and problem solving (students not meeting any of these conditions have the option of taking undergraduate courses at IUP or another accredited institution with prior permission)
- Have an undergraduate GPA of 2.8
- Score 550 (paper-based) or 213 (computer-based) on TOEFL (international students only)

Information Technology Core (15 cr.)

BTST 670	Organizational Communication	3 cr.
IFMG 645	IS Concepts and Architecture	3 cr.
IFMG 655	Data Communications and Network Technology	3 cr.
IFMG 660	Data Management	3 cr.
BTST/IFMG 682	Integrating the Enterprise, IS Function, and Technologies	3 cr.

Systems Management (15 cr.)

IFMG 650	Analysis Modeling and Design	3 cr.
IFMG 662	Data Warehousing and Mining	3 cr.
COSC 604	Elements of Internet Programming	3 cr.
IFMG/BTST 644	IT Policy and Strategy	3 cr.
IFMG/BTST 663	Project Management for IT Professionals	3 cr.

Technology Management (15 cr.)

BTST 655	Emerging Information Technologies	3 cr.
BTST 665	Information Security in the Enterprise	3 cr.
BTST 675	Web Design Theory and Application	3 cr.
IFMG/BTST 644	IT Policy and Strategy	3 cr.
BTST/IFMG 663	Project Management for IT Professionals	3 cr.

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. The college also offers a Ph.D. in Communications Media and Instructional Technology. 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, Supervisor-Pupil Personnel Services K-12, and the letter of eligibility for School Superintendency. Other certification programs are offered at the undergraduate level.

Criminal Record Checks, Placement, and Notification

All advanced programs leading to a certificate issued by the Pennsylvania Department of Education require that candidates complete an internship in a school setting or intermediate unit. Under current law, no placement can be made until a candidate presents Pennsylvania Criminal Record (Act 34) and Child Abuse Clearances (Act 151) as well as an FBI Fingerprinting Record (Act 114). Candidates for these programs should be aware that districts or intermediate units may not accept placements if any criminal record is reflected on these records. Candidates with a criminal record, even of a summary offense, are asked to disclose this history to their program upon acceptance so that a determination can be made about whether placement will be possible. Also, some serious offenses, typically involving child welfare, preclude state certification. Candidates in the Community Counseling program should be aware that internship sites in community and other agencies will require the same background checks before placement. Students who do not provide the required background records or for whom the Teacher Education Office cannot find an acceptable placement will be terminated from the program. Copies of candidate clearances must be on file with your program as well as in the Teacher Education Office prior to beginning any school, intermediate unit, or agency placement.

Information Regarding Pennsylvania Department of Education Standards for Initial Teacher Education and Educational Specialist Certificates

The State Board of Education adopted changes that affect all of Pennsylvania's teacher (initial teacher certifications) and educational specialist certification programs (School Counselor and School Psychologist) by adding 9 credits or 270 hours or equivalent combination for adaptations and accommodations for diverse students in an inclusive setting and 3 credits or 90 hours or equivalent combination to meet the instructional needs of English Language Learners. Although these regulatory changes became effective on September 22, 2007, the Pennsylvania Department of Education has not yet developed *final* requirements for colleges/universities to follow. Therefore, additional program requirements will be developed and incorporated into your certification program to

comply with new regulations for certifying teachers that become effective on January 1, 2013.

The State Board of Education also adopted changes specific to early childhood, elementary (K-6), and special education. New certification guidelines will apply January 1, 2013, regardless of a candidate's enrollment date. Candidates seeking current certifications must complete their programs by December 31, 2012.

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.

Professional preparation for students in adult and community education is realized through helping them develop:

- A specialized knowledge of the literature, research, and theories in adult and community education
- A broad knowledge of the literature, research, and theories in supporting disciplines
- Specific skills to enhance performance as an adult and community educator
- The ability to reflect critically on and learn from one's professional and personal practices as an adult and community educator
- The ability to guide practice based on theory and to modify theories based on practical experience
- The ability to communicate effectively both in writing and orally
- The ability to understand, conceptualize, and conduct research in adult and community education
- A commitment to support the growth of adult and community education as fields of inquiry and practice
- A commitment to continued professional development in adult and community education
- A commitment to use the knowledge and skills learned in the program to improve the quality of life at work, in the community, and in society

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

Program Requirements

	Non-Thesis*	Thesis	
ACE 620	Introduction to Adult and Community Education	3 cr.	3 cr.
ACE 621	The Adult Learner	3 cr.	3 cr.
ACE 622	Program and Process Development in ACE	3 cr.	3 cr.
ACE 623	Organization and Administration in ACE	3 cr.	3 cr.
ACE 625	Facilitating Adult Learning	3 cr.	3 cr.
ACE 735	Seminar in ACE	3 cr.	3 cr.
ACE 740	Internship in ACE	6 cr.	6 cr.
ACE 745	Practical Research in ACE	3 cr.	**3 cr.
ACE 795	Thesis	—	3 cr.
GSR 615	Elements of Research	3 cr.	3 cr.
— — —	Electives	6 cr.	3 cr.
Total		36 cr.	36 cr.

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

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

Master of Arts in Adult Education and Communications Technology Track

The M.A. in Adult Education and Communications Technology is delivered collaboratively by the Department of Adult and Community Education and the Department of Communications Media.

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 Technology 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 Technology will place graduates of the program in an advantageous position in the labor market.

Graduates are 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 adult development and learning theory to the design and implementation of educational programs and media selection and use.
2. Plan educational programs which incorporate the use of educational technology, needs assessment, and program evaluation.
3. Understand the importance of leadership and management skills in an organizational context.
4. Demonstrate skills for teaching adults in face-to-face settings.
5. Demonstrate knowledge and skills in use of research methods.
6. Demonstrate knowledge and skills in use of multimedia production.
7. Select, design, produce, and evaluate technology and media for education and training of adults.
8. Conduct audience/learner analysis.
9. Understand and apply principles of ethics as they relate to the use of media and technology.
10. Employ instructional systems design processes, including developing goals and objectives, developing learning activities, and conducting learner assessment.
11. Integrate technology with the teaching and training of adults.
12. Obtain practical experience in the design, development, utilization, and evaluation of technology and adult learning.

Program Requirements

I. Core Courses (27 cr.)

ACE 621	The Adult Learner	3 cr.
ACE 622	Program and Process Development in ACE	3 cr.
ACE 623	Organization and Administration in ACE	3 cr.
ACE 625	Facilitating Adult Learning	3 cr.
ACE 750	Seminar: Technology and Adult Learning	3 cr.
COMM 600	Instructional Design and Development	3 cr.
COMM 601	Media Production	3 cr.
COMM 614	Instructional Computing Basics	3 cr.
COMM 631	Interactive Multimedia	3 cr.

II. Research Requirements (3 cr.)

GSR 615	Elements of Research	3 cr.
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III. Either

A. Thesis Option (3 cr.)

ACE/COMM 795	Thesis	3 cr.
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or

B. Non-Thesis Option (6 cr.) – Six credits of the following:

COMM 698	Internship	3-6 cr.
— — —	Electives (As approved by advisor)	3-6 cr.

Total (Thesis Option) 33 cr.

Total (Non-Thesis Option) 36 cr.

Instructional Technology Specialist Certification

The Instructional Technology Specialist (ITS) Certification is an advanced certification issued by the Pennsylvania Department of Education. ITS personnel serve as instructional technology specialists in schools, school districts, and intermediate units to assist school faculty and administrators to learn to use technology and incorporate technology into their teaching. The ITS certification is not a teaching certification; a separate certification is required to teach K-12 students in Pennsylvania public schools. Students wishing to acquire the ITS certification must meet the following requirements:

1. Complete the entire Master of Arts program including all required classes.
2. Obtain Act 34 and 151 clearances.
3. Complete an approved internship in a school or intermediate unit.
4. Submit all forms and fees required by the Pennsylvania Department of Education.
5. Take and pass the PPST Praxis I test for reading, writing, and mathematics.

Department of Communications Media

Doctor of Philosophy in Communications Media and Instructional Technology

The Ph.D. in Communications Media and Instructional Technology is designed to develop scholars who are prepared to conduct advanced research and are experts in the following areas: communications theory; the impact of media on culture; and the design, development, implementation, and evaluation of training. Graduates will synthesize knowledge from domains within the communication field and related disciplines as they assume leadership roles in diverse professional, business, and military environments. The 60-credit program, designed for individuals interested in pursuing a career in academia, business, or the military with a research focus on Communications Media and Instructional Technology, provides students with culture and theory courses, research courses, and production of media courses with an emphasis on current and emerging technologies. Upon completion of the Ph.D. in Communications Media and Instructional Technology program, the graduate is prepared to:

- Conduct research that enables organizations to effectively use communications and media in meeting goals
- apply research, an understanding of culture, and production skills to the development of new media
- interpret cultural forces upon communications and media
- provide leadership to positively impact culture with communications and media
- design, produce, and utilize media within a variety of cultural and professional contexts
- synthesize existing media and emerging technologies
- develop new media

Curriculum Overview

I. Research Courses (12 cr.)

EDSP 817	Applied Educational Research Methods or equivalent)	3 cr.
COMM 825	Quantitative Methods in Communications Research	3 cr.
COMM 828	Qualitative Methods in Communications Research	3 cr.
COMM 910	Advanced Doctoral Research in Communications	3 cr.

II. Theory and Culture Core Courses (12 cr.)

COMM 801	Ideas that Shape Media	3 cr.
COMM 812	Media Ethics	3 cr.
COMM 857	Doctoral Seminar in Communications Culture and Technology	3 cr.
COMM 900	Culture of Cyberspace	3 cr.

III. Theory and Culture Elective Courses (6 cr.)

COMM 822	Children and Media	3 cr.
COMM 853	Corporate Communications	3 cr.
COMM 881	Special Topics	3 cr.

IV. Production Core Courses (7-12 cr.)

COMM 832	Media Production	Variable 1-6 cr.
COMM 846	Instructional Media Solutions	3 cr.
COMM 860	Media Preproduction	3 cr.

V. Production Elective Courses (6 cr.)

COMM 876	Online Media	3 cr.
COMM 881	Special Topics	3 cr.
COMM 882	Simulations and Games	3 cr.

VI. Elective Courses (0-9 cr.)

Taken in place of COMM 832 credits waived by admission committee. COMM courses, listed below, may only be taken if not taken as theory and culture electives or production electives.

COMM 822	Children and Media	3 cr.
COMM 853	Corporate Communications	3 cr.
COMM 876	Online Media	3 cr.
COMM 881	Special Topics	3 cr.
COMM 882	Simulations and Games	3 cr.
CURR 915	Writing for Professional Publication	3 cr.
ECON 820	Managerial Economics for Decision Making and Leadership	3 cr.
ENGL 808	Technology and Literacy	3 cr.
ENGL 956	Literary Theory for the Teacher and Scholarly Writer	3 cr.
SOC 803	Social and Organizational Theory	3 cr.
SOC 862	Analysis of Social Data	3 cr.

VII. Dissertation (12 cr.)

COMM 995	Dissertation	12 cr.
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Total 60 Credits beyond a master's or master's equivalency

Student Qualifications, Support and Advisement

Students seeking admission to the Ph.D. in communications must satisfy the minimum School of Graduate Studies and Research requirements and have a master's degree in communications or a related field. International students are required to comply with the admission criteria as outlined in the graduate catalog.

All applicants must also submit the following for review by the doctoral program committee:

- Recent GRE Scores (including analytical writing) or recent MAT Score
- Official higher education transcripts
- Current curriculum vitae
- Writing sample
- Two letters of recommendation
- Personal interview
- Production portfolio (optional)

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. Students who successfully complete their course work will be eligible to take the National Counselor Examination for Licensure and Certification. 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

GSR 615	Elements of Research	3 cr.
COUN 610	Introduction to Community Counseling	3 cr.
COUN 615	Counseling Across the Life Span	3 cr.
COUN 617	Basic Counseling Skills	3 cr.
COUN 618	Multicultural and Diversity Issues in Counseling	3 cr.
COUN 627	Child Counseling and Consulting Theories	3 cr.
or		
COUN 637	Counseling and Consultation Theories (Adolescent/Adult)	3 cr.
COUN 629	Group Procedures (Child)	3 cr.
or		
COUN 639	Group Counseling	3 cr.
COUN 634	Assessment Procedures for Community Counselors	3 cr.
COUN 636	Career Counseling and Development (Community)	3 cr.
COUN 657	Individual Counseling Practicum (Adolescent/Adult)	3 cr.
or		
COUN 667	Individual Counseling Practicum (Child)	3 cr.
COUN 659	Group Counseling Skills (Adolescent/Adult)	3 cr.
or		
COUN 669	Group Counseling Practicum (Child)	3 cr.
COUN 730	Ethical and Legal Issues in Community Counseling	3 cr.
COUN 798	Internship in Counselor Education	6 cr.

COUN 671	Introduction to Diagnostic Issues For Counselors	3 cr.
—	Electives	3 cr.
Total		48 cr.

M.A. students will not receive credit for COUN 624 Educational Appraisal or COUN 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 School of Graduate Studies and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admissions workshop as the final step in the admissions process. Workshops are held twice a year, and applicants should contact the department to obtain the dates of workshops and deadlines for completed applications to be received by the School of Graduate Studies and Research.

For current students, each year an evaluation of student academic, clinical, and professional competence will be made. Students will receive formal feedback based on the outcome of the evaluation results, and a joint effort will be made to remediate any deficiencies. Serious deficiencies may result in recommendations for remedial work, delay of candidacy, or termination from the program. See Department of Counseling Student Handbook for additional information.

Master of Education in School Counseling

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:

Master of Education in School Counseling Certification

I. Core Courses (36 cr.)

COUN 615	Counseling Across the Life Span	3 cr.
COUN 617	Basic Counseling Skills	3 cr.
COUN 618	Multicultural and Diversity Issues in Counseling	3 cr.
COUN 621	Introduction to Professional School Counseling	3 cr.
COUN 624	Assessment Procedures for School Counselors	3 cr.
COUN 626	Career Education in the Schools	3 cr.
COUN 628	Management of Professional School Counseling Program	3 cr.
COUN 720	Ethical and Legal Issues in School Counseling	3 cr.
COUN 755	Field Experience	3 cr.

GSR 615	Elements of Research	3 cr.
—	Electives	6 cr.

II. Application of Counseling Courses—Based on School Setting (12 cr.)

A. Students planning to work in the secondary school setting and who are seeking secondary school counseling certification will take the following:

COUN 637	Counseling and Consultation Theories (Adolescent/Adult)	3 cr.
COUN 639	Group Counseling	3 cr.
COUN 657	Individual Counseling Practicum (Adolescent/Adult)	3 cr.
COUN 659	Group Counseling Practicum (Child)	3 cr.

or

B. Students planning to work in the elementary school setting and who are seeking elementary school counseling certification will take the following:

COUN 627	Child Counseling and Consulting Theories	3 cr.
COUN 629	Group Procedures (Child)	3 cr.
COUN 667	Individual Counseling Practicum (Child)	3 cr.
COUN 669	Group Counseling Practicum (Child)	3 cr.

Total 48 cr.

M.Ed. students will not receive credit for COUN 634 Mental Health Appraisal or COUN 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 School of Graduate Studies and Research. Prospective students should contact the department to determine these requirements. Applicants are required to attend an admissions workshop as the final step in the admissions process. Workshops are held twice a year, and applicants should contact the department to obtain the dates of workshops and deadlines for completed applications to be received by the School of Graduate Studies and Research.

For current students, each year an evaluation of student academic, clinical, and professional competence will be made. Students will receive formal feedback based on the outcome of the evaluation results, and a joint effort will be made to remediate any deficiencies. Serious deficiencies may result in recommendations for remedial work, delay of candidacy, or termination from the program. See Department of Counseling Student Handbook for additional information.

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 department 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; these requirements include a minimum 3.5 graduate grade point average.

License Only Option

The License Only Option for admission is designed for individuals who need additional credits to meet state 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 Description

The Master of Education degree in the Educational Psychology Program (33 to 36 credits, 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 of Education in School Psychology. An individual with a bachelor's degree may enter the program as a master's degree candidate and, during the 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 apply directly to the doctoral program, receiving certification as school psychologists as they progress towards 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. Students take 66-69 credits for the specialist certificate, while completion of the entire doctoral program involves 102-111 credits beyond the bachelor's degree, depending on the student's level at entry.

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 for students entering at this level is a minimum of 42 credits 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 9 credit hours per semester or 6 credit hours per summer session is required unless waived by the student's advisor and the school psychology committee.

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

Master of Education in Educational Psychology

General Requirements—All students must complete course work in the following areas: Professional Development (9 credits), Humanistic Studies (3 credits), Behavioral Studies (3 credits), Subject Area (6 credits), Research (6 credits), and Electives (9 credits, 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 in School Psychology

The Certification in School Psychology (33 credits) is designed to provide the student with specific clinical skills necessary to function as a school psychologist. Courses focus on the multiple roles of the school psychologist, including counseling, assessment, intervention, consultation, biological bases of behavior, exceptionalities, law/ethics, and the use of psychological skills in multicultural educational settings. Course work will include: Assessment for Intervention I (EDSP 812); Assessment for Intervention II (EDSP 813); Instructional Consultation (EDSP 818); Neuropsychology of Children's Learning Disorders (EDSP 942); Assessment of Personality and Behavior Problems of Children (EDSP 963); Practicum II (EDSP 949); Advanced Social Psychology (PSYC 858); and an elective. In addition to course work, the certification program includes an internship (EDSP 952) that encompasses a minimum of 1,200 hours, at least half of which occur in a school setting.

Students must maintain a grade point average of at least 3.25 and a grade of B or better in all department courses.

Doctor of Education in School Psychology

The doctoral program is designed to enhance the generalist competencies of the school psychologist and to allow the student to gain advanced skills in research and a specialty in either neuropsychology and learning disorders or family-school relations. For all doctoral students, the majority of the advanced doctoral courses are completed in two to three summers following the completing of the certification in School Psychology. In addition to seminars in advanced issues in assessment and intervention (EDSP 964, EDSP 965), the core courses include two advanced research courses (EDSP 915, EDSP 916) and four courses emphasizing applied clinical skills in the above specialty areas. Doctoral students take a three-credit practicum, a three-credit, school-based internship (1,300 hours), a three-credit specialty internship (300 hours), and a nine-credit dissertation to complete the doctoral degree. Half of a student's total school psychology internship must be completed in a school setting.

Supervisor of Pupil Services Certification

Students in the doctoral program may take additional course work and field experiences toward certification by the Pennsylvania Department of Education as a supervisor of pupil services. This optional program consists of many of the basic doctoral courses as well as additional courses in supervision of student clinicians (EDSP 949) and supervision and administration of pupil service functions. A total of 39 credits are required. Candidates for the certificate must also complete a pupil services project within a 260-hour internship in supervision of pupil services in a school district or intermediate unit. The program is open to doctoral students in school psychology and to others who hold an educational specialist certificate as a school psychologist. Postdoctoral enrollments are also accepted.

Admission to the Master's Program

Individuals seeking initial admission to any departmental program must complete both a School of Graduate Studies and Research application and a departmental application. After 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 School of Graduate Studies and Research recommendations regarding admission into the program. The School of Graduate Studies 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 scores, work history, professional goals, and personal characteristics as determined in the admission interview. No one criterion dominates in the admission decision, provided there is evidence of the basic ability to do graduate work.

Admission to Certification and Doctoral Programs

Students who are progressing successfully through the master's program may apply for the specialist (certification) program or directly to the doctoral program. Students who are accepted as doctoral students may enroll in selected doctoral-required courses as they progress through the certification program. It is expected that the majority of the doctoral requirements will be completed in the two summers following the specialist-level internship to maintain program continuity. A student who has a lapse in program enrollment without faculty approval may be required to reapply to the program.

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, the student must present evidence of obtaining a passing grade on the School Psychology Praxis exam. Upon admission, these students must undergo a transcript review and candidacy exam to evaluate their past training and current competencies. Based on the transcript review, the candidacy exam, and observation of their clinical skills in EDSP 949 (Practicum I), a plan of study is developed. Additional courses beyond those required in the doctoral course sequence may be needed to fill gaps in the student's training or competence.

Candidates for the certification program for supervisor of pupil services who are not matriculating as doctoral students in school psychology may apply directly to the School of Graduate Studies and Research for this program. Students in the doctoral program in school psychology do not need to submit a separate application for this program.

Master's Degree Program (M.Ed. in Educational Psychology)

Thesis option, 33 cr.

Non-Thesis option, 36 cr.

A. Professional Development (9 cr.)

EDSP 704	Advanced Educational Psychology	3 cr.
EDSP 745	Crisis Intervention and Psychological Counseling of Exceptional Children	3 cr.
EDSP 746	Learning and Instruction	3 cr.

B. Humanistic Studies (3 cr.)

PSYC 836	Personality Theory and Systems of Psychotherapy	3 cr.
or		
PSYC 858	Advanced Social Psychology*	3 cr.

C. Behavioral Studies (3 cr.)

EDSP 748	Advanced Studies in Behavioral Problems	3 cr.
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D. Subject Area (6 cr.)

EDEX 650	Exceptional Children and Youth	3 cr.
EDSP 747	Advanced Psychology of Adolescent Education	3 cr.

E. Research (6 cr.)

GSR 615	Elements of Research	3 cr.
EDSP 717	Applied Educational Research Methods	3 cr.

F. Psychology Core Electives - Non-thesis Option (9 cr.)

PSYC 810	Historical Trends in Psychology*	3 cr.
EDSP 755	Practicum I**	3 cr.
—	Elective (advisor approval)	3 cr.

or

Thesis Option (6 cr.)

EDSP 795	Thesis	6 cr.
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Total 33 or 36 cr.

* Recommended for those continuing in school psychology doctoral program.

** Required for those continuing in school psychology certificate or doctoral program.

Doctoral Program (D.Ed. in School Psychology)

Certification Sequence

EDSP 811	Introduction to School Psychology	3 cr.
EDSP 812	Assessment for Intervention I	3 cr.
EDSP 813	Assessment for Intervention II	3 cr.
EDSP 818	Instructional Consultation	3 cr.
EDSP 942	Neuropsychology of Children's Learning Disorders	3 cr.
EDSP 949	Practicum II	6 cr.
EDSP 952	Internship	6 cr.
EDSP 963	Assessment of Personality and Behavior Problems of Children	3 cr.
EDSP 966	Educational and Psychopharmacological Issues Associated with Child Neuropsychology	3 cr.

Total 33 cr.

Doctoral Core Sequence (15 cr.)

EDSP 964	Seminar in School Psychology I	3 cr.
EDSP 965	Seminar in School Psychology II	3 cr.
EDSP 977	Seminar in Family-School Relations	3 cr.
EDSP 915	Doctoral Seminar in Applied Educational Research	3 cr.
EDSP 916	Doctoral Seminar in Advanced Educational Research	3 cr.

Specialty Sequence (6 cr.)

A. Family-School Relations

PSYC 834	Family Therapy	3 cr.
EDSP 978	Family Services for School-Related Problems of Children with Special Needs	3 cr.

or

PSYC 971	Family and Couples Clinic	3 cr.
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or

PSYC 934	Advanced Family Therapy	3 cr.
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or

B. Neuropsychology and Learning Disorders

EDSP 953	Child Neuropsychology	3 cr.
EDSP 978	Family Services for School-Related Problems of Children with Special Needs	3 cr.

Internship and Dissertation (15 cr.)

EDSP 952	Internship (doctoral school 3 cr. and specialty 3 cr.)	6 cr.
EDSP 995	Dissertation	9 cr.

Total 36 cr.

Note: Students who enter the doctoral program having received their certification in school psychology from another university take an additional Practicum course (EDSP 949) and should take PSYC 836 or PSYC 858, PSYC 810, and EDSP 966 (Psych. Core) if similar courses are not part of their certification program per advisement of doctoral director. These students may also be required to take EDSP 817, depending on their performance on the candidacy examination (research section).

Department of Foundations of Education

Courses in the Historical Foundations of Education are offered by this department.

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 Elementary 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.

Master of 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. 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 cr.)

MEDU 761	Community and Culture	6 cr.
MEDU 762	Instruction and the Learner	6 cr.
MEDU 763	Teacher as Researcher	6 cr.
MEDU 764	Educational Change and Technology	6 cr.
MEDU 765	Curriculum and Instruction	6 cr.
MEDU 766	Teacher as Leader	6 cr.

Master of Education in Early Childhood Education (currently not open to new applicants)

This three-year, part-time program is specifically designed for practicing teachers who are seeking an advanced degree and specialized certificate in the teaching of young children (pre-kindergarten through third grade). Students take one course each fall, one each spring, and two during the summer for a total of 12 credits per year. During years one and two, teachers who are already certified to teach in another educational field (e.g., Elementary Education, Special Education, Art, or Music Education) earn the 24 credits for an Instructional II Certificate in the Commonwealth of Pennsylvania and add an early childhood endorsement (nursery school through third grade) to their credentials. During year three of the program, students earn the remaining 12 credits required for a 36-semester-hour, non-thesis Master's in Early Childhood Education. (Not available on the Indiana campus.)

Master's Degree Program (M.Ed. in Early Childhood Education)

Year One (12 cr.)

LTCY 648	Creativity and the Elementary School Child (early childhood section)	3 cr.
ECED 764	Early Childhood Curriculum	3 cr.
ECED 760	Child Study and Assessment	3 cr.
ELED 743	Resource Materials in Elementary Science	3 cr.

Year Two (12 cr.)

ECED 765	Issues and Trends in Early Childhood Education	3 cr.
ELMA 655	Mathematics for Early Childhood	3 cr.
ELED 755	Developmental Influences on Children's Learning	3 cr.
LTCY 644	Issues and Trends in the Language Arts (early childhood section)	3 cr.

Year Three (12 cr.)

GSR 615	Elements of Research	3 cr.
EDEX 515	Preschool Education for Children with Disabilities	3 cr.
ECED 761	History and Philosophy of Early Childhood Education	3 cr.
HMEC 526	Techniques of Parent Education	3 cr.

Total 36 cr.

Master of Education in Elementary Education

This program meets the needs of two groups of students with four-year baccalaureate degrees: 1) those new to the field of teaching seeking an Instructional I Certificate in Elementary Education and 2) experienced teachers seeking the Instructional II Certificate. Both options lead to the M.Ed. in Elementary Education.

Option 1: M.Ed./Initial (Instructional I) Teacher Certification in Elementary Education This cohort program begins with one year of part-time study. In the fall and spring of year two, students are enrolled full time in field-based courses that combine traditional instruction in methods courses with faculty-supervised opportunities to teach children in elementary school (kindergarten through sixth grade). Upon successful completion of the program, candidates are recommended for initial teacher certification in Elementary Education in Pennsylvania. With an additional 9 credits and a total program of 45 credits, students earn the M.Ed. in Elementary Education.

Option 2: M.Ed./Second (Instructional II) Certification in Elementary Education is for practicing teachers certified in elementary or another field. The 27 credits for certification are offered to a cohort of students in three consecutive summers of 9 credits each. Students pursue the remaining 9 credits required for the M.Ed. on an individual basis, but within five years of their start date. Total program is 36 credits.

Option 1: M.Ed. in Elementary Education/Initial Elementary Certification. For postbaccalaureate students seeking an Instructional I Certificate and the master's degree.

A. Elementary Core Courses (18 cr.)

ELTC 660	History, Philosophy, and Ethics in Elementary Education	3 cr.
EDEX 560	Family Perspectives on Disabilities	3 cr.
ELTC 665	Issues in Elementary Education and Pedagogy	3 cr.
ELED 642	Mathematics in Elementary School	3 cr.
LTCY 600	Foundations of Literacy Instruction	3 cr.
ELED 655	Developmental Influences on Children's Learning	3 cr.

B. Field-Based Courses (18 cr.)

Students follow school calendar and all IUP/PDE requirements for certification

LTCY 664	Issues and Trends in the Language Arts	3 cr.
ELTC 661	Integrated Curriculum in the Elementary School	3 cr.
ELTC 670	Practicum I (Social Studies, Citizenship, Multicultural Education, and Diversity)	3 cr.
ELTC 664	Assessment of Student Learning and Elementary Curriculum	3 cr.
ELED 743	Resource Materials in Elementary Science	3 cr.
ELTC 675	Practicum II (School Law and Professional Practice)	3 cr.

Students complete the following 9 semester hours within five years of their enrollment date to complete the M.Ed. in Elementary Education.

C. Research Requirement (3 cr.)

GSR 615	Elements of Research (required)	3 cr.
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D. Electives (6 cr.)

Two Education Electives (500 level or higher)	6 cr.
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Note: Pennsylvania Department of Education requires initial certification students to have two mathematics content courses and two English courses (one in writing/composition, one in literature) prior to applying for an Instructional I. *Option 1 students may use their 6 credits of graduate-level electives to meet this requirement.*

Option 2: M.Ed. in Elementary Education/Second Certification.
Plan for Certified Teachers Seeking an Instructional II Certificate

A. Elementary Core (27 cr.)

ELTC 660	History, Philosophy, and Ethics in Elementary Education	3 cr.
ELTC 661	Integrated Curriculum in the Elementary School	3 cr.
ELTC 664	Assessment of Student Learning and Elementary Curriculum	3 cr.
ELTC 665	Issues in Elementary Education and Pedagogy	3 cr.
ELED 655	Developmental Influences on Children's Learning	3 cr.
LTCY 644	Issues and Trends in the Language Arts	3 cr.
LTCY 648	Creativity and the Elementary School Child	3 cr.
EDEX 560	Family Perspectives on Disabilities	3 cr.
ELED 642	Mathematics in Elementary School	3 cr.

B. Research Requirement (3 cr.)

GSR 615	Elements of Research (required of all graduate students)	3 cr.
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C. Education Electives (6 cr.)

Two Education Electives (500 level or higher)	6 cr.
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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 and

successfully passing the Praxis exam. Students may pursue a thesis option, enrolling for a six-credit thesis, LTCY 795, omitting the requirements from sections E (Humanistic Studies) and F (Electives).

Admission prerequisites

Applicants to the program must meet the requirements for admission to the School of Graduate Studies and Research and must meet the following criteria:

An applicant must hold a teaching certificate and have a cumulative undergraduate grade point average of 3.0 or one that is commensurate with the requirements of the Pennsylvania Department of Education.

A. Literacy (21 cr.)

LTCY 600	Foundations of Literacy Instruction	3 cr.
LTCY 644	Issues and Trends in the Language Arts	3 cr.
LTCY 701	Assessment and Acceleration	3 cr.
LTCY 702	Reading and Writing in the Content Areas	3 cr.
LTCY 705	Organization and Administration of Reading/Writing Programs	3 cr.
LTCY 770	Practicum and Seminar for Reading Specialists I	3 cr.
LTCY 771	Practicum and Seminar for Reading Specialists II	3 cr.

B. Research (3 cr.)

LTCY 698	Analysis of Research in Literacy	3 cr.
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Required for Reading Specialist Certification

C. Related Areas (3 cr.)

LTCY 607	Instruction and Learning with Literature	3 cr.
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D. Research (3 cr.)

GSR 615	Elements of Research	3 cr.
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E. Humanistic Studies (omit if selecting thesis option) (3 cr.)

FDED 514	Comparative Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

Other graduate courses that address the relationships of social, political, historical, and cultural perspectives of education could be applicable for this section.

F. Electives (omit if selecting thesis option) (3 cr.)

EDSP 747	Advanced Psychology of Adolescent Education	3 cr.
ENGL 518	Literature for Adolescents	3 cr.
LTCY 648	Creativity and the Elementary School Child	3 cr.
LTCY 697	Seminar in Special Problems in Reading	3 cr.
LTCY 699	Independent Study in Reading Education*	3 cr.
ENGL 690	Writing as a Way of Learning*	3 cr.

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 cr.)

ALS 810	Advanced Topics in Human Development and Learning	3 cr.
ALS 850	School and Community	3 cr.
ALS 801	Leadership Theories	3 cr.
ALS 802	Leadership: A Case Study Approach	3 cr.
ALS 803	Leadership: Applied Practice	3 cr.
ELR/HSAD 751	Conflict Resolution	3 cr.

Research (18 cr.)

ALS 820	Doctoral Seminar in Research Methods	3 cr.
ALS 882	Research Instrument Design for Leadership Studies	3 cr.
ALS 883	Analysis of Qualitative Data in Leadership Studies	3 cr.
ALS 995	Dissertation	9 cr.

Internship (6 cr.)

ALS 898	Internship in Administration and Leadership Studies	6 cr.
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Educational Administration (15 cr.)

ALS 805	Curriculum Evaluation	3 cr.
ALS 825	Critical Analysis of Issues in Education	3 cr.
ALS 830	Analysis of Effective Instruction	3 cr.
ALS 860	School Finance	3 cr.
ALS 858	School Law and Negotiations	3 cr.
ALS 845	Administrative Procedures	3 cr.
ALS 852	School Evaluation	3 cr.
ALS 856	School Administration	3 cr.

Elective (3 cr.)

Doctorate in Curriculum and Instruction

The Doctor of Education in Curriculum and Instruction is a graduate program intended for teacher/scholars who have demonstrated distinguished achievement as practitioners or administrators in the field of education. The D.Ed. is a professional degree conferred upon candidates who have demonstrated the ability to function effectively in the role of teacher educator in college and university settings and who have a commitment to the professional development of preservice and inservice teachers. Successful completion of the doctorate in curriculum and instruction signifies that program

graduates function effectively as teacher/scholars who: 1) understand and apply educational theory, 2) demonstrate competence in curriculum evaluation, 3) fulfill the role of teacher educator committed to working with diverse populations, and 4) conduct independent research that makes a significant contribution to the field of education.

The program leading to a Doctor of Education in Curriculum and Instruction is an applied sequence of courses, experiences, and research for individuals 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 preservice and inservice educators in university and school settings. In fulfilling their role as teacher educators, those who earn the D.Ed. in Curriculum and Instruction have mastered four areas: educational theory, teacher education, curriculum evaluation, and research methods.

The program intends to prepare doctoral graduates who will:

- Fulfill the teacher educator's role in ways that reflect the highest standards for academic rigor, intellectual inquiry, and professional integrity
- Study curriculum as a discipline including the design, implementation, and evaluation of programs in education
- Analyze critical issues in curriculum and instruction, both historical and contemporary, as they relate to a broad range of disciplinary specialties in the field
- Use technology for developing outstanding college-level courses and professional development programs for preservice and inservice educators
- Demonstrate knowledge of adult development, characteristics of adult learners, and appropriate ways of supporting educators' professional growth
- Apply knowledge of learners and curriculum to offer exemplary college-level instruction and supervision to practitioners in the field of education
- Master the research skills of the teacher/scholar in education as demonstrated by professional presentations, scholarly writing, and the successful completion of independent dissertation research
- Contribute to the commonwealth and other educational settings by working effectively and ethically with diverse populations of educators, children, families, and communities

Students who have earned a valid instructional certificate from the Commonwealth of Pennsylvania may pursue the Supervisor of Curriculum and Instruction Certificate in conjunction with a 6-credit Supervised Doctoral Internship.

A total of 60 semester-hour credits beyond the master's degree are required in the Doctoral Program in Curriculum and Instruction. The credits are allocated as follows:

I. Core (33 cr.)

CURR 905	Curriculum Evaluation	3 cr.
CURR 910	Advanced Topics in Human Development and Learning	3 cr.
CURR 925	Critical Analysis of Issues in Education	3 cr.
CURR 930	Analysis of Effective Instruction	3 cr.
CURR 935	Education for Cultural Pluralism	3 cr.
CURR 940	Technology in the Curriculum	3 cr.
CURR 945	Literacy: Theory, Research, and Practice	3 cr.
CURR 951	Issues and Processes in Curricular Change	3 cr.
CURR 955	Doctoral Seminar in Curriculum and	

—	Instruction	3 cr.
—	Electives	6 cr.
II. Professional Skills (12 cr.)		
CURR 915	Writing for Professional Publication	3 cr.
CURR 920	Doctoral Seminar in Research Methods	3 cr.
EDSP 915	Doctoral Seminar in Applied Educational Research	3 cr.
or		
CURR 982	Research Instrument Design	3 cr.
CURR 983	Qualitative Research Methods in Education	3 cr.
III. Internship (6 cr.)		
CURR 798	Supervised Doctoral Internship	6 cr.
IV. Dissertation (9 cr.)		
CURR 995	Dissertation	9 cr.

V. Professional Portfolio

The professional portfolio will be developed during the course of the doctoral program. See the *Doctoral Program in Curriculum and Instruction Handbook* for detailed guidelines.

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 five 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; (d) those who wish to seek initial certification in special education through the Pennsylvania Department of Education Teacher Intern Certification Program; and (e) 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 acceptance and by July 15 for 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 cr.)

A. Humanistic Studies (3 cr.) Choose one of the following:

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

B. Behavioral Studies (3 cr.) Choose one of the following:

COUN 629	Group Procedures (Child)	3 cr.
COUN 639	Group Counseling	3 cr.
EDSP 704	Advanced Educational Psychology	3 cr.
EDSP 746	Learning and Instruction	3 cr.
EDSP 747	Advanced Psychology of Adolescent Education	3 cr.

C. Research (3 cr.)

GSR 615	Elements of Research	3 cr.
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II. Specialization Core (18 cr.)

EDEX 751	Vocational Preparation and Transition for Youth with Disabilities	3 cr.
EDEX 752	Assessment of Persons with Disabilities	3 cr.
EDEX 754	Advanced Instructional Design in Special Education	3 cr.
EDEX 755	Professional Collaboration and Team Building for Special Educators	3 cr.
EDEX 785	Practicum and Internship ¹	3 cr.
EDSP 748	Advanced Studies in Behavioral Problems	3 cr.

A. (6 cr.)

EDEX 795	Thesis	3 cr.
One elective from Approved List		3 cr.

or

B. (9 cr.)

EDEX 753	Research Seminar in Special Education	3 cr.
Two electives from Approved List		6 cr.

Total required

33-36 cr.

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

I. Professional Development Area (9 cr.)

A. Humanistic Studies (3 cr.)

FDED 514	Comparative Foundations of Education	3 cr.
FDED 611	Historical Foundations of Education	3 cr.
FDED 612	Philosophical Foundations of Education	3 cr.
FDED 613	Social Foundations of Education	3 cr.

B. Behavioral Studies (3 cr.)

COUN 629	Group Procedures (Child)	3 cr.
COUN 639	Group Counseling	3 cr.
EDSP 704	Advanced Educational Psychology	3 cr.
EDSP 746	Learning and Instruction	3 cr.
EDSP 747	Advanced Psychology of Adolescent Education	3 cr.

C. Research (3 cr.)

GSR 615 Elements of Research 3 cr.

II. Specialization Core (21 cr.)

EDEX 751 Vocational Preparation and Transition for Youth with Disabilities 3 cr.

EDEX 752 Assessment of Persons with Disabilities 3 cr.

EDEX 754 Advanced Instructional Design in Special Education 3 cr.

EDEX 755 Professional Collaboration and Team Building for Special Educators 3 cr.

EDEX 785 Practicum and Internship¹ 3 cr.EDEX 785 Practicum and Internship¹ 3 cr.

EDSP 748 Advanced Studies in Behavioral Problems 3 cr.

A.

EDEX 795 Thesis 3 cr.

or

EDEX 753 Research Seminar in Special Education 3 cr.

and**B. Characteristics Courses (15 cr.)**

EDEX 516 Education of Persons with Emotional or Behavioral Disorders 3 cr.

EDEX 517 Education of Persons with Mental Retardation or Developmental Disabilities 3 cr.

EDEX 518 Education of Persons with Physical or Multiple Disabilities 3 cr.

EDEX 519 Education of Persons with Brain Injuries or Learning Disabilities 3 cr.

EDEX 650 Exceptional Children and Youth 3 cr.

Total required 48 cr.**Students Seeking Pennsylvania Special Education Certification Only*****I. Characteristics Courses (15 cr.)**

(Unless the requirement has been previously fulfilled)

EDEX 516 Education of Persons with Emotional or Behavioral Disorders 3 cr.

EDEX 517 Education of Persons with Mental Retardation or Developmental Disabilities 3 cr.

EDEX 518 Education of Persons with Physical or Multiple Disabilities 3 cr.

EDEX 519 Education of Persons with Brain Injuries or Learning Disabilities 3 cr.

EDEX 650 Exceptional Children and Youth 3 cr.

II. Specialization Core (15 cr.)

EDEX 752 Assessment of Persons with Disabilities 3 cr.

EDEX 754 Advanced Instructional Design in Special Education 3 cr.

EDEX 785 Practicum and Internship¹ 3 cr.EDEX 785 Practicum and Internship¹ 3 cr.

EDSP 748 Advanced Studies in Behavioral Problems 3 cr.

Total required 30 cr.

* 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). Additional course work and requirements exist for those seeking certification through the

Pennsylvania Teacher Intern Certification Program. These requirements are determined at admission on a case-by-case basis.

¹ The first three semester hours of EDEX 785 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 necessary deficiencies before registering for graduate courses. Workshops are not to be considered applicable for degree requirements. The thesis option is available with approval of your 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:

SPLP 600	Neurolinguistics	3 cr.
SPLP 604	Diagnostic Methods	3 cr.
SPLP 610	Articulation	3 cr.
SPLP 616	Stuttering	3 cr.
SPLP 618	Voice	3 cr.
SPLP 630	Language Disorders of Children	3 cr.
SPLP 632	Neurological Communication Disorders	3 cr.
SPLP 635	Seminar in Communication (two taken)	6 cr.
SPLP 640	Diagnostic Audiology	3 cr.
SPLP 661	Advanced Clinical Practicum I	2 cr.
SPLP 662	Diagnostic Clinic	1 cr.
SPLP 663	Hearing Testing Clinic	1 cr.
SPLP 671	Advanced Clinical Practicum II	2 cr.

Select two of the following:

SPLP 696	Internship in Hospitals	6 cr.
SPLP 697	Internship in Community Agencies	6 cr.
SPLP 698	Internship in Schools	6 cr.

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 School of Graduate Studies 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 has 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 3.50 out of 4.00 overall in Speech-Pathology and Audiology, a GRE score of 950 or above, and strong letters of recommendation from at least two faculty members. Second priority will be given to applicants with a grade point average between 3.0 and 3.5.

Students may elect to submit evidence of passing scores on the Praxis I in lieu of GRE scores. In this case, GRE scores are not required for consideration for admission. All students planning to pursue Pennsylvania Teacher Certification will be required to complete the Praxis I test series *prior* to beginning the Master's Program in the fall semester.

Applicants for whom English is not their 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 accordance with the School of Graduate Studies 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 pass 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 (SAHE) houses one graduate program, offering the M.A. degree in Student Affairs in Higher Education.

The SAHE program is designed to prepare graduate students for employment in higher education in entry-level or mid-management student affairs positions, dependent upon their previous experiences. Graduates will fill professional positions in two- and four-year colleges and universities in areas such as admissions, housing and

residence life, student development programs, student activities, financial aid, career planning and development, and academic advising or other program areas.

Under the guidance of student affairs faculty and practitioners, requisite knowledge will be acquired through a balance of academic and practical experiences which stress critical thinking and which encourage the development of professional behavior. Students will develop a broad range of skills, in-depth knowledge, and the ability to apply concepts and skills as effective practitioners. The program is organized in cohort groupings of students enrolled in a curriculum offering foundational and theory courses in the first year and application courses in the second year.

Admission into the program can be from any undergraduate major, provided that students have demonstrated scholarship and the potential for success in advanced studies. A minimum of 42 hours (36 required course hours and 6 hours of electives or thesis) and the successful completion of a comprehensive exam are required to earn the degree. Students who complete a thesis are not required to take the comprehensive examination. This degree is typically earned over two years of full-time study in daytime classes.

I. Core Courses (36 cr.)

First Year

SAHE 621	History of Higher Education in the United States	3 cr.
SAHE 624	Student Affairs Functions in Higher Education	3 cr.
SAHE 625	Theories of Personality and Human Development	3 cr.
SAHE 631	Student Development in Higher Education	3 cr.
SAHE 634	Assessment and Evaluation in Student Affairs	3 cr.

Second Year

SAHE 731	Practicum in Student Affairs (to be taken twice for a total of six credits)	6 cr.
SAHE 733	Management of Organizational Behavior in Higher Education	3 cr.
SAHE 735	Individual and Group Interventions	3 cr.
SAHE 737	The American College Student	3 cr.
SAHE 740	Contemporary Issues in Higher Education	3 cr.

Non-Sequential Courses

GSR 615	Elements of Research	3 cr.
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II. Thesis or Electives (6 cr.)

A. Thesis Option

SAHE 795	Thesis	3 or 6 cr.
—	Electives	0 or 3 cr.

or

B. Non-Thesis Option

Electives	6 cr.
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Total 42 cr.

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 and is home to the Center for Turning and Furniture Design. 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.

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 1,400-seat auditorium, three theaters, three art galleries, a university museum, and a music recital hall augment dedicated state-of-the-art facilities for each department. Typically, the College of Fine Arts sponsors more than two hundred arts events annually, including exhibitions of nationally recognized artists, faculty recitals and chamber music concerts, and performances of Theater-by-the-Grove, Music Theater, and locally developed and touring events in the professional "Lively Arts" series.

The Department of Music is housed in a recently remodeled and enhanced facility, featuring state-of-the-art practice, rehearsal, library, and teaching spaces. The department offers a full range of ensemble opportunities and performances and also enjoys a partnership with the Pittsburgh Symphony Orchestra, providing on-campus performances and master classes. The Department of Music is accredited by the National Association of Schools of Music and is an All-Steinway School.

The art building, Sprowls Hall, contains studio spaces for painting, drawing, 3-D design, metals, print media, graphic design, fibers, and wood. A 260-seat auditorium, two art galleries, and faculty offices are also housed in the building. The lower level of the building is home to a recently renovated Center for Turning and Furniture Design. The design for the renovation received an AIA award for excellence.

With the development of the center, the ceramics and sculpture studios were moved to newly renovated space in the Robertshaw facility on the South Campus, adding 13,000 square feet of high-ceiling industrial space, including eight graduate studios, access to a conference room, a small gallery, outdoor kiln and casting area, and two faculty offices.

The Department of Art has an active visiting artists program, and students benefit from the university's proximity to the major arts centers of Pittsburgh, Philadelphia, Washington, D.C., and New York City. The Department of Art is accredited by the National Association of Schools of Art and Design.

Department of Art

The Department of Art offers two graduate studio degrees in the Fine Arts:

- Master of Arts (M.A.), a 30-credit initial degree
- Master of Fine Arts (M.F.A.), a 60-credit terminal degree

Master of Arts (M.A.)

The 30-credit M.A. conveys the precepts of contemporary fine art aesthetics and professional practices directed toward the creation of works of art, the application of creative ideas, and the transmission of knowledge about works of art and their interrelationships. The M.A. is a practice-oriented degree leading to personal creative development and achievement.

The Master of Fine Arts (M.F.A.)

The 60-credit M.F.A. signals the highest level of professional competence in the Fine Arts. It requires the development of a verbally and visually articulate argument in a chosen medium, such as Painting, Drawing, Sculpture, Print Media, Metals, Woodworking, Ceramics, Fibers, and trans-media collaborations. The art student's research and development culminate in a written thesis and a mature and relevant body of artwork presented in a thesis exhibition. Art students who desire professional practice or university/college teaching upon graduation should choose the M.F.A. program. Preparation for professional practice and teaching in higher education is exercised through rigorous diverse components of the program such as critiques, studies in contemporary culture in the contexts of art history, art theory and criticism, writing, and exhibition.

The M.A. and the M.F.A. degree programs at IUP are accredited by the National Association of Schools of Art and Design and conform to the guidelines and standards of the College Art Association.

Admission Requirements

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

An applicant must either be a graduate of an accredited B.F.A., B.A., or equivalent degree program or be judged to possess the necessary prerequisite studio proficiency. Admission into the M.A. or M.F.A. program of the Department of Art is based on the nature, extent, and quality of preparation in studio, art history, criticism, and other academic subjects. If an applicant is deemed to be deficient in any of these particular areas, the graduate committee may require satisfactory completion of certain undergraduate courses.

Application for Admission**To the School of Graduate Studies and Research:**

1. Application Form and Fee
2. Official Transcripts - include all undergraduate/graduate course work
3. Resume
4. Artist/Goal Statement (one page) articulating the subject matter and artistic content of the applicant's work as well as professional goals.
5. Three Letters of Recommendation - These letters should be written by professional artists or educators in the arts with whom the applicant has recently studied or worked and who can assess the applicant's studio and scholastic competencies.

To the Department of Art:

1. Slide or CD Portfolio - Twenty images representing the applicant's professional artistic work. Each image should be identified by its number, medium, size, and date of completion. Slides should be contained in a plastic slide sheet. A supplementary image reference sheet should also be included, identifying each image by its number, title of work, medium, size, and date of completion. Please limit jpegs to 400x800 ppi.
2. Photocopy of transcript
3. Photocopy of letter of intent

Application Deadlines

All of the application materials must be received by the School of Graduate Studies and Research before a review of materials can take place.

The Department of Art requires

- First fall admission consideration and applications for assistantships
- Final fall admission consideration

February 15**May 1**

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. Students seeking assistantships must apply by the March 15 deadline (for priority consideration, submit no later than February 15).

Master of Arts (M.A.)**I. Required Courses (18 cr.)**

Major Studio Concentration (Dual Level)*	6 cr.
Minor Studio Concentration (Dual Level)*	6 cr.
ART 680 Graduate Studio Critique	3 cr.
ART 615 Art Seminar	3 cr.

II. Art History (3 cr.)

Select one course from the following:

ARHI 682 Graduate Seminar in Art History	3 cr.
ARHI 683 Graduate Seminar in Theory and Criticism	3 cr.

III. Graduate-Level Electives (6 cr.)**IV. Thesis Requirements (3 cr.)**

ART 795 M.A. Thesis/Exhibition	3 cr.
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or

Non- Thesis Option
(Extra Course in Major or Minor Studio)

Total 30 cr.

*Graduate Studio Courses (Dual Level) that can count towards the major and minor studio concentration are:

ART 557	Graduate Studio in Print Media
ART 559	Graduate Studio in Fibers
ART 560	Graduate Studio in Jewelry and Metal Work
ART 572	Graduate Studio in Ceramics
ART 573	Graduate Studio in Sculpture
ART 574	Graduate Studio in Oil Painting
ART 575	Graduate Studio in Drawing
ART 576	Graduate Studio in Woodworking

Master of Fine Arts (M.F.A.)**I. Required courses (45 cr.)**

Major Studio Concentration (Dual Level) ¹	21 cr.
Minor Studio Concentration (Dual Level) ¹	9 cr.
ART 680 Graduate Studio Critique ² (counted towards major credits)	9 cr.
ART 680 Graduate Studio Critique ² (counted towards minor credits)	3 cr.
ART 615 Art Seminar	3 cr.

II. Art History (6 cr.)

ARHI 682 Graduate Seminar in Art History	3 cr.
ARHI 683 Graduate Seminar in Theory and Criticism	3 cr.

III. Graduate-Level Electives (6 cr.) ²**IV. Thesis Requirements (3 cr.)**

ART 795 M.F.A. Thesis/Exhibition	3 cr.
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Total 60 cr.

¹Graduate Studio Courses (Dual Level) that can count towards the major and minor studio concentration are:

ART 557	Graduate Studio in Print Media
ART 559	Graduate Studio in Fibers
ART 560	Graduate Studio in Jewelry and Metal Work
ART 572	Graduate Studio in Ceramics
ART 573	Graduate Studio in Sculpture
ART 574	Graduate Studio in Oil Painting
ART 575	Graduate Studio in Drawing
ART 576	Graduate Studio in Woodworking

² Nine transfer credits will be accepted from the Academy of Fine Arts, University of Zagreb, successfully earned as part of the College of Fine Arts' specific international exchange program and will be applied to Graduate-Level Electives (6 cr.) and ART 680 Graduate Studio Critique course requirements.

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 contact the graduate coordinator in the Department of Art for more detailed policies and procedures related to the Master of Arts and Master of Fine Arts degree programs.

Continuous Registration Credit

Beginning with the Fall 2004 term, this policy is binding for all doctoral students; it is binding for all Master of Fine Arts (M.F.A.) students beginning Fall 2007. Following completion of all course, language, and skill requirements and of the comprehensive examination requirement where applicable, doctoral and M.F.A. students must enroll for at least one credit of dissertation or thesis or one credit of continuous registration each semester (Fall and Spring) annually through the graduation of the student or until the time limit is exceeded. (See Time Limitation Policy for Doctoral or Masters students.) For this period, the student will be considered a full-time doctoral or M.F.A. student. Until the dissertation or thesis is successfully defended, a grade of "R" will be assigned to each registered credit. Upon successful completion of the dissertation or thesis, the grade assigned by the dissertation or thesis director will apply to all registered dissertation or thesis credits. Students must pay tuition and mandatory university fees (equal to the part-time mandatory fees) and may choose to pay Student Health and Activity Fees if the associated services will be used.

NOTE: The Continuous Dissertation policy has been in place since 1990. There have been minor language changes since that time, but the requirement for doctoral students to be registered has not changed. Further, since this is a university requirement, students failing to register as directed will be registered by their program coordinator and billed accordingly. If it is the doctoral or M.F.A. student's intent to "quit" the program, he/she should schedule an appointment with the graduate coordinator as soon as possible to avoid any further registration and subsequent assessment.

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 School of Graduate Studies 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 will prepare a thesis pertaining to music education in an approved research style.

The Performance degree is designed to enhance musicianship, technique, and knowledge of a variety of musical styles, with the goal of preparing students for a career in the performing arts. Applicants may choose a principal performing area from conducting, all major instruments or voice. The performance degree thesis includes a recital in the principal performing area, as well as a research document pertaining to the literature presented. This research document should include aesthetic research into areas such as the history, analysis, performance practice, and teaching strategies of their recital literature.

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 School of Graduate Studies and Research requirements, the applicant must meet Music Department admission requirements. All applicants must have an undergraduate degree with major in music or its demonstrated equivalent. Applicants for the Music Education degree must have current teacher certification in music. Applicants for the Performance degree must complete a satisfactory audition on their major instrument (specific audition requirements are available upon application). Applicants for the music history and literature degree must present samples of their academic writing on a musical topic. Applicants for the theory and composition degree must present examples of their compositions. In addition to these requirements, the department may request additional supporting evidence of adequate preparation in specific concentration areas.

Master of Arts in Music Education (*30 cr.)

I. Core Courses (9 cr.)

LIBR 600	Bibliography of Music	3 cr.
MUSC 618	Comprehensive Musicianship	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Required Courses (6 cr.)

MUSC 619	Methods for Comprehensive Musicianship	3 cr.
MUSC 620	Foundations of Music Education	3 cr.

III. Music Education Courses (4-6 cr.)

Select courses from the following:

MUSC 501	Advanced Choral Conducting	2 cr.
MUSC 502	Advanced Instrumental Conducting	2 cr.
MUSC 535	Music for the Exceptional Student	3 cr.
MUSC 537	Techniques of the Marching Band	2 cr.
MUSC 540-550	Summer Music Workshop	1-3 cr.
MUSC 628	Contemporary International Approaches to Elementary Education	2 cr.
MUSC 629	Advanced String Pedagogy	2 cr.
MUSC 631	Administrative Problems in Music Education	2 cr.
MUSC 633	Comparative Choral Methods	2 cr.
MUSC 634	Practicum in Instrumental Music	2 cr.
MUSC 635	Psychology of Music Education	2 cr.
MUSC 636	Advanced Technology in Music Education	2 cr.

IV. Music Theory or History Course (3 cr.)

MUSC 516	Analytical Techniques	3 cr.
or		
MUHI 503	Music of the Baroque Era	3 cr.
MUHI 504	Music of the Classical Era	3 cr.
MUHI 505	Music of the Romantic Era	3 cr.
MUHI 507	Music of the Twentieth Century	3 cr.
MUHI 508	Music of the Sixteenth Century	3 cr.

V. Applied Music Courses (4 cr.)

APMU 601-771		4 cr.
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VI. Thesis (4 cr.)

MUSC 795	Thesis	4 cr.
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Master of Arts in Music History-Literature (*31 cr.)**I. Core Courses (9 cr.)**

LIBR 600	Bibliography of Music	3 cr.
MUSC 516	Analytical Techniques	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. History and Literature Courses (12 cr.)

Four courses from the following:

MUHI 503	Music of the Baroque Era	3 cr.
MUHI 504	Music of the Classical Era	3 cr.
MUHI 505	Music of the Romantic Era	3 cr.
MUHI 507	Music of the Twentieth Century	3 cr.
MUHI 508	Music of the Sixteenth Century	3 cr.

III. Elective (6 cr.)

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

IV. Thesis (4 cr.)

MUSC 795	Thesis	4 cr.
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Master of Arts in Music Theory and Composition (*31 cr.)**I. Core Courses (9 cr.)**

MUSC 516	Analytical Techniques	3 cr.
LIBR 600	Bibliography of Music	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Theory and Composition Courses (12 cr.)

Four courses from the following:

MUSC 511	Composition	3 cr.
MUSC 512	Advanced Orchestration	3 cr.
MUSC 513	Advanced Band Scoring	3 cr.
MUSC 514	Advanced Choral Arranging	3 cr.
MUSC 515	Counterpoint	3 cr.
MUSC 618	Comprehensive Musicianship	3 cr.

III. Electives (6 cr.)

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

IV. Thesis (4 cr.)

MUSC 795	Thesis	4 cr.
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Master of Arts in Music Performance (*31 cr.)**I. Core Courses (9 cr.)**

MUSC 516	Analytical Techniques	3 cr.
LIBR 600	Bibliography of Music	3 cr.
MUSC 632	Research Techniques in Music	3 cr.

II. Applied Music Courses (12 cr.)

APMU 601-771		12 cr.
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III. Electives (6 cr.)

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

IV. Thesis (4 cr.)

MUSC 795	Thesis	4 cr.
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At least 50 percent of the courses must be 600 level or above.

A maximum of three hours of ensembles (MUSC 575) can be approved for credit toward any of the degree programs.

COLLEGE OF HEALTH AND HUMAN SERVICES

The College of Health and Human Services offers Master of Arts degrees in Criminology and Employment and Labor Relations; Master of Science degrees in Food and Nutrition, Sport Science, Nursing, Health Services Administration, and Safety Sciences; and a Master of Education degree in Health and Physical Education. A Graduate Certificate of Recognition program is offered in Safety Sciences and Criminology. Three of the six programs hold national accreditation. The college offers a Ph.D. in Criminology and a Ph.D. in Nursing.

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 in 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 from elective courses in related departments. Electives taken outside the Criminology Department must first be approved by the graduate coordinator.

The Master of Arts program is offered in two locations. The M.A. program on the main campus offers full- or part-time study. The program is appropriate for students who are preparing for doctoral studies, along with careers in research or the administration of criminal justice. A part-time evening program is also offered in the greater Pittsburgh area. This part-time program is primarily directed at professionals already working in the justice field. The doctoral program is offered on the main campus; full- or part-time study is permitted.

The Master of Arts program is also available as an on-line degree as of Fall 2009.

Master of Arts in Criminology

Department Admission Requirements

In addition to meeting the requirements for admission to the School of Graduate Studies 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:

- 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,
- Students should have knowledge gained through experience within the 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

CRIM 102	Survey of Criminology
CRIM 306	Criminological Research Methods
CRIM 400	Theoretical Criminology
CRIM 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 in the summer, depending upon seat availability.

Master of Arts in Criminology

Students must choose between a thesis or non-thesis curriculum by the end of their second semester at latest.

I. Thesis Degree Requirements:

A total of 30 semester hours is required, including:

CRIM 600	Criminological Theory	3 cr.
CRIM 601	Proseminar	3 cr.
CRIM 605	Research Methods	3 cr.
CRIM 610	Legal Issues in Criminology	3 cr.
CRIM 632	Organizational Dynamics within the Criminal Justice System	3 cr.
CRIM 718	Quantitative Strategies for Analysis in Criminology	3 cr.
CRIM 730	Ethical and Philosophical Issues in Criminology	3 cr.
CRIM 795	Thesis	6 cr.
—	Electives	3 cr.
Total		30 cr.

II. Non-Thesis Degree Requirements:

A total of 30 semester hours is required, including:

CRIM 600	Criminological Theory	3 cr.
CRIM 601	Proseminar	3 cr.
CRIM 605	Research Methods	3 cr.
CRIM 610	Legal Issues in Criminology	3 cr.
CRIM 632	Organizational Dynamics within the Criminal Justice System	3 cr.
CRIM 718	Quantitative Strategies for Analysis in Criminology	3 cr.
CRIM 730	Ethical and Philosophical Issues in Criminology	3 cr.
CRIM 791	Synthesis Project	3 cr.
—	Electives	6 cr.
Total		30 cr.

Doctor of Philosophy in Criminology

Department Admission Requirements

It is expected that students entering the Ph.D. program in Criminology will have 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 School of Graduate Studies and Research admission requirements. Additionally, the doctoral coordinator, after consulting with the department Ph.D. committee, will submit a recommendation regarding applicants to the School of Graduate Studies 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 at least 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 Ph.D. committee or the department's graduate curriculum committee)
7. Personal interview (may be requested by department Ph.D. 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) area of specialization requirements; (c) qualifying examinations; (d) skill requirement; and (e) dissertation.

A. Required Course Work

I. Core Courses (21 semester hours):

CRIM 810	Advanced Theoretical Criminology	3 cr.
CRIM 817	Advanced Qualitative Methods	3 cr.
CRIM 818	Quantitative Strategies for Analysis in Criminology	3 cr.
CRIM 820	Advanced Quantitative Methods in Criminology	3 cr.
CRIM 830	Ethical and Philosophical Issues in Criminology	3 cr.
CRIM 840	Advanced Criminal Justice Policy	3 cr.
CRIM 851	Doctoral Colloquium in Criminology	3 cr.

II. Advanced Applied Research (9 semester hours):

CRIM 901	Advanced Applied Research I	3 cr.
CRIM 902	Advanced Applied Research II	3 cr.
CRIM 903	Advanced Applied Research III	3 cr.

III. Criminology Electives: six semester hours minimum

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

B. Qualifying Examination: Upon completion of 18 semester hours, a student must take qualifying examinations in three core subject areas. After successful completion, a student may proceed toward fulfillment of remaining degree requirements.

C. Comprehensive Area of Specialization Competence Review:

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 review will be conducted.

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.

Certificate of Recognition—Criminology/Law Enforcement Leadership in WMD

The department of Criminology offers a program of study leading to a Certificate of Recognition—Criminology/Law Enforcement Leadership in WMD. The Certificate of Recognition—Criminology/Law Enforcement Leadership in WMD is designed for those individuals who already have a bachelor's degree and have experience in the criminal justice system. Professionals who would benefit from this certificate are individuals who are working closely with both the private and public sector to secure our nation's critical infrastructure. Prospective students should consult with the department regarding their qualifications and program availability.

Program Requirements:

The following six credits of existing graduate level coursework in Criminology will be required of all students in this COR:

CRIM 600	Criminological Theory	3 cr.
CRIM 601	Proseminar	3 cr.

The remaining nine credit hours of electives will come from the following course list:

CRIM 605	Research Methods	3 cr.
CRIM 632	Organizational Dynamics within the Criminal Justice System	3 cr.
CRIM 681	Special Topics	3 cr.
CRIM 791	Synthesis Project	3 cr.
SAFE 606	Hazardous Materials Management	3 cr.
SAFE 673	Disaster Preparedness	3 cr.
SAFE 681	Special Topics	3 cr.
SDR 586	Selected Topics in SDR	1-6 cr.
SDR 600	Effects of Biological Materials Use	5 cr.
SDR 601	Advanced Characterization Theory and Practical Applications Using GC/MS, FT-IR, and Organic Chemistry	5 cr.
SDR 602	Short- and Long-Term Effects of Radiological Materials Use	2 cr.

Department of Employment and Labor Relations

The Master of Arts in Employment and Labor Relations is a multidisciplinary graduate degree program designed to prepare professional practitioners in the field of employment 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 employment 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 (21 cr.)

ELR/HSAD 610	Employee Rights under Law	3 cr.
ELR 613	Fundamentals of the American Labor Movement: Theory and Practice	3 cr.
ELR 615	Dispute Settlement	3 cr.
ELR/HSAD 619	Advanced Research in Employment Relations and Health Services Administration	3 cr.
ELR 625	Processes of Collective Bargaining	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.
ELR 641	Contract Administration	3 cr.

II. Elective Area (15 cr.)

Fifteen semester hours chosen from other elective courses in Employment and Labor Relations or from related departments with the approval of student's advisor.

Master of Science in Health Services Administration

The Master of Science in Health Services Administration degree will consist of 36 credits. The Department of Nursing and Allied Health Professions will offer 18 credits, the Department of Employment and Labor Relations will offer 15, and students would also choose one 3-credit elective from IUP courses that are appropriate for their needs and interests and meet the program objectives. Courses offered by the Employment and Labor Relations, Sociology, and Psychology departments might be of particular interest to students for this elective. Students that anticipate continuing their education in a doctoral program could choose to complete a thesis instead of an elective course. The thesis would require 6 credit hours, bringing their degree total to 39 credits. These requirements meet the minimum master's degree requirements of the School of Graduate Studies and Research.

The Master in Health Services Administration would prepare students for a wide variety of leadership positions within health services organizations in not-for-profit, for-profit, and government settings. The role of a health services administrator includes the specialized application of employment relations knowledge, the improvement of individual and public health, and the improvement of health delivery systems. The program would provide students with an effective balance of coursework in health services, employee relations, and research methodology that would enable them to excel in this role.

Course Requirements for the M.S. Degree

Nursing and Allied Health Professions Offerings

NURS/HSAD 555	Health Care Informatics	3 cr.
HSAD 605	Epidemiology in Health Services Administration	3 cr.
HSAD 609	Ethics and Social Issues in Health Care	3 cr.
NURS/HSAD 614	Health Policy	3 cr.
NURS/HSAD 730	Financial Management in Health Care	3 cr.
HSAD 761	Health Services Administration Practicum	3 cr.
HSAD 795*	Thesis	6 cr.

Employment and Labor Relations Offerings

ELR/HSAD 610	Employee Rights under Law	3 cr.
HSAD 616	Health Law	3 cr.
ELR/HSAD 619	Advanced Research in Employment Relations and Health Services Administration	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.
ELR/HSAD 751	Conflict Resolution	3 cr.
---	Elective**	3 cr.

* Students enrolled in the Master of Science in HSAD will complete 39 credits (with thesis) or 36 credits (without thesis) for the degree. All students will complete 33 graduate credits in HSAD core courses. They may finish out the program either with a 3-credit elective or with a 6-credit thesis option.

** Students may choose electives from IUP courses that are appropriate for their needs and interests as they work toward meeting the program objectives. Advisors will approve elective choices.

Admission Criteria

Required:

1. Bachelor's degree from an accredited institution of higher learning.
2. Minimum QPA of 3.0 if graduated with a B.S. or B.A. within five years of the application date. If the bachelor's degree is older than five years, the minimum QPA required is 2.6.
3. Evidence of course work in statistics and research methodology and design.
4. Two letters of recommendation. If bachelor's degree was earned within five years, at least one letter must be from a faculty member or the dean/director of undergraduate program. If degree is older than five years, both letters must be from employers or professional colleagues. Personal letters of recommendation are not acceptable.
5. Satisfactory professional essay (minimum of two typewritten pages) to include a description of:
 - A significant professional accomplishment
 - Expectations of graduate study
 - Career goals

Department of Food and Nutrition

The Master of Science degree program is designed to prepare individuals with baccalaureate education in food and nutrition, education, or health-related disciplines by increasing the depth of their knowledge with respect to food and nutrition, developing research skills, and enhancing their application skills by specializing in the area of applied human nutrition. Course work in introductory nutrition (FDNT 212 Nutrition) is required for entrance into the program. FDNT 544 Food Composition and Biochemistry and FDNT 558 Advanced Human Nutrition are required as part of the department core for students who have not completed equivalent courses prior to admission.

Prospective students apply for admission through the School of Graduate Studies 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 School of Graduate Studies and Research prior to any department decision. After acceptance, a faculty advisor will be assigned to each student.

With the successful completion of 15 hours of graduate course work, 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 to complete a 4-6 credit thesis (FDNT 795) as part of the department core requirement.

Thesis Degree Requirements (36 cr.)

I. Professional Core Courses (9 cr.)

BIOL 602	Biometry	3 cr.
or		
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
FDNT 650	Seminar in Food and Nutrition I	1.5 cr.
FDNT 660	Seminar in Food and Nutrition II	1.5 cr.

II. Department Core Courses (18-21 cr.)

FDNT 544 and FDNT 558 are required for students who have not completed equivalent courses prior to admission; where these courses are required, core requirement is 21 credits.

FDNT 544	Food Composition and Biochemistry	3 cr.
FDNT 547	Nutritional Aspects of Food Technology	3 cr.
FDNT 558	Advanced Human Nutrition	3 cr.
FDNT 564	Food and Nutrition Research Methods	3 cr.
FDNT 601	Foodservice Management Theory and Practicum	3 cr.
FDNT 602	Information Technology	1 cr.
FDNT 603	Food and Nutrition Education	1 cr.
FDNT 604	Medical Nutrition Therapy	2 cr.
FDNT 605	Nutrition Intervention Strategies	1 cr.
FDNT 612	Administration of Food Service Systems	3 cr.
FDNT 641	Eating Behaviors and Food Habits	3 cr.
FDNT 642	Contemporary Issues in Food and Nutrition	3 cr.
FDNT 645	Proteins, Carbohydrates, and Fats	3 cr.
FDNT 646	Vitamins and Minerals	3 cr.
FDNT 651	Professional Dietetic Practice	3 cr.
FDNT 652	Seminar in Institutional Foodservice Management	1 cr.
FDNT 711	Nutrition in the Life Cycle	3 cr.
FDNT 743	Clinical Dietetics	3 cr.
FDNT 795	Thesis	4-6 cr.

III. Electives (6-9 cr.)

Students will elect additional courses from the *IUP Graduate Catalog* (including FDNT courses) that are appropriate for their needs and interests as they work toward meeting the program objectives. Advisors will approve elective choices. Students may apply up to six credits of FDNT 696 or 698 Internship toward program electives.

Non-Thesis Degree Requirements (36 cr.)

I. Professional Core Courses (9 cr.)

BIOL 602	Biometry	3 cr.
or		
GSR 516	Statistical Methods I	3 cr.
GSR 615	Elements of Research	3 cr.
FDNT 650	Seminar in Food and Nutrition I	1.5 cr.
FDNT 660	Seminar in Food and Nutrition II	1.5 cr.

II. Department Core Courses (18-21 cr.)

FDNT 544 and FDNT 558 are required for students who have not completed equivalent courses prior to admission; where these courses are required, core requirement is 21 credits.

FDNT 544	Food Composition and Biochemistry	3 cr.
FDNT 547	Nutritional Aspects of Food Technology	3 cr.
FDNT 558	Advanced Human Nutrition	3 cr.
FDNT 564	Food and Nutrition Research Methods	3 cr.
FDNT 601	Foodservice Management Theory and Practicum	3 cr.
FDNT 602	Information Technology	1 cr.
FDNT 603	Food and Nutrition Education	1 cr.
FDNT 604	Medical Nutrition Therapy	2 cr.
FDNT 605	Nutrition Intervention Strategies	1 cr.
FDNT 612	Administration of Food Service Systems	3 cr.
FDNT 641	Eating Behaviors and Food Habits	3 cr.
FDNT 642	Contemporary Issues in Food and Nutrition	3 cr.
FDNT 645	Proteins, Carbohydrates, and Fats	3 cr.
FDNT 646	Vitamins and Minerals	3 cr.
FDNT 651	Professional Dietetic Practice	3 cr.
FDNT 652	Seminar in Institutional Foodservice Management	3 cr.
FDNT 711	Nutrition in the Life Cycle	3 cr.
FDNT 743	Clinical Dietetics	3 cr.

III. Electives (6-9 cr.)

Students will elect additional courses from the *IUP Graduate Catalog* (including FDNT courses) that are appropriate for their needs and interests as they work toward meeting the program objectives.

Advisors will approve elective choices. Students may apply up to six credits of FDNT 696 or 698 Internship toward program electives.

Department of Health and Physical Education

The Master of Science degree in Sport Science is designed to meet the needs of students from nonteaching professions, as well as from the teaching profession. The program is discipline-specific with provision for students to choose from among four different academic tracks: Sport Management, Exercise Science, Aquatics Administration/Facilities Management, and Sport Studies. According to their selected program of study, students are prepared for a variety of competitive employment opportunities, including management and administration of sport and athletic programs, corporate and community health and fitness facilities, hospital and medical-based exercise programs, and recreational programs in school and community settings.

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 fulfill the general requirements for admission to the School of Graduate Studies and Research for a master's degree. A minimum TOEFL score of 525 (paper-based) which converts to a computer-based score of 193 is necessary for international students.

Master of Science in Sport Science

The Master of Science degree in Sport Science is designed to meet the needs of students in the professions within the sports and fitness industry. The program is discipline-specific with provision for students to choose from among four different academic tracks: Sport Management, Exercise Science, Aquatics Administration/Facilities Management, and Sport Studies. According to their selected program of study, students are prepared for a variety of competitive employment opportunities, including management of sport and athletic programs, corporate and community health and fitness facilities, hospital and medical-based exercise programs, sports franchises, and community recreational settings.

Sport Management Track**I. Thesis Track****A. Core Courses (12 cr.)**

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (18 cr.)

HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 652	Sport Business	3 cr.
HPED 795	Thesis	3 cr.
BTST 670	Organizational Communications	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.

Total 30 cr.

II. Non-Thesis Track**A. Core Courses (12 cr.)**

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (18 cr.)

HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 652	Sport Business	3 cr.
HPED 698	Internship	3 cr.
BTST 670	Organizational Communications	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.

C. Elective Courses (6 cr.)

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
HPED 610	Coaching Management	3 cr.
HPED 680	Seminar	3 cr.
ELR/HSAD 610	Employee Rights under Law	3 cr.
ELR 615	Dispute Settlement	3 cr.
ELR 625	Collective Bargaining	3 cr.

ELR 640	Negotiations	3 cr.
ELR/HSAD 751	Conflict Resolution	3 cr.
MGMT 613	Organizational Analysis	3 cr.

Students may select another graduate-level elective with advisor permission.

Total 36 cr.

Exercise Science Track

I. Thesis Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Course (18 cr.)

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
HPED 625	Management Concepts in Fitness	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 795	Thesis	3 cr.

Total 30 cr.

II. Non-Thesis Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (18 cr.)

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
HPED 625	Management Concepts in Fitness	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 698	Internship	3 cr.

C. Electives Courses (6 cr.)

HPED 510	Exercise Prescription	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
HPED 631	Motor Learning	3 cr.
HPED 633	Kinesiological Principles	3 cr.
HPED 680	Seminar	3 cr.

Students may select another graduate-level elective with advisor permission.

Total 36 cr.

Aquatic Administration/Facilities Management Track

I. Thesis Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (18 cr.)

HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 641	Administration of Aquatic Programs	3 cr.
HPED 642	Design and Operation of Aquatic Facilities	3 cr.
HPED 795	Thesis	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.

Total 30 cr.

II. Non-Thesis Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (18 cr.)

HPED 635	Sport Management	3 cr.
HPED 637	Sport Facilities Management	3 cr.
HPED 641	Administration of Aquatic Programs	3 cr.
HPED 642	Design and Operation of Aquatic Facilities	3 cr.
HPED 698	Internship	3 cr.
ELR/HSAD 631	Human Resources Management in the Public Sector	3 cr.

C. Elective Courses (6 cr.)

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 513	Physical Activity and Aging	3 cr.
HPED 602	Sport Psychology	3 cr.
HPED 610	Coaching Management	3 cr.
HPED 620	Exercise Prescription for Chronic Diseases	3 cr.
HPED 652	Sport Business	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 680	Seminar	3 cr.
ELR/HSAD 610	Employee Rights under Law	3 cr.
ELR 615	Dispute Settlement	3 cr.
ELR 625	Collective Bargaining	3 cr.
ELR 640	Negotiations	3 cr.
ELR/HSAD 751	Conflict Resolution	3 cr.
MGMT 613	Organizational Analysis	3 cr.

Students may select another graduate-level elective with advisor permission.

Total 36 cr.

Sport Studies Track

I. Thesis Degree Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Course (3 cr.)

HPED 795	Thesis	3 cr.
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C. Electives Courses (15 cr.)

Students may select graduate-level electives with advisor permission. Nine (9) credits must be HPED graduate-level courses.

Total **30 cr.**

II. Non-Thesis Track

A. Core Courses (12 cr.)

HPED 601	Sport and Society	3 cr.
HPED 603	Physiological Basis of Sport	3 cr.
HPED 634	Current Literature in Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Electives Courses (24 cr.)

Students may select graduate-level electives with advisor permission. Twelve credits must be HPED graduate-level courses.

Total **36 cr.**

Master of Education in Health and Physical Education

The Master of Education in Health and Physical Education is a 36-credit program that serves the needs of three populations. The first population includes current health and physical educators who are certified teachers in Pennsylvania. The program benefits these individuals through studying contemporary trends in teacher education, broadening their knowledge base in health and physical education, and enhancing their skills as educators with updated teaching methods. The second population consists of teachers who are certified in another area and wish to add health and physical education to their certificate. Students who hold only an elementary certification will be required to complete 6 semester hours of student teaching at the secondary level. Students who hold only a secondary certification will be required to complete 6 semester hours of student teaching at the elementary level. The third population includes those who currently have a nonteaching bachelor's degree and wish to become certified health and physical educators. In addition to completing the 36 credit hours of course work, students seeking initial certification must complete 12 hours of student teaching. The content and field experiences included in this program are based on the national standards of the American Association for Health Education and the National Association for Sport and Physical Education. Those students not seeking teaching certification in Health and Physical Education may choose between a thesis and nonthesis track.

Admission Requirements

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 fulfill the general requirements for admission to the School of Graduate Studies and Research for a master's degree. Selection of students will be through a screening process conducted by the Graduate Pedagogy Committee of the department. Other admission requirements to be admitted to the M.Ed. in Health and Physical Education program include:

- Completion of undergraduate degree with a GPA of 3.0 or higher
- Passage of Praxis I exam for applicants not certified as teachers
- Current and acceptable Act 34 and 151 clearances
- Completion of TB test
- Completion of Speech and Hearing Test
- Current CPR Instructor Certificate
- Completion of aquatics course or approved certification program
- Completion of the following courses or approved course substitution:

Anatomy and Physiology
 Exercise Physiology
 Biomechanics or Kinesiology
 6 credits of mathematics
 3 credits of English composition
 3 credits of English literature
 Educational Psychology

- Fulfillment of general requirements for admission to the School of Graduate Studies and Research for a master's degree
- Fulfillment of requirements set by the College of Education and Educational Technology

M.Ed. Health and Physical Education

Non-Thesis Track (Includes teaching certification)

A. Core Courses (6 cr.)

HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (27 cr.)

HPED 526	Health Science Instruction	3 cr.
HPED 631	Motor Learning	3 cr.
HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 645	Advanced Teaching Techniques in Physical Education	3 cr.
HPED 655	Health and Fitness for Elementary Children	3 cr.
HPED 670	Advanced Seminar in Adapted Physical Education	3 cr.
HPED 680	Seminar	3 cr.
COMM 600	Instructional Design and Development	3 cr.
or		
COMM 614	Instructional Computing Basics	3 cr.
or		
as approved by the M.Ed. Graduate coordinator		
EDEX 560	Family Perspective on Disability	3 cr.
or		
EDEX 650	Exceptional Children and Youth	3 cr.

***C. Elective Courses (3 cr.)**

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 550	Curriculum and Programming in Sexuality Education	3 cr.
HPED 650	Wellness: A Classroom Approach	3 cr.
HPED 681	Special Topics	3 cr.
*HPED 698	Internship	3 cr.

Students who are certified K-12 in another subject area will be required to complete a 3-credit internship in the school setting.

* Choice of elective will be based upon student's undergraduate course record, graduate course record, and permission of advisor.

***D. Professional Practice (6-12 cr.)**

Students seeking initial certification as health and physical education teachers must also student teach as required by the Pennsylvania Department of Education. Students demonstrating acceptable levels of knowledge, skills, and disposition will be permitted to enroll in EDUC 421 and/or EDUC 441 Student Teaching. A review of student teaching applicant's graduate record will be conducted by the HPE Graduate Pedagogy Committee, which will determine if the student has met all requirements to move ahead with certification. Those who are determined to be deficient will not be permitted to student teach. They will receive a degree without Pennsylvania teaching certification.

- Those who are certified as elementary teachers will complete 6 credits in secondary student teaching.
- Those certified as secondary teachers will complete 6 credits of elementary student teaching.
- Noncertified students must complete both the elementary and secondary student teaching for a total of 12 credits.

A culminating activity is required.

Total Credit Hours 36 cr.

Total Credit Hours with Certification 42-48 cr.

Thesis Track (Does not include teaching certification)**A. Core Courses (6 cr.)**

HPED 634	Current Literature in Health, Fitness, and Sport	3 cr.
HPED 640	Research Methods for Health, Sport, and Physical Activity	3 cr.

B. Required Courses (9 cr.)

HPED 632	Assessment of Human Physiological Functions	3 cr.
HPED 680	Seminar	3 cr.
COMM 600	Instructional Design and Development	3 cr.
or		
COMM 614	Instructional Computing Basics	3 cr.

as approved by the M.Ed. Graduate Coordinator

C. Course Selection Level I (6 cr.)

Select two of the following:

HPED 631	Motor Learning	3 cr.
HPED 670	Advanced Seminar in Adapted Physical Education	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.
or		
EDEX 560	Family Perspective on Disability	3 cr.

D. Course Selection Level II (6 cr.)

Select two of the following:

HPED 526	Health Science Instruction	3 cr.
HPED 645	Advanced Teaching Techniques in Physical Education	3 cr.
HPED 655	Health and Fitness for Elementary School Children	3 cr.

***E. Elective Courses (3 cr.)**

HPED 512	Physical Activity and Stress Management	3 cr.
HPED 550	Curriculum and Programming in Sexuality Education	3 cr.
HPED 650	Wellness: A Classroom Approach	3 cr.
HPED 658	Emergency Management for Schools	3 cr.
HPED 672	Epidemiology of Physical Activity	3 cr.
HPED 681	Special Topics	3 cr.

***F. Thesis**

HPED 795	Thesis	6 cr.
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Total Credit Hours 36 cr.

Department of Nursing and Allied Health Professions

Master of Science in Nursing

The program leading to a Master of Science degree in nursing is fully accredited by the Commission on Collegiate Nursing Education. It is designed to prepare the graduate for an advanced-practice nursing role as a nurse administrator or a nurse educator and serves as a foundation for doctoral study.

Upon completion of the degree the student is prepared to:

- Provide leadership that influences and contributes to the advancement of the nursing profession.
- Synthesize advanced skills and scientific knowledge into advanced nursing practice roles.
- Utilize new knowledge to provide high-quality health care, initiate change, and improve the practice of nursing.
- Evaluate the effectiveness of advanced nursing practice initiatives.

Course work builds on the knowledge and skills gained in a basic nursing education program. It provides the theoretical and practical knowledge required for advanced nursing practice in diverse settings within a rapidly changing health care system. Nurse administrators assume leadership roles in planning, organizing, and implementing care across the spectrum of health care settings. Nurse educators assume responsibility as nurse educators, patient educator, or nursing staff development in a variety of academic and health care settings.

Students may choose the 36-credit Nursing Administration track or Nursing Education track.

Admission Requirements:

An applicant must have achieved a bachelor's degree and successful completion of a basic nursing program accredited by the Commission on Collegiate Nursing Education or the National League for Nursing Accrediting Commission and have a current licensure as a registered nurse in any state in the U.S. Pennsylvania licensure is required before students begin clinical courses. Students should also have a minimum QPA of 3.0 (4.0 scale) if they graduated with the B.S.N. within five years of the application date. If the bachelor's degree is older than five

years, the minimum QPA required is 2.6. Evidence of course work in statistics and research methodology and design is also required. Applicants also must meet the general requirements for admission to the School of Graduate Studies and Research. Additional admission requirements for registered nurses licensed outside the United States, its territories, or Canada are available from the Department of Nursing.

Nursing Administration Track (36 cr.)

Graduate Nursing Core (21 cr.)

NURS 610	Health Promotion and Social Issues	3 cr.
NURS/HSAD 614	Health Policy	3 cr.
NURS 619	Leadership Strategies in Nursing	3 cr.
NURS 620	Theoretical Foundations for Nursing	3 cr.
NURS 622	The Practice of Nursing Research I	3 cr.
NURS 623	The Practice of Nursing Research II	3 cr.
NURS 628	Advanced Professional Role Development	3 cr.
---	*Elective	3 cr.

Administration Track Courses (12 cr.)

NURS 729	Nursing Administration	3 cr.
NURS/HSAD 730	Financial Management in Health Care	3 cr.
NURS 731	Nursing Administration Practicum I	3 cr.
NURS 732	Nursing Administration Practicum II	3 cr.

Nursing Education Track (36 cr.)

Graduate Nursing Core (21 cr.)

NURS 610	Health Promotion and Social Issues	3 cr.
NURS/HSAD 614	Health Policy	3 cr.
NURS 619	Leadership Strategies in Nursing	3 cr.
NURS 620	Theoretical Foundations for Nursing	3 cr.
NURS 622	The Practice of Nursing Research I	3 cr.
NURS 623	The Practice of Nursing Research II	3 cr.
NURS 628	Advanced Professional Role Development	3 cr.
---	*Elective	3 cr.

Nursing Education Track Courses (12 cr.)

NURS 722	Measurement and Evaluation in Nursing Education	3 cr.
NURS 723	Program Development in Nursing Education	3 cr.
NURS 725	Teaching Strategies for Nursing Curricula	3 cr.
NURS 743	Nursing Education Practicum	3 cr.

*Students in both tracks may choose electives from IUP courses that are appropriate for their needs and interests as they work toward meeting the program objectives. Advisors will approve elective choices. Three credits of NURS 795 Thesis may be substituted for electives. Students who choose the thesis option may graduate with more than the required 36 credits.

Culminating Activity

As a program requirement, all students will develop a comprehensive portfolio project according to guidelines provided by the faculty.

Doctor of Philosophy in Nursing

The Ph.D. in Nursing is designed to develop nurse scholars who are experts in nursing pedagogy and are prepared to conduct advanced research. Graduates will synthesize knowledge from nursing and related disciplines as they assume leadership roles in diverse educational environments. The sixty-credit program, designed for nurses interested in pursuing a career in academia with a research focus on nursing education, provides students with nursing core courses, research courses, and supportive courses. Upon completion of the Ph.D. in Nursing program, the graduate is prepared to:

- Assume leadership in diverse educational environments.
- Synthesize knowledge from nursing and related disciplines to facilitate learning and foster development of students and educators.
- Conduct advanced nursing research that contributes to the generation of knowledge within nursing education.
- Model the role of nursing scholar and effective nurse educator.

Admission Requirements

Students seeking admission to the Ph.D. program in Nursing must satisfy the minimum School of Graduate Studies and Research requirements and have a master's degree in nursing or a related field. International students are required to comply with the admission criteria as outlined in the graduate catalog.

All applicants must also submit the following for review by the doctoral program committee:

- Recent GRE Scores (including analytical writing)
- Official Higher Education Transcripts
- Nursing License
- Current Curriculum Vitae
- Writing Sample
- Two Letter of Recommendation
- Personal Interview

Refer to the nursing doctoral student application packet for additional information about the admission process. Additional information about the program can be found at www.iup.edu/rn-alliedhealth

Curriculum

The Ph.D. program in Nursing requires a minimum of 60 semester hours of graduate credits. Each student must also satisfactorily complete the candidacy examination, the comprehensive examination, and the dissertation.

Required Course Work

I. Nursing Core Courses (21 semester hours)

NURS 820	Seminar in Nursing Theory	3 cr.
NURS 860	Faculty Development in Nursing Education	3 cr.
NURS 861	Pedagogical Practices in Nursing Education	3 cr.
NURS 862	Curriculum Evaluation in Nursing	3 cr.
NURS 863	Evaluation in Nursing Education	3 cr.
NURS 864	Technology in Nursing Education	3 cr.
NURS 993	Nursing Professoriate Practicum	3 cr.

II. Research Core (15 semester hours)

GSR 517	Statistical Methods II	3 cr.
NURS 951	Quantitative Nursing Research	3 cr.
NURS 952	Qualitative Nursing Research	3 cr.
NURS 953	Research Seminar I	3 cr.
NURS 954	Research Seminar II	3 cr.

III. Support Courses (12 semester hours)

SAHE 737	The American College Student ¹	3 cr.
NURS 802	Leadership in Nursing: A Case Study Approach ²	3 cr.
---	Electives	6 cr.

IV. Dissertation (12 semester hours)

NURS 994	Dissertation Seminar	3 cr.
NURS 995	Dissertation	9 cr.

¹May also take SAHE 631²May also take ALS 802*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 option is available. Students have the opportunity to choose from two specialty tracks: safety management and technical, including a wide selection of course offerings as electives. 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.

Program Objectives:

After completing the M.S. program in Safety Sciences, students will have:

1. Expanded their technical and managerial knowledge and skills of the safety, health, and environmental field.
2. Acquired advanced research and communication skills.
3. Enhanced their leadership skills.
4. Developed an understanding of their professional and ethical responsibilities within the safety, health, and environmental field.

Admission Requirements:

Admission to the M.S. in Safety Sciences program requires the same admission procedures established for admission to the School of Graduate Studies and Research, that is, a baccalaureate degree with a minimum 2.6 CGPA.

In addition to meeting the requirements for admission to the School of Graduate Studies 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 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 Review Committee.

When the Safety Sciences Graduate Review 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.

Required Core Courses (12 cr.)

SAFE 610	Safety, Health, and Environmental Administration	3 cr.
SAFE 602	Research Methods in Safety Management	3 cr.
SAFE 603	Human Relations in Safety Management	3 cr.
SAFE 644	Preventing Unsafe Acts	3 cr.

Student must select one of two tracks: Safety Management or Technical

1. Safety Management Track (12 cr.)

SAFE 625	Risk Strategies for the SH&E Professional	3 cr.
SAFE 541	Accident Investigation	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 624	Solving Safety Problems	3 cr.

2. Technical Track (12 cr.)

SAFE 660	Applied Industrial Hygiene	3 cr.
SAFE 647	Applied Ergonomics	3 cr.
SAFE 605	Application of Safety Engineering Principles	3 cr.
SAFE 674	Fire Safety in Building Design	3 cr.

Advisor-Approved Controlled Electives (12 cr.)

Choose a minimum of 12 credit hours

SAFE 520	Law and Ethics in the Safety Profession	3 cr.
SAFE 541	Accident Investigation	3 cr.
SAFE 542	Current Issues in Safety	3 cr.
SAFE 543	Construction Safety	3 cr.
SAFE 561	Air Pollution	3 cr.
SAFE 562	Radiological Health	3 cr.
SAFE 565	Right-to-Know Legislation	3 cr.
SAFE 581	Special Topics	3 cr.
SAFE 604	Industrial Toxicology	3 cr.
SAFE 605	Application of Safety Engineering Principles	3 cr.
SAFE 606	Hazardous Materials Management	3 cr.
SAFE 620	Safety Data Management	3 cr.
SAFE 621	Programming Safe Behavior	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 624	Solving Safety Problems	3 cr.
SAFE 625	Risk Strategies for the SH&E Professional	3 cr.
SAFE 647	Applied Ergonomics	3 cr.
SAFE 630	Pollution Control	3 cr.
SAFE 660	Applied Industrial Hygiene	3 cr.
SAFE 663	Industrial Hygiene Laboratory Methods	3 cr.
SAFE 664	Industrial Noise Control	3 cr.
SAFE 672	Process Safety in the Chemical Industries	3 cr.
SAFE 673	Disaster Preparedness	3 cr.
SAFE 674	Fire Safety in Building Design	3 cr.
SAFE 681	Special Topics	3 cr.
SAFE 699	Independent Study	3 cr.
SAFE 795	Thesis	1 - 6 cr.

Other courses outside the department may be applied as controlled electives with the approval of the advisor. Electives will be offered on a rotating basis, but all will not be available during a two-year cycle.

Certificate of Recognition in Safety Science— Safety Management

The Department of Safety Sciences offers a program of study leading to a Certificate of Recognition. The Certificate of Recognition Program is designed for those individuals who already have a bachelor's degree and have safety program activities as peripheral responsibilities within an organization. It should also be noted that the Certificate of Recognition Program could also serve as a foundation for those individuals who would like to pursue a graduate program in safety but do not have an undergraduate degree in safety. Professionals who would benefit from these certificates are human resource managers, occupational health and environmental health professionals, or others who have safety as a peripheral responsibility.

Certificate of Recognition in Safety Sciences— Safety Management

The Certificate of Recognition Program in Safety Sciences—Safety Management is a twelve-credit program that introduces the students to the fundamentals of occupational safety. The fundamentals will stress the recognition, evaluation, and control of common workplace hazards.

Program Objectives

After completing the Certificate of Recognition Program in Safety Sciences—Safety Management, the student will be able to:

1. Develop safety programs that address common safety hazards in industry as well as compliance with federal regulations.
2. Recognize, evaluate, and control common safety hazards in industry associated with the workplace.
3. Expand his/her knowledge level in specific safety topics based on individual and workplace needs.
4. Provide leadership within the organization as well as in professional organizations regarding the promotion of workplace safety in industry.
5. Utilize research and problem-solving skills to address workplace safety issues in industry.

Program Requirements

All students will be required to complete successfully a total of twelve credits, of which nine hours are core courses. The student must choose the remaining three hours in elective courses.

Required Core Courses (9 cr.)

SAFE 644	Preventing Unsafe Acts	3 cr.
SAFE 645	Principles of Occupational Safety	3 cr.
SAFE 667	Principles of Occupational Health	3 cr.

Elective Course (3 cr.)

Select one course from the following:

SAFE 541	Accident Investigation	3 cr.
SAFE 543	Construction Safety	3 cr.
SAFE 623	Advanced Safety Administration	3 cr.
SAFE 673	Disaster Preparedness	3 cr.

Students may transfer hours earned in the certificate program to a Master of Science degree in Safety Sciences. SAFE 667 Principles of Occupational Health and SAFE 645 Principles of Occupational Safety will not count toward the M.S. in Safety Sciences.

Admission Prerequisites

Admission into the Certificate of Recognition Programs follows the same admission procedures as those established for a degree program. For this program, that includes a baccalaureate degree from an accredited institution with a minimum 2.6 CGPA. As with the M.S. in Safety Sciences, there is no requirement for the GRE.

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

The College of Humanities and Social Sciences offers master's degrees in Anthropology (M.A./Applied Archaeology), English (M.A./Generalist, M.A./Literature, M.A./Teaching English, and M.A./Teaching English to Speakers of Other Languages), Geography (M.A./Geography and M.S./Geography), History, Political Science (M.A./Public Affairs), and Sociology. Doctorates are awarded in English (Literature and Criticism, and Composition and TESOL) and Sociology (Administration and Leadership Studies).

Department of Anthropology

Master in Applied Archaeology

The Department of Anthropology offers a graduate program leading to a degree of Master of Arts in Applied Archaeology. The M.A. program in applied archaeology is designed to meet a need for increased training of professional archaeologists employed in the fields of historic preservation, cultural resource management, and heritage planning and tourism.

The program is designed to prepare students to meet the U.S. Secretary of the Interior's standards for professional archaeologists upon graduation (an option for individuals already employed in the field of cultural resource management) or meet all the requirements except for a full year of experience as a project supervisor (an option for students who enter the program immediately after graduation with a B.A. degree). Students are trained in the current relevant subjects for professional archaeologists including preservation law, ethics, business, and archaeology, have the writing skills to prepare technical reports as well as publications for the general public, and have specialized training in technical skills such as human osteology, faunal analysis, and geophysical surveys, which are critical to professionals in this field.

Students who enter the program usually hold a bachelor's degree in anthropology, history, geography, or a related field. Depending on their undergraduate coursework, students may be required to take courses as a condition of their admission to prepare for the program, especially courses in archaeological theory, artifact analysis, and an archaeological field school. Applicants must meet all the requirements of the School of Graduate Studies and Research and must take the General Test of the Graduate Record Exam (GRE) before admission.

Department resources include faculty members who are experienced teachers and active researchers in different aspects of cultural resource management and applied archaeology. They have held leadership positions in state and national professional organizations. Archaeological Services, an externally funded research center associated with the Anthropology Department, may provide funding and professional experience for students prior to graduation.

The degree program requires a minimum of 36 semester hours of credit including the thesis credits. The program includes five core courses: ANTH 610, ANTH 612, ANTH 616, ANTH 618, and ANTH 714 in addition to 15 semester hours of electives, an optional internship, and required thesis. At least 9 credits of electives must be from courses with Anthropology prefixes; the remaining credits may

be from related departments. Students may arrange an internship as part of their degree for up to three credits. All students will be required to complete a thesis which may be in the form of a cultural resource management report or policy study of a cultural resource issue. The internship may be used as preparation for the thesis. Six credits of the electives may be taken from the Geography Department's Geographic Information System (GIS) courses. Students may elect to take an additional four courses which are not part of the Applied Archaeology degree in order to receive a certificate in Geographic Information Science and Geospatial Techniques from the Geography Department. The Applied Archaeology program advisor will work with students to arrange their schedules to meet the requirements of the GIS certificate program expeditiously; however, there is no guarantee that both programs can be completed within two academic years.

Master of Arts in Applied Archaeology

I. Core Program (15 cr.)

ANTH 610	Archaeological Laws and Ethics	3 cr.
ANTH 612	Seminar in Cultural Resource Management I: Method and Theory	3 cr.
ANTH 616	Pre-Columbian North American Archaeology	3 cr.
ANTH 618	Historical Archaeology	3 cr.
ANTH 714	Seminar in Cultural Resource Management II: Analysis and Interpretation	3 cr.

II. Electives (15 cr.)

(At least 9 credits must have ANTH prefix; at least one of the ANTH courses should be a non-archaeology elective)

ACCT 502	Foundations of Financial Accounting	3 cr.
ACCT 607	Management Accounting	3 cr.
ANTH 514	Native Americans	3 cr.
ANTH 556	Ethnographic Research Methods	3 cr.
ANTH 560	Ethnographic Field School	6 cr.
ANTH 581	Special Topics	3 cr.
ANTH 584	Specialized Methods in Archaeology	3 cr.
ANTH 625	Public Archaeology	3 cr.
ANTH 694	Anthropology Seminar	3 cr.
ANTH 699	Independent Study	3 cr.
ANTH 720	Issues in Historic Preservation	3 cr.
ANTH 730	Archaeology of Pennsylvania	3 cr.
ANTH 740	Advanced Archaeological Field Methods	3-6 cr.
ANTH 745	Seminar in Archaeological Interpretation	3 cr.
GEOG 516	Introduction to Geographic Information Systems	3 cr.
GEOG 517	Technical Issues in GIS	3 cr.
GEOG 625	Environmental Planning	3 cr.
HIST 605	Introduction to Public History	3 cr.
HIST 606	Topics in Public History	3 cr.
HIST 614	Research Methods	3 cr.

Other elective courses may be approved by the faculty on an individual basis.

III. Internship and Thesis (6 cr.)

ANTH 698 Internship 3 cr.

Students may elect to take a faculty-supervised internship either on or off campus with organizations utilizing archaeological skills in non-academic settings. Off-campus internships may include cultural resource management companies, government agencies, private, nonprofit organizations, tribal governments, and museums. Students who do not elect to take an internship will be required to take 6 Thesis credits.

ANTH 795 Thesis 3-6 cr.

All students will be required to write a thesis either in the form of a cultural resource management project report or a policy paper on a cultural resource issue.

*Department of English***Master of Arts in English**

The M.A. in English 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. Students applying for admission must indicate which degree option they wish to pursue.

The generalist (M.A. /GEN) option is designed for students who wish to take 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 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 Secondary English 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 (English as a Second Language) and outside (English as a Foreign Language) 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; some 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 cr.)**

ENGL 630	Research on the Teaching of Literacy and Literature	3 cr.
ENGL 643	TESL/TEFL Methodology	3 cr.
ENGL 674	Bibliographical Methods in English	3 cr.
ENGL 676	Critical Approaches to Literature	3 cr.
ENGL 692	American English Grammar	3 cr.

B. Literature/Linguistics Electives (12 cr.)

Twelve additional semester hours, selected from the following list and approved by the director of Graduate Studies in Composition and TESOL and the director of Graduate Studies in Literature and Criticism:

ENGL 734	Linguistics and the English Teacher	3 cr.
ENGL 675	Literature and the International Student	3 cr.
ENGL 703	Language and Cognition	3 cr.
ENGL 705	Language and Social Content	3 cr.
ENGL 760	Teaching College Literature	3 cr.
ENGL 761	Topics in American Literature Before 1870	3 cr.
ENGL 762	Topics in American Literature Since 1870	3 cr.
ENGL 763	Topics in British Literature Before 1660	3 cr.
ENGL 764	Topics in British Literature Since 1660	3 cr.
ENGL 765	Topics in Literature as Genre	3 cr.
ENGL 766	Topics in Comparative Literature	3 cr.
ENGL 771	Topics in Postmodern Literature	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature	3 cr.

C. Open Electives (9 cr.)

Nine additional semester hours of electives approved by the director of Graduate Studies in Composition and TESOL 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 6 hours of ENGL 795 Thesis.

Total Credit Hours 36 cr.

M.A./Literature

The Master of Arts/Literature (M.A. /LIT) is designed for students 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 cr.)**

ENGL 674	Bibliographical Methods in English	3 cr.
ENGL 676	Critical Approaches to Literature	3 cr.

B. Period Courses (12 cr.)

ENGL 761	Topics in American Literature Before 1870	3 cr.
ENGL 762	Topics in American Literature Since 1870	3 cr.
ENGL 763	Topics in British Literature Before 1660	3 cr.
ENGL 764	Topics in British Literature Since 1660	3 cr.

C. Courses in Approaches to the Literary Canon (3 cr.)

One course from among the following offerings:

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

D. Literature Electives (9 cr.)

Three courses from among the following:

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

E. Open Electives (6 cr.)

Six semester hours approved by the director of Graduate Studies in Literature from other graduate offerings in Literature, courses in Composition and TESOL, 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 six hours of ENGL 795 Thesis.

Total Credit Hours 36 cr.

M.A./Teaching English

The Master of Arts/Teaching English (M.A. /TE) is a 36-semester-hour degree program that involves the study of the research on teaching literature, composition, and language, through both academic course work 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. Thus, the M.A. /TE with certification will entail a total of 42 semester hours of course work and student teaching.

M.A./Teaching English Course Requirements**A. Core Courses (15 cr.)**

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

And one additional course from the following, approved by the director of Graduate Studies in Composition and TESOL, or designee:

ENGL 762	Topics in American Literature since 1870	3 cr.
ENGL 763	Topics in British Literature before 1660: Shakespeare	3 cr.
ENGL 772	Topics in Women's Literature	3 cr.
ENGL 773	Topics in American or British Minority Literature*	3 cr.

* Recommended for students seeking initial certification.

B. Electives in Teaching, Learning, and Schools (6 cr.)

ENGL 690	Writing as a Way of Learning	3 cr.
EDSP 704	Advanced Educational Psychology	3 cr.
or		
EDSP 746	Learning and Instruction	3 cr.
or		
EDSP 747	Advanced Psychology of Adolescent Education	3 cr.
or		
EDSP 748	Advanced Studies in Behavioral Problems	3 cr.
EDSP 577	Assessment of Student Learning	3 cr.
EDEX 650	Exceptional Children and Youth	3 cr.

Note: Students seeking initial certification as secondary teachers must take EDEX 650; EDSP 577; and EDSP 573, EDSP 578, or EDSP 704 to satisfy Pennsylvania Department of Education certification requirements. One of the above will count as a Professional Elective.

C. Professional Electives (6 cr.)

Six semester hours to be chosen from graduate courses in the English Department or the College of Education and Educational Technology—approved by the director of Graduate Studies in Composition and TESOL, or designee.

Note: Students who have not had an undergraduate or graduate course in Adolescent Literature must take ENGL 518 Adolescent Literature to meet a certification requirement.

D. Professional Practice (6 cr.)

ENGL 526	ESL Methods and Materials	3 cr.
ENGL 698	Internship	3 cr.

Note: Students seeking initial certification as secondary teachers must also student teach, as required by the Pennsylvania Department of Education. (Additional 6 cr.)

Total Credit Hours M.A./TE 36 cr.

Total Credit Hours with Initial Certification 42 cr.

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 the professional organization, TESOL. The program combines theory and practice as well as a variety of approaches.

M.A./Teaching English to Speakers of Other Languages Course Requirements**A. Core Requirements (15 cr.)**

ENGL 625	Introduction to TESOL	3 cr.
ENGL 692	American English Grammar	3 cr.
ENGL 643	TESL/TEFL Methodology	3 cr.

ENGL 644	ESL Material and Media	3 cr.
ENGL 724	Second Language Acquisition	3 cr.

B. Teacher Education Component (6 cr.)

Students take *two* of the following courses:

ENGL 688	Practicum in TESOL	3 cr.
ENGL 694	Observation of English Teaching	3 cr.
ENGL 696	Internship in ESL/EFL	3 cr.

C. TESOL Electives (9 cr.)

Students choose any *three* from the following courses:

ENGL 734	Linguistics and the English Teacher	3 cr.
ENGL 641	Topics in ESL Pedagogy	3 cr.
ENGL 699	Independent Study	3 cr.
ENGL 723	Second Language Teaching	3 cr.
ENGL 725	Second Language Literacy	3 cr.
ENGL 730	Teaching Writing	3 cr.
ENGL 742	Cross-Cultural Communication	3 cr.
ENGL 744	Reading Theory and the College English Teacher	3 cr.

D. Open Electives (6 cr.)

Students choose *two* other courses (500 level or higher).

Total Credits **36 cr.**

Doctor of Philosophy Programs

There are two distinct doctoral programs in English, one in Literature and Criticism and one in Composition and TESOL. 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 language proficiency, and 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 ENGL 674 Bibliographical Methods in English) is required beyond the M.A.

Two core courses (6 cr.)

ENGL 955	The History and Theory of Criticism	3 cr.
ENGL 956	Literary Theory for the Teacher and Scholarly Writer	3 cr.

Six courses may be elected from all 700-level courses in literature (18 cr.)

(At least two courses must be in Traditional Literatures)

ENGL 861	Topics in American Literature Before 1870	3 cr.
ENGL 862	Topics in American Literature Since 1870	3 cr.
ENGL 863	Topics in British Literature Before 1660	3 cr.
ENGL 864	Topics in British Literature Since 1660	3 cr.
ENGL 865	Topics in Literature as Genre	3 cr.
ENGL 866	Topics in Comparative Literature	3 cr.

(At least one course must be in Special Literatures)

ENGL 871	Topics in Postmodern Literature	3 cr.
ENGL 872	Topics in Women's Literature	3 cr.
ENGL 873	Topics in American or British Minority Literature	3 cr.

Two Advanced Seminars (6 cr.)

ENGL 983	Seminar: Literary Theory Applied to Major American Author or Theme	3 cr.
ENGL 984	Seminar: Literary Theory Applied to British Author or Theme	3 cr.
ENGL 985	Seminar: Comparative Literary Theory Applied to Traditional and Special Literature	3 cr.

Total **30 cr.**

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

After completing 12 to 18 hours of course work, the student must 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 areas (literary theory and practice as applied to a general list of authors 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 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 a 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 15705-1015. Phone: 724-357-2263; fax: 724-357-3056.

arrange an internship as part of their degree electives up to six credits.

Master of Arts in Geography

I. Core Program (9 cr.)

GEOG 610	Research in Geography and Regional Planning	3 cr.
GEOG 612	Quantitative Techniques in Geography and Regional Planning	3 cr.
GEOG 614	Thought and Philosophy in Geography and Regional Planning	3 cr.

Electives and/or Thesis either

A. Thesis Option (24 cr.)

Electives in GEOG and related fields	18-23 cr.
GEOG 795 Thesis	1-6 cr.

or

B. Non-Thesis Option (30 cr.)

Electives in GEOG and related fields

Master of Science in Geography

I. Core Program (9 cr.)

GEOG 610	Research in Geography and Regional Planning	3 cr.
GEOG 612	Quantitative Techniques in Geography and Regional Planning	3 cr.
GEOG 614	Thought and Philosophy in Geography and Regional Planning	3 cr.

II. Tracks (Choose one)

A. GIS/Cartography Track (15 cr.)

Five courses from among the following:

GEOG 513*	Cartography	3 cr.
GEOG 514	Map and Photograph Interpretation	3 cr.
GEOG 515	Remote Sensing	3 cr.
GEOG 516*	Introduction to GIS	3 cr.
GEOG 517	Technical Issues in GIS	3 cr.
GEOG 617	Field Techniques in Geography and Planning	3 cr.
GEOG 618	GIS Applications Development	3 cr.

B. Regional Planning Track (15 cr.)

Five courses from among the following:

GEOG 531	Population Geography	3 cr.
GEOG 532	Urban Geography	3 cr.
GEOG 533	Geography of Transportation and Trade	3 cr.
GEOG 534	Political Geography	3 cr.
GEOG 536	Social Geography	3 cr.
GEOG 550	Introduction to Planning	3 cr.
GEOG 552*	Planning Methods	3 cr.
GEOG 554	Planning Design	3 cr.
GEOG 558	Land Use Law	3 cr.
GEOG 564*	Land Use Policy	3 cr.
GEOG 568	Planning Theory	3 cr.
GEOG 617	Field Techniques in Geography and Planning	3 cr.
GEOG 620	Spatial Structure of the Economy	3 cr.
GEOG 623	Regional Development	3 cr.
GEOG 625	Environmental Planning	3 cr.
GEOG 633	Settlement Geography	3 cr.
GEOG 665	Plan Implementation	3 cr.
PLSC 668	Public Sector Financial Administration	3 cr.

C. Environmental Planning Track (15 cr.)

Five courses from among the following:

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

III. Electives and/or Thesis (Choose one)

A. Thesis Option (9 cr.)

Electives in GEOG and related fields	3-8 cr.
GEOG 795 Thesis	1-6 cr.

or

B. Non-Thesis Option (15 cr.)

Electives in GEOG 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

Certificate of Recognition in Geography: Geographic Information Science (GISc) and Geospatial Techniques

The Department of Geography and Regional Planning offers a program of study leading to a Certificate of Recognition in Geographic Information Science and Geospatial Techniques. This eighteen-credit program provides instruction on the concepts of geographic information sciences and the technical and applied aspects of geographic information systems and other geospatial technologies, such as remote sensing, global positioning systems, and spatial databases.

The Certificate of Recognition in Geographic Information Science and Geospatial Techniques is designed for persons who already have an undergraduate degree from an accredited university and who are interested in increasing their knowledge base and skills in GIS to take advantage of opportunities in the job market. Students who enroll in the Certificate of Recognition program, and who become interested in pursuing a graduate degree in the department, will be permitted to apply the maximum number of certificate credits allowed by the IUP School of Graduate Studies and Research toward a Master of Arts or Master of Science degree. Students who complete the COR will have exposure to and grasp the nature of 1) the basis and logic of map projections and geographic coordinate systems; 2) geographic information systems hardware and software; 3) the basis and logic of various spatial data models and structures; 4) techniques for the assessment, planning, and development of spatial databases; 5) appropriate and accepted methods of spatial data analysis; and 6) representation of spatial and nonspatial data through maps and other techniques.

Program Requirements

All students will be required to complete successfully a total of eighteen credits, of which nine hours (three courses) will be core courses. The student will need to choose nine hours (three courses) of electives to complete the program.

Core Courses (9 cr.)

GEOG 515	Remote Sensing	3 cr.
GEOG 516	Introduction to Geographic Information Systems***	3 cr.
GEOG 517	Technical Issues in GIS*	3 cr.

Elective Courses (9 cr.)

GEOG 513	Cartography	3 cr.
GEOG 514	Map and Photograph Interpretation	3 cr.
GEOG 521	Enterprise GIS Management*	3 cr.
GEOG 618	GIS Applications Development*	3 cr.
GEOG 675	Spatial Analysis Techniques*	3 cr.
GEOG 680	Seminar**	3 cr.
GEOG 681	Special Topics**	3 cr.
GEOG 699	Independent Study**	3 cr.

* Indicates that GEOG 516 Introduction to GIS is a prerequisite for the course.

** Indicates that permission of the instructor is needed to enroll in the course.

*** Indicates that GEOG 518 or GEOG 519 may be substituted at discretion of the COR committee.

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. Courses in American, European, Non-Western, 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, 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 HIST 614 Research Methods (or a substitution approved by the department) and six HIST 601 seminar credits, or HIST 614 and six HIST 795 thesis credits. 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

HIST 614	Research Methods	3 cr.
HIST 795	Thesis	6 cr.

or

Two seminars (one with a local history focus)

II.

HIST 605	Introduction to Public History	3 cr.
HIST 606	Topics in Public History ¹	3 cr.

III. Internship (6 cr.)**IV. Approved electives (15 cr.)**

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 HIST 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 course work 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 cr.)**1. Methodology Core (6-9 cr.)**

Students must complete both of the following **two** courses:

PLSC 500	Research Methods in Political Science*
PLSC 674	Analytical Techniques
Plus one additional course from the following:	
CRIM 605	Research Methods
GEOG 612	Quantitative Techniques in Geography and Regional Planning
GSR 615	Elements of Research
SOC 761	Microcomputing Applications in Sociology

* A student whose undergraduate transcript shows a "B" or better in a political science research methods course AND who passes a research methods exam administered by the Political Science Department may petition the Master of Arts in Public Affairs coordinator for exemption from PLSC 500.

2. Public Administration Core (12 cr.)

Students must complete the following **four** courses:

PLSC 570	Introduction to Public Administration
PLSC 666	Public Policy Analysis
PLSC 668	Public Sector Financial Administration ¹
PLSC 671	Seminar in Public Administration

¹ Students pursuing the International Development Administration field specialization should substitute either PLSC 670 Foreign Policy Studies or PLSC 672 Comparative Political Studies or PLSC 675 International Political Economy for PLSC 668 Public Sector Financial Administration.

3. Field Specializations (15 cr.)

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 cr.)

a. Students must complete PLSC 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 (PLSC 795). The thesis must conform to criteria published by the School of Graduate Studies and Research.

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 directors of human services agencies, alcohol treatment supervisors, domestic violence program staff members, mental health professionals, researchers, data analysts, direct service practitioners, and educators. 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 School of Graduate Studies 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 listed under the catalog description for SOC 795). Including the six-credit thesis, the thesis option requires a total of 36 credit hours for those in both the General Sociology and the Human Services 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 be taken outside the department. No more than one-third of a student's total credit hours may be dual-level (500-level) courses. Students who enrolled for dual-

level courses while undergraduates at IUP may not repeat the same courses for credit as graduate students.

General Sociology Program

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

I. Required Core (9 cr.)

SOC 705	Research Seminar in Sociology	3 cr.
SOC 761	Microcomputing Applications in Sociology	3 cr.
SOC 709	Contemporary Sociological Theory	3 cr.

II. Either

A. (Thesis Option)

SOC 795	Thesis	6 cr.
Approved electives (including at least 9 cr. in Area of Specialization)		21 cr.

or

B. (Non-Thesis Option)

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

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

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, Library Relations, History, and other departments or programs.

Human Services Program

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

SOC 710	Sociology of Human Services	3 cr.
SOC 711	Human Services Administration	3 cr.

or

SOC 712	Methods for Human Service Practitioners	3 cr.
SOC 705	Research Seminar in Sociology	3 cr.
SOC 761	Microcomputing Applications in Sociology	3 cr.
SOC 709	Contemporary Sociological Theory	3 cr.

II. Internship (6 cr.)

SOC 798	Internship	6 cr.
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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)**

SOC 795	Thesis	6 cr.
Approved electives in a chosen area of specialization		9 cr.

or

B. (Non-Thesis Option)

Approved electives including at least 9 cr. in a chosen area of specialization ²	15 cr.
Comprehensive exam	0 cr.

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, Nonprofit and Public Sectors

The Ph.D. program in Administration and Leadership Studies (ALS), Nonprofit and Public Sectors, is designed to educate leaders in human services, health care, state and local government agencies, higher education, and other public and nonprofit organizations. This program is offered by the Sociology Department in collaboration with the Department of Economics. The ALS program's goals are to provide leadership development and enhanced administrative capacity through application of theory and research in the public and nonprofit services context. Student learning is constituted by the following objectives:

- Thorough knowledge of the scholarship and research on leadership and the ability to utilize this knowledge in an applied, professional context
- Knowledge and skills in nonprofit and public sector program planning and administration that reflect a sociological perspective
- The capacity to locate and critique research and evaluation studies and to successfully design, conduct, and defend an original research study

As the majority of students are midcareer professionals with full-time positions, required courses are offered evenings and/or Saturdays, two courses a semester. Courses are offered in fall, spring, and an eleven-week summer session.

Students are admitted in cohorts of between fifteen and twenty and begin in the fall semester. New cohorts begin in even years at the Indiana campus and in odd years at the Harrisburg site. The admissions process involves a review of an assortment of materials, including an application for admission form, transcripts, GRE test scores, three letters of recommendation from academic or professional references, a work experience statement (either a vitae or resume), a goal statement in which the applicant explains why she/he wishes to be admitted to the program, and a major writing sample such as a master's thesis, course paper, policy document, or program report. A personal interview may be required at the option of the Admissions Committee. A master's degree is required. Prospective students should be aware that this is a social science program, with most courses taught by professors of Sociology and Economics; therefore, some background in the social sciences is helpful. Applicants are screened by the doctoral coordinator, with recommended admissions subject to the approval of the Doctoral Advisory Committee.

Each student admitted to a doctoral program receives doctoral candidacy after completing at least eighteen graduate credits beyond the master's degree, with a GPA of 3.0, and passing both core and research methods area comprehensive examinations (typically after at least 30 credit hours). To be eligible for graduation, students must complete the 61 credit hours specified in the curriculum, successfully pass all comprehensive examinations, and successfully defend a dissertation proposal as well as a completed dissertation. Program curriculum requirements are as follows:

Core (22 cr.)

LDRS 800	Proseminar	1 cr.
LDRS 801	Leadership Theories	3 cr.
LDRS 802	Leadership Applications	3 cr.
LDRS 810	Nonprofit Management	3 cr.
LDRS 811	Administration in the Public Sector	3 cr.
SOC 803	Social and Organizational Theory	3 cr.
SOC 804	Social Policy	3 cr.
ECON 820	Managerial Economics for Decision Making and Leadership	3 cr.

Research (24 cr.)

SOC 862	Analysis of Social Data	3 cr.
SOC 863	Quantitative Research Methods I	3 cr.
SOC 864	Quantitative Research Methods II	3 cr.
SOC 865	Qualitative Research Methods	3 cr.
LDRS 861	Program Evaluation	3 cr.
LDRS 995	Dissertation	9 cr.

Electives (15 cr.)

Nine credits from among any graduate-level courses SOC, ECON, or LDRS courses.

Six credits from among any other relevant graduate courses.

For detailed information about the program, call 724-357-2956 (Indiana), 717-720-4064 (Harrisburg), or e-mail to ALS-PHD@iup.edu. The program's website may be viewed at www.iup.edu/als.

COLLEGE OF NATURAL SCIENCES AND MATHEMATICS

The College of Natural Sciences and Mathematics at IUP offers graduate degrees in Science for Disaster Response (M.S.), 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.).

Interdisciplinary Program

The Master of Science in Science for Disaster Response (SDR) degree program is designed to provide military, federal, and civilian emergency first responders with intensive education in chemical, biological, radiological, and nuclear (CBRN) principles and in detecting, identifying, and safely handling CBRN agents or their precursors. This degree program responds to a national need for counterterrorism training, and it meets the national mandate to improve the educational levels of emergency first responders. For emergency first responders, the degree program increases their knowledge, skills, and abilities with respect to emergency response; provides an opportunity for earning university credits tied to past education and training; and improves their employment and/or advancement prospects to work in a Chemical Surety or Biological Safety laboratory. The degree gives emergency first responders more credibility, and it reduces the risk to them by improving their abilities to respond to CBRN incidents.

Admission Prerequisites

Students admitted to this degree program must meet all IUP standards for graduate admission. Applicants must have local, state, or federal agency/organization recommendation prior to admission to this degree. Additionally, applicants must have prior Department of Defense and/or FEMA education and training in domestic preparedness (20 credit hours), CBRN response (40 credit hours), and emergency response (10 credit hours) or equivalent courses as approved by IUP.

Applicants must have sufficient preparation in biology, chemistry, physics, and mathematics. Preparation in biology should include one semester of the basic principles of biology, one semester of human anatomy, one semester of human physiology, and one semester of methods in molecular biology and biotechnology. Preparation in chemistry should include two semesters of the basic concepts in chemistry and two semesters of organic chemistry. Preparation in physics should include two semesters of the basic principles of physics, one semester of mechanics, and one semester of modern physics. Preparation in mathematics should include two semesters of calculus for chemistry and physics and one semester of probability and statistics. Applicants must take a placement exam that has been developed by the Weapons of Mass Destruction faculty for Levels 1, 2, 3, and 4 of the SDR courses.

Master of Science in Science for Disaster Response

I. Core Courses (18 cr.)

SDR 600*	Effects of Biological Materials Use	5 cr.
SDR 601*	Advanced Characterization Theory and Practical Applications Using GC/MS, FT-IR, and Organic Chemistry	5 cr.

SDR 602*	Short- and Long-Term Effects of Radiological Materials Use	2 cr.
SDR 603	Advanced Field Experience in Disaster Response	6 cr.

II. Electives (14 cr.)

CHEM 630*	Organic Chemistry	3 cr.
SAFE 562**	Radiological Health	3 cr.
SAFE 673**	Disaster Preparedness	3 cr.
SDR 586*	Selected Topics in SDR	1-6 cr.
SDR 610*	Advanced Techniques in Biotechnology for Disaster Response	5 cr.

TOTAL 32 cr.

* May be delivered during an intensive on-campus residency period

** Available on line

Department of Biology

The Department of Biology offers a Master of Science degree that is intended both for the student who wishes to pursue further graduate work leading to the Ph.D. degree and for the student who desires the M.S. degree as a means to seek a career as a biologist in a number of different professions. The M.S. degree in Biology has two alternatives, the thesis and non-thesis options. The thesis option is research oriented, with an emphasis on a comprehensive research project under the supervision of a thesis advisory committee. The non-thesis option also requires a research component that is under the direction of a faculty member. Both alternatives are intended to provide the student with a well-rounded biology background, as well as furnish the research skills required for postgraduate positions.

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 (or related subject), 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 courses that help to fill these deficiencies.

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 thesis advisory 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 must maintain a grade point average of at least 3.0.

Continuance in the graduate program for those receiving two individual course grades below a "B" is contingent upon 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 cr.)

BIOL 602	Biometry	3 cr.
BIOL 611	Biology Seminar I	1 cr.
BIOL 612	Biology Seminar II	1 cr.
BIOL 795	Thesis	6 cr.

Non-thesis option (8 cr.)

BIOL 602	Biometry	3 cr.
BIOL 611	Biology Seminar I	1 cr.
BIOL 612	Biology Seminar II	1 cr.
BIOL 699	Independent Study	3 cr.

B. Core Elective Requirement

For both options, the nine remaining hours of course credits 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 are 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 the 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.

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 BIOL 699, Independent Study.

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 BIOL 795, 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 cr.)

CHEM 540	Physical Chemistry	3 cr.
CHEM 600	Seminar*	2 cr.
CHEM 610	Inorganic Chemistry	3 cr.
CHEM 620	Analytical Chemistry	3 cr.
CHEM 630	Organic Chemistry	3 cr.

* 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.

III. Course Electives (10 to 16 cr.)

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 cr.)

The student has two options:

A. Thesis not required—a total of 30 semester hours in suitable courses is acceptable.

B. Committee thesis (CHEM 795-4 cr.)—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.

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.

II. For those specializing in analytical, inorganic, organic, or physical chemistry:

A. Required Courses (15 cr.)

CHEM 540	Physical Chemistry	3 cr.
CHEM 610	Inorganic Chemistry	3 cr.
CHEM 620	Analytical Chemistry	3 cr.
CHEM 630	Organic Chemistry	3 cr.

An additional three-semester-hour 600-level chemistry course selected from analytical, inorganic, organic, or physical chemistry 3 cr.

B. Electives (6 cr.)

The student may, with the advice and approval of the advisor, select electives from chemistry, physics, biology, or mathematics. CHEM 500 Special Studies can provide a maximum of three semester hours toward the 30 semester hours necessary for the degree.

III. For those specializing in biochemistry:

A. Required Courses (12 cr.)

CHEM 646	Biochemistry	3 cr.
CHEM 623	Physical and Chemical Methods of Separation	3 cr.
CHEM 630	Organic Chemistry	3 cr.
BIOL 662	Molecular Genetics of Eukaryotes	3 cr.

B. Electives (a minimum of 9 cr.)

At least one of the following:

BIOL 553	Plant Physiology	3 cr.
BIOL 652	Microbial Physiology	3 cr.
BIOL 653	Animal Physiology	3 cr.
BIOL 654	Endocrinology	3 cr.

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. CHEM 600 Seminar 2 cr.

C. CHEM 690 Research for at least 3 cr.

D. CHEM 795 Thesis 4 cr.

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 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. The program is also appropriate for professionals who wish to add to their skills and for secondary mathematics and science teachers who wish to gain a deeper understanding of how mathematics and statistics can be used to solve applied problems. It also provides a solid background for those planning to enter a Ph.D. program. Faculty members offer courses in the areas of traditional applied mathematics, operations research, and statistics. The department houses its own computer facilities 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, secondary education, or statistics. Students have the option of writing a thesis or participating in an internship. Applicants should have taken a calculus sequence, linear algebra, differential equations, and an introductory course in probability and statistics and should have computer programming experience.

Program Requirements

I. Core Courses* (15 cr.)

MATH 545	Deterministic Models in Operations Research	3 cr.
MATH 546	Probabilistic Models in Operations Research	3 cr.
MATH 563	Mathematical Statistics I	3 cr.
MATH 564	Mathematical Statistics II	3 cr.
MATH 625	Analysis for Applied Mathematics	3 cr.

*Required unless comparable courses have been taken at the undergraduate level. (No more than 3 cr. may be waived from the total of 30 cr. of coursework.)

II. Controlled Electives** (15 cr.)

MATH 523	Complex Variables	3 cr.
MATH 547	Modeling and Simulation	3 cr.
MATH 551	Numerical Methods for Supercomputers	3 cr.
MATH 640	Numerical Mathematics	3 cr.
MATH 641	Ordinary and Partial Differential Equations	3 cr.
MATH 643	Graphs, Networks, and Combinatorics	3 cr.
MATH 645	Nonlinear Programming Models	3 cr.
MATH 647	Advanced Simulation	3 cr.
MATH 665	Applied Regression Analysis and Design of Experiments	3 cr.
MATH 667	Applied Statistical Methods	3 cr.

** At least 12 cr. 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 credit hours of graduate work may be taken in disciplines such as chemistry, computer science, economics, finance, management information systems, and physics.

*** The M.S. in Applied Mathematics requires a minimum of 27 cr. of course work in addition to the research requirement listed below.

IV. Research Requirements (3-6 cr.)

Option I

MATH 795 Thesis 3 cr.

or

Option II

MATH 698 Internship 6 cr.

Total 33-36 cr.

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 (FDED), Educational Psychology (EDSP), Counselor Education (COUN), Special Education (EDEX), and Mathematics (MATH, ELMA).

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 cr.)

FDED 514 Comparative Foundations of Education 3 cr.
FDED 611 Historical Foundations of Education 3 cr.
FDED 612 Philosophical Foundations of Education 3 cr.
FDED 613 Social Foundations of Education 3 cr.

II. Educational Psychology Electives (3 cr.)

EDSP 704 Advanced Educational Psychology 3 cr.
EDSP 573 Psychology of Adolescent Education 3 cr.
EDSP 576 Behavior Problems 3 cr.
EDSP 578 Learning 3 cr.
COUN 629 Group Procedures (Child) 3 cr.
COUN 639 Group Counseling 3 cr.
EDEX 650 Exceptional Children and Youth 3 cr.

III. Research Requirement (3 cr.)

GSR 615 Elements of Research 3 cr.

IV. Mathematics Education Electives (6 cr.)

MATH 650 History of Mathematics 3 cr.
MATH 651 Seminar in Teaching Junior High School Mathematics 3 cr.
MATH 652 Seminar in Teaching Senior High School Mathematics 3 cr.
MATH 654 Curriculum and Supervision in Mathematics 3 cr.
ELMA 651 The Laboratory Approach to Teaching Mathematics* 3 cr.
ELMA 652 Diagnosis and Remedial Teaching of Mathematics* 3 cr.
ELMA 653 Mathematics for the Gifted Student* 3 cr.

V. Mathematics Content Electives (15 cr.)

A. Required unless comparable courses have been completed at the undergraduate level 0-6cr.
MATH 521 Advanced Calculus I 3 cr.
MATH 576 Abstract Algebra I 3 cr.

B. Any graduate-level mathematics content courses other than those listed in part A. 9-15 cr.

*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, as a mathematics teacher in a departmentalized situation, as a 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 cr.)

Required (6 cr.)

ELMA 650 Curriculum and Instruction in Elementary School Mathematics 3 cr.
EDSP 704 Advanced Educational Psychology 3 cr.

Elective (3 cr.)

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 cr.)

GSR 615 Elements of Research 3 cr.

III. Curriculum and Instruction in Mathematics Education Electives (6 cr.)

ELMA 651 The Laboratory Approach to Teaching Mathematics 3 cr.
ELMA 652 Diagnosis and Remedial Teaching of Mathematics 3 cr.
ELMA 653 Mathematics for the Gifted Student 3 cr.
ELMA 654 Teaching Problem Solving in the Elementary and Middle School 3 cr.
ELMA 655 Mathematics for Early Childhood 3 cr.
ELMA 698 Supervised Internship 3 cr.
ELMA 699 Elementary Math—Independent Study 3 cr.
ELMA 795 Thesis* 3 cr.

IV. Subject Matter Concentration Electives**Options 1 and 2 (9 cr.)**

or

Option 3 (15 cr.)

ELMA 517	Introduction to Probability and Statistics	3 cr.
ELMA 520	Pre-Calculus Mathematics I	3 cr.
ELMA 556	Principles of Geometry I	3 cr.
ELMA 557	Introduction to Number Theory	3 cr.
ELMA 558	Introduction to Logic and Logical Games	3 cr.
ELMA 559	Computer-Related Topics in the Elementary and Middle School	3 cr.
ELMA 571	Basic Concepts of Algebra	3 cr.
ELMA 601	Basic Concepts in Mathematics I	3 cr.
ELMA 602	Basic Concepts in Mathematics II	3 cr.
ELMA 603	Teaching the Metric System	3 cr.
ELMA 681	Special Topics	3 cr.

V. Electives (3 cr.)

Chosen from other courses in categories I, III, and IV above

VI. Comprehensive Exam**Option 2 only**

* ELMA 795 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 in Physics. The Master of Science in Physics 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 in Physics program will generally be selected by students who wish to strengthen their physics background in preparation for more advanced graduate study or to seek advancement in the profession of secondary education. 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 advisors before selecting a course. An advisor 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 meet the requirements of the regulatory agencies. 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 cr. 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 cr.)

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 School of Graduate Studies 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 PHYS 600 for two semester hours and PHYS 795 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 School of Graduate Studies 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: PHYS 536, PHYS 601-602, PHYS 634, PHYS 641, PHYS 651, PHYS 652, PHYS 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 PHYS 600 for two semester hours and PHYS 795 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 School of Graduate Studies 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 fully accredited by the American Psychological Association. The program is designed to meet the academic requirements of licensure and to provide the student with background to immediately assume responsibilities in appropriate professional settings.

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, Advanced, and subject 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 December 15. 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 December 15.

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 Historical Trends and Systems in Psychology is required for graduation.

A. Core Course Work (57 cr.)

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:

PSYC 830	Methods of Intervention I	3 cr.
PSYC 831	Methods of Intervention II	3 cr.
PSYC 833	Clinical Group Techniques	3 cr.
PSYC 834	Family Therapy	3 cr.

2. Methods of Assessment and Evaluation:

PSYC 841	Psychological Assessment I	3 cr.
PSYC 842	Psychological Assessment II	3 cr.
PSYC 843	Psychological Assessment III	3 cr.

3. Research and Methodology:

PSYC 801	Research Methods in Psychology I	3 cr.
PSYC 803	Evaluation Research	3 cr.
PSYC 802	Clinical Research Methods	3 cr.

4. Individual Differences:

PSYC 835	Advanced Psychopathology	3 cr.
PSYC 836	Personality Theory and Systems of Psychotherapy	3 cr.
PSYC 853	Issues in Developmental Psychology	3 cr.

5. Physiological Bases of Behavior:

PSYC 856	Drugs and Behavior	3 cr.
PSYC 857	Clinical Neuropsychology	3 cr.

6. Cognitive Bases of Behavior:

PSYC 852	Models of Learning	3 cr.
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7. Social Bases of Behavior:

PSYC 855	Racial, Cultural and Gender Issues in Psychology	3 cr.
PSYC 858	Advanced Social Psychology	3 cr.

8. History of Psychology:

PSYC 810	Historical Trends in Psychology	3 cr.
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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 cr.)

PSYC 920	Professional Issues	3 cr.
PSYC 993	Advanced Psychological Practicum	21 cr.
PSYC 994	Internship	3 cr.

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 cr.)

PSYC 995	Doctoral Project (Dissertation)	9 cr.
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E. Comprehensive Academic and Professional Examinations (0 cr.)

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 course work 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. It is not possible for all course requirements to be met through summer, evening, and weekend course scheduling. No classes are offered on line.

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*.

Course Descriptions

ACCT: Accounting

Department of Accounting

Eberly College of Business and Information Technology

ACCT 500 Fundamentals of Financial Accounting 1.5 cr.

This course is designed for EMBA students without prior accounting background to prepare them for the MBA course in Managerial Accounting. The objective of the course is to familiarize the student with the basic concepts, standards, and methods of financial accounting and the interpretation of accounting information for financial decision-making in organizations. EMBA students with prior academic course/s in accounting can apply for a waiver from this course.

ACCT 501/* Advanced Accounting 3 cr.

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:** ACCT 305 or equivalent (9 cr. of Accounting).

ACCT 502 Foundations of Financial Accounting 3 cr.

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.

ACCT 512/* Advanced Cost Accounting 3 cr.

Theory, preparation, and use of budgets, analysis of cost variances, direct costing, and extensive analysis of various cost control and profit planning programs. **Prerequisite:** ACCT 311.

ACCT 521/* Federal Tax I 3 cr.

Introduces the fundamental concepts of federal taxation, with special emphasis on individuals. Creates an awareness and recognition of the tax consequences involved in financial decision-making, with special emphasis on use of professional tax software and internet resources.

ACCT 531/* Auditing 3 cr.

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:** ACCT 305.

ACCT 541/* Accounting for Government and Nonprofit Organizations 3 cr.

Presents the views or authoritative professional organizations as to desirable standards of account and reporting for governmental and nonprofit entities. Topics include budgeting and budgetary accounts, accounting for various funds and account groups, the financial reporting process, and application of the principles of fund accounting in specific areas.

ACCT 581 Special Topics in Accounting 1-3 cr.

Covers advanced or exploratory topics within the discipline. Specific content developed by the instructor. Content will vary depending upon the interest of the instructor and the students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of the instructor and Eberly College of Business and Information Technology graduate coordinator.

ACCT 607 Management Accounting 3 cr.

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:** ACCT 202. Not open for credit for students with constructive credit for ACCT 311.

ACCT 681 Special Topics in Accounting 3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

ACCT 698 MBA Internship 1.5 or 3 cr.

A planned, field-based, individually designed, and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.

ACCT 699 Independent Study in Accounting 1-3 cr.

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, Eberly College of Business and Information Technology.

ACCT 795 Thesis 4-6 cr.

For students writing the thesis, ACCT 850 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.) for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean, Eberly College of Business and Information Technology, may constitute the committee.

*Indicates dual-listed class

ACE: Adult and Community Education

Department of Adult and Community Education

College of Education and Educational Technology

ACE 590 Improving Professional Practice in Instructional Settings and ACE 591 Improving Professional Practice in Instructional Settings 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ACE 620 Introduction to Adult and Community Education 3 cr.

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.

ACE 621 The Adult Learner 3 cr.

This course focuses on the adult as learner, including physiological, psychological, and sociological characteristics and their effect on learning.

ACE 622 Program and Process Development in Adult and Community Education 3 cr.

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.

ACE 623 Organization and Administration in Adult and Community Education 3 cr.

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.

ACE 625 Facilitating Adult Learning 3 cr.
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.

ACE 650 Current Topics in Adult and Community Education 3 cr.
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.

ACE 681 Special Topics 3 cr.

ACE 699 Independent Study in Adult and Community Education 1-3 cr.
Independent study of a topic pertinent to an individual's program of study. Permission of advisor and department chairperson required.

ACE 735 Seminar in Adult and Community Education 3 cr.
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.

ACE 740 Internship in Adult and Community Education 6 cr.
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.

ACE 745 Practical Research in Adult and Community Education 3 cr.
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.

ACE 750 Seminar: Technology and Adult Learning 3 cr.
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. **Prerequisite:** At least twelve completed credits, six each in ACE and COMM courses, and advisor approval.

ACE 795 Thesis 3 cr.
Students selecting the thesis option will complete a thesis project with a committee consisting of at least three faculty members.

ALS: Administration and Leadership

Department of Professional Studies in Education College of Education and Educational Technology

ALS 590 Improving Professional Practice in Instructional Settings 1-3 cr. and

ALS 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ALS 781 Special Topics 3 cr.

ALS 801 Leadership Theories 3 cr.
Focuses on several leadership theories related to administering social agencies, schools, business, and industry. **Prerequisite:** Admission to the program.

ALS 802 Leadership: A Case Study Approach 3 cr.
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. **Prerequisite:** Admission to the program.

ALS 803 Leadership: Applied Practice 3 cr.
Students must develop and implement filed project that incorporates leadership and policy theories learned in previous courses. **Prerequisite:** Admission to the program.

ALS 805 Curriculum Evaluation 3 cr.
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:** Admission to the program.

ALS 810 Advanced Topics in Human Development and Learning 3 cr.
Students will analyze, evaluate, and synthesize theories of human development and learning. Emphasis will be on learning and development throughout the life span. **Prerequisite:** Admission to the program.

ALS 820 Doctoral Seminar in Research Methods 3 cr.
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. **Prerequisite:** Admission to the program.

ALS 825 Critical Analysis of Issues in Education 3 cr.
Examines current issues and innovations which are influencing reform in basic and postsecondary education. Relationships between research, policymaking, and implementation will be emphasized. **Prerequisite:** Admission to the program.

ALS 830 Analysis of Effective Instruction 3 cr.
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:** Admission to the program.

ALS 845 Administrative Procedures 3 cr.
Presents a series of administrative seminars that focus on testing, contract obligations, human relations, federal and state initiatives, and evaluation of the organization. **Prerequisite:** Admission to the program.

ALS 850 School and Community 3 cr.
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. **Prerequisite:** Admission to the program.

ALS 852 School Evaluation 3 cr.
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. **Prerequisite:** Admission to the program.

ALS 856 School Administration 3 cr.
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. **Prerequisite:** Admission to the program.

ALS 858 School Law and Negotiations 3 cr.
An understanding of legal principles as they pertain to functions of personnel in public schools systems and to persons engaged in education. Study of statutory enactments, review of court actions through case studies, and analysis of collective negotiation law. **Prerequisite:** Admission to the program.

ALS 860 School Finance 3 cr.
Budgeting procedures in school finances, facilities, and management are presented. School budgeting, accounting, bonding, and various monetary applications are presented as well as the various procedures for acquiring funds. **Prerequisite:** Admission to the program.

ASL 881 Special Topics 3 cr.

ALS 882 Research Instrument Design for Leadership Studies 3 cr.
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:** Admission to the program.

ALS 883 Analysis of Qualitative Data in Leadership Studies 3 cr.
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:** Admission to the program.

ALS 898 Internship and Administration and Leadership Studies 3-6 cr.
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:** Admission to the program.

ALS 995 Dissertation 9 cr.

ANTH: Anthropology

Department of Anthropology

College of Humanities and Social Sciences

ANTH 514/* Native Americans 3 cr.
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.

ANTH 520 Archaeological Field School 3 cr.
Introduction to archaeological survey, field excavation, and laboratory processing. Field school students participate in one or more of the ongoing research projects of the IUP Archaeology Program.

ANTH 556/* Ethnographic Research Methods 3 cr.
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.

ANTH 560/* Ethnographic Field School 6 cr.
Ethnographic research training in the field. Emphasizes the application of qualitative research methods, the recording of data in research journals and the maintaining of field diaries, the categorizing and organizing of data, and the writing of research reports. **Prerequisite:** Permission of the instructor.

ANTH 581 Special Topics 3 cr.

ANTH 584/* Specialized Methods in Archaeology 3 cr.
Provides an opportunity to learn specialized techniques and approaches presently in use in archaeology. In any one semester, the course will concentrate on one of a range of possible themes. The specific topic varies but focuses on instructing in the mechanics of the selected technique, its application to real archaeological problems, and the interpretation of the results.

ANTH 610 Archaeological Laws and Ethics 3 cr.
Intensive examination of current legal and ethical issues involved in the practice of archaeology including an examination of laws affecting the excavation and study of archaeological sites and properties.

ANTH 612 Seminar in Cultural Resource Management I: Method and Theory 3 cr.
Discussion of the theory and methods involved in the current practice of cultural resource management and how these relate to the development of research designs, proposal writing, field strategies for archaeological survey and testing, and development of project budgets. **Prerequisite:** ANTH 610 or instructor permission.

ANTH 616 Pre-Columbian North American Archaeology 3 cr.
Covers the body of knowledge archaeologists have generated about the Pre-Columbian past of North America north of Mexico with emphasis on the Eastern Woodlands and explores significant substantive, theoretical, and methodological debates among archaeological scholars working in North America.

ANTH 618 Historical Archaeology 3 cr.
Provides an overview of historical archaeology, a discipline that combines the study of material culture with that of written documents as a means to gain an understanding of the peoples and cultures who lived during periods of recorded history. The course focuses on the United States since the sixteenth century, paying special attention to the contributions that historical archaeology has made to our understanding of Euro-American, Native American, and African-American peoples.

ANTH 625 Public Archaeology 3 cr.
Focuses on methods and theory of presenting archaeology to the public with special emphasis on recent scholarship and on national and regional styles of doing public archaeology. Students learn skills for designing and presenting programs about archaeology to a variety of audiences.

ANTH 694/* Anthropology Seminar 3 cr.
Considers conceptual problems and definitions in anthropology. Formulations of a variety of research problems central in anthropology emphasized.

ANTH 698 Internship 3 cr.
Involves a supervised experience, either on or off campus, in organizations utilizing archaeological skills in public or private settings. These settings include cultural resource management companies, government agencies, private nonprofit organizations, tribal governments, and museums but may not be taken at a student's normal place of employment, as the internship is an opportunity to expand experience in the field of applied archaeology. **Prerequisite:** 18 hours of graduate credit and permission of the graduate coordinator.

ANTH 699 Independent Study

ANTH 714 Seminar in Cultural Resource Management II: Analysis and Interpretation 3 cr.
Discussion of the theory and methods involved in the current practice of cultural resource management and how these relate to data analysis and interpretation of survey and testing projects, assessment of site significance, development of research strategies for excavation projects, and report writing. **Prerequisite:** ANTH 612 or instructor permission.

ANTH 720 Issues in Historic Preservation 3 cr.
Designed to examine the history, theory, and current issues of preservation practice in the United States. Will discuss theories of what, how, and why we preserve, within the context of the evolution of the field of historic preservation. The focus will be on exploring current issues in the field of history preservation and the role of applied archaeology. **Prerequisite:** ANTH 612 or instructor permission.

ANTH 730 Archaeology of Pennsylvania 3 cr.
Detailed examination of the archaeology of Pennsylvania and surrounding states from the initial colonization by humans through the nineteenth century, with special emphasis on the culture history, cultural ecology, and ethno-history, as well as vernacular and industrial site archaeology. **Prerequisite:** ANTH 616 and ANTH 618 or instructor permission.

ANTH 740 Advanced Archaeological Field Methods 3-6 cr.
Advanced instruction in survey and excavation field methods and technology with an emphasis on the application of research designs to field settings, and the logistics of supervising field projects. **Prerequisite:** Undergraduate field school and ANTH 612 or instructor permission.

ANTH 745 Seminar in Archaeological Interpretation 3 cr.
Focuses on the quantitative and qualitative interpretation of an archaeological project's often varied data for the purpose of generating higher-level interpretations of past lifeways, sociopolitical processes, and culture change. Although the course includes a consideration and critique of the methods used to generate the data sets themselves, the emphasis is on how such data is used—and its potential for misuse—in interpretation. **Prerequisite:** ANTH 612, ANTH 714, or instructor permission.

ANTH 795 Thesis 3-6 cr.
All students will be required to complete a thesis which can be either in the form of a policy paper or a comprehensive report on an archaeological project. The policy paper would be developed during an internship at a state or federal agency. The report would result from a project conducted as part of an advanced field project. **Prerequisite:** Permission of the department graduate committee.

APMU: Applied Music

Department of Music
College of Fine Arts

Applied Music (APMU 601-772) 1-4 cr.
The following courses will be taught in the form of private lessons geared to the 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.

APMU 601, 651, 701, 751	Private Piano
APMU 602, 652, 702, 752	Private Organ
APMU 603, 653, 703, 753	Private Harpsichord
APMU 605, 655, 705, 755	Private Voice
APMU 606, 656, 706, 756	Private Violin
APMU 607, 657, 707, 757	Private Viola
APMU 608, 658, 708, 758	Private Cello
APMU 609, 659, 709, 759	Private Bass Viol
APMU 610, 660, 710, 760	Private Flute
APMU 612, 662, 712, 762	Private Oboe
APMU 613, 663, 713, 763	Private Bassoon
APMU 614, 664, 714, 764	Private Saxophone
APMU 615, 665, 715, 765	Private Trumpet
APMU 616, 666, 716, 766	Private French Horn
APMU 617, 667, 717, 767	Private Trombone
APMU 618, 668, 718, 768	Private Euphonium
APMU 619, 669, 719, 769	Private Tuba
APMU 620, 670, 720, 770	Private Percussion
APMU 621, 671, 721, 771	Private Guitar
APMU 622, 672, 722, 772	Private Conducting

ARHI: Art History

Department of Art
College of Fine Arts

ARHI 581 Special Topics 3 cr.

ARHI 682 Graduate Seminar in Art History 3 cr.
Considers current topics and various periods of art addressed in recent literature. These may deal with new discoveries of newly published works, methodological approaches, ideological issues, and controversies in the field. The concentration will vary and will concentrate on one area for the entire semester, i.e., Asian Art or Medieval Art. Students will be required to research an issue and present their results in written form, as well as in an informal class lecture. **Prerequisite:** Graduate standing and/or advanced art history major (undergraduate by permission of instructor).

ARHI 683 Graduate Seminar in Theory and Criticism 3 cr.
Introduces students to some of the most important theories shaping the world of visual art today. The course will not only contextualize these theories historically and culturally but also offer various opportunities of applying them.

*Indicates dual-listed class

ART: Art

Department of Art
College of Fine Arts

ART 557 Graduate Studio in Print Media 3-18 cr.
Exploration of print media from a conceptual and technical perspective, including traditional and nontraditional approaches. The student may concentrate on intensive exploration of one medium in depth or explore a number of media for breadth of experience. This course is designed for both beginning and advanced students. **Prerequisite:** Graduate art student standing.

ART 559 Graduate Studio in Fibers 3-18 cr.
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.

ART 560 Graduate Studio in Jewelry and Metals 3-18 cr.
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.

ART 572 Graduate Studio in Ceramics 3-18 cr.
All aspects of hand forming, 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.

ART 573 Graduate Studio in Sculpture 3-18 cr.
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.

ART 574 Graduate Studio in Oil Painting 3-18 cr.
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.

ART 575 Graduate Studio in Drawing 3-18 cr.
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.

ART 576 Graduate Studio in Woodworking 3-18 cr.
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.

ART 581 Special Topics 3 cr.

ART 615 Art Seminar 3 cr.
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.

ART 680 Graduate Studio Critique 3 cr.

A multidisciplinary course for studio majors seeking the M.A. and M.F.A. degrees. Selected studio faculty and all graduate students will meet weekly to critique work and projects in progress. Enables students with techniques for leading and participating in the group critique process as a vehicle for growth and understanding. **Prerequisite:** Graduate student standing.

ART 681 Special Topics 3 cr.**ART 698 Internship** 3 cr.**ART 699 Independent Study** 3 cr.

ART 795 Thesis 3 cr.
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.

BIOL: Biology

Department of Biology

College of Natural Sciences and Mathematics

BIOL 505/* Biology of the Cell 3 cr.

This course introduces students to the cellular and molecular mechanisms by which individual cells grow, receive and respond to internal and external signals, and move. The course will discuss the latest advances in the discipline, and the students will be expected to utilize the current literature on their own as a means of building critical thinking skills. The student-centered laboratory portion of the course will emphasize individual and group activities. **Prerequisite:** BIOL 111, CHEM 231, or permission of the instructor.

BIOL 525/* Herpetology 3 cr.

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.

BIOL 550/* Pymatuning: Field Studies 3 cr.

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.

BIOL 553/* Plant Physiology 3 cr.

Physiological processes occurring in plants are considered in relation to growth, development, and ecology of plants.

BIOL 555/* Animal Behavior 3 cr.

The biological study of animal behavior. Topics include the mechanisms, development, ecology, and evolution of behavior. **Prerequisite:** BIOL 220 or permission of the instructor.

BIOL 556/* Ecological Toxicology 3 cr.

A study of the impact of chemical pollutants and other stresses on nonhuman biological systems from the subcellular to ecosystem levels. An ecological risk assessment will be conducted in the field and laboratory settings.

Prerequisite: One year Biology, one year Chemistry.

BIOL 560/* Fundamentals of Environmental Epidemiology 3 cr.

Study of the health consequences of involuntary exposure to harmful chemical and biological agents in the general environment. Disease etiology, occurrence, and intervention in human populations will be examined through epidemiologic study using analytical methods and applications. **Prerequisite:** MATH 216 or 217; BIOL 104 or 112; or permission of the instructor.

BIOL 563/* Limnology 3 cr.

An investigation into the physical, chemical, and biological aspects of inland waters and their interrelationships. Saturday or Sunday labs may be required. **Prerequisite:** Ecology.

BIOL 564 Immunology 3 cr.

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.

Prerequisite: Biochemistry and Microbiology.

BIOL 566/* Principles of Virology 3 cr.

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 sub viral pathogens.

BIOL 571/* Dendrology of the Eastern U.S. 3 cr.

A field course that examines the taxonomy, morphology, and ecology of the tree species in the eastern portion of North America. The forests of Pennsylvania will be emphasized in the course.

BIOL 573/* Seedless Vascular Plants: Ferns and Allied Flora 3 cr.

A comprehensive survey of morphological and habitat characteristics of seedless vascular plants (generally ferns and their allies) of Pennsylvania and the surrounding states. **Prerequisite:** BIOL 210.

BIOL 575/* Mammalogy 3 cr.

General discussion of mammals, emphasizing systematics, distribution, and structure-function modifications related to their evolution. A paper is required.

BIOL 576/* Parasitology 3 cr.

The parasitic protozoa, flatworms and roundworms. Major emphasis is on species infesting man and includes their structure, physiology, ecology, life cycles, and pathogenicity. Arthropods involved in parasite transmission included. **Prerequisite:** One year Biology, Vertebrate and Invertebrate Zoology.

BIOL 577/* Neurobiology 3 cr.

This course presents the underlying mechanisms through which the nervous system mediates behavior, from the molecular to the organismal level. This course emphasizes two major themes: 1) the roles of synapses and neuronal excitability in shaping the input/output functions of neurons and neuronal networks, and 2) the role of neuronal development and neuronal experience upon resultant neuronal organization. **Prerequisite:** BIOL 111, or 105, or 151; or PSYC 350; or permission of instructor.

BIOL 581 Special Topics 3 cr.**BIOL 602 Biometry** 3 cr.

The choice and application of standard, efficient, practical, and appropriate statistical techniques for data analyses in common biological situations. Computer instruction emphasizes 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.

BIOL 603 Advanced Techniques in Biology 1-3 cr.

Introduction to advanced techniques and procedures used in biological research. Topics vary. **Prerequisite:** Permission.

BIOL 611 Biology Seminar I 1 cr.

Develops essential skills for the professional biologist, including public presentation of biological information and the ability to critique biological data and ideas.

BIOL 612 Biology Seminar II 1 cr.

Develops essential skills for the professional biologist, including writing of research proposals and presentation of seminars. **Prerequisite:** BIOL 611.

BIOL 621 Biology of Animal Taxonomy 3 cr.

Study of classification system and its application to identification of animals. Basic principles of taxonomy rules of nomenclature, a synoptic history of classification, and the "old" and "new" taxonomy rules will be included. A taxonomic field study is required.

BIOL 622 Advanced Ornithology 3 cr.

A detailed study of bird populations, behavior, and movement, including the annual cycle. **Prerequisite:** Ability to identify local birds visually and by their songs.

BIOL 623 Animal Morphogenesis 3 cr.

Factors that influence and control the differentiation of organs, tissues, and cells. Emphasis placed on experimental procedures and methods.

Prerequisite: Embryology or Comparative Anatomy, Organic Chemistry, and Genetics.

BIOL 624 Advanced Entomology 3 cr.

Insect morphology, including external and internal organization of different species of insects. Comparisons between species included. An independent research study and seminar presentation required.

BIOL 631 Plant Ecology 3 cr.

Nature and distribution of vegetation in relation to environmental factors. Field investigations of local plant communities constitute bulk of lab work.

Prerequisite: Field Botany, Plant Taxonomy, or general knowledge of local flora.

BIOL 640 Animal Ecology 3 cr.

Effect of environmental factors on animals; animals as members of communities, their trophic relationships, their ecological distribution and population dynamics; and aspects of animal behavior. A field or lab problem is required.

BIOL 641 Population and Community Ecology 3 cr.

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.

BIOL 645 Behavioral Ecology 3 cr.

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.

BIOL 650 Plant Systematics 3 cr.

Introduces students to history, theory, literature, sources, and interpretation of plant systematic data and to methods of plant collection and identification.

BIOL 651 Physiological Ecology of Animals 3 cr.

A consideration of physiological responses of animals to environmental variables with emphasis on the evolutionary aspects of the response. The physiology of invertebrates and vertebrates in aquatic and terrestrial environments will be considered. **Prerequisite:** A course in physiology or permission of the instructor.

BIOL 653 Animal Physiology 4 cr.

Digestion and molecular transport of nutrients, gaseous exchanges, excretion, muscular activity and control, and endocrine and neural elements.

Prerequisite: Animal Biology.

BIOL 662 Molecular Genetics of Eukaryotes 3 cr.

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. **Prerequisite:** Genetics, Organic Chemistry, and Biochemistry or permission of the instructor.

BIOL 664 Pathogenic Microbiology 3 cr.

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.

BIOL 681 Special Topics 1-3 cr.

Advanced topics in biology. **Prerequisite:** Permission of instructor.

BIOL 699 Independent Studies 1-3 cr.

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.

BIOL 795 Thesis 2-6 cr.

NOTE: Summer courses offered at the Pymatuning Laboratory of Ecology may be taken for biology elective credit.

*Indicates dual-listed class

BLAW: Business Law

Department of Finance and Legal Studies

Eberly College of Business and Information Technology

BLAW 581 Special Topics in Business Law 1-3 cr.

Covers advanced or exploratory topics within the discipline. Specific content developed by the instructor. Content will vary, depending upon the interests of the instructor and students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of the instructor and the Eberly College of Business and Information Technology graduate coordinator.

BLAW 633 Case Problems in Business Law 3 cr.

Deals with solution of case problems as applied to various topics in the field of business law. **Prerequisite:** BLAW 235 or equivalent.

BTED: Business Technology Education

Department of Technology Support and Training

Eberly College of Business and Information Technology

BTED 581 Special Topics 3 cr.**BTED/COMM 609 Innovations in E-Learning** 3 cr.

Discover the latest developments in e-learning and reflect on how they are changing relationships between teachers and technology. The course invites you to question what constitutes e-learning and why some technological innovations are adopted more readily than others. Hands-on experiences of new communication technologies and an understanding of their effects on teaching and learning practices will be integrated throughout the course.

BTED 693 Seminar in Teaching Business Subjects 3 cr.

Includes instruction in the methods of teaching and evaluating both the technology-oriented and cognitive-related courses in business education. Emphasis is placed on planning instruction, developing methods and strategies for making effective classroom presentations, delivering instruction, and managing the classroom. Opportunities will be provided to undertake the responsibilities assigned to the business classroom teacher, assume the teaching role competencies, and research current trends in the field.

BTED 694 Clinical Studies in Business Education 3 cr.

Examines the historical and philosophical perspectives of business and technology education. Includes observations of classes at the secondary, community college, and industry training levels. Interviews of staff in educational settings will be included to provide in-depth information on trends in business and technology education.

BTED 695 Professional Semester—Student Teaching 6 cr.

Provides experience in teaching at the secondary level in a business education program and coordination and visitation by a university faculty member with supervision by a cooperating teacher. Efforts are made to provide opportunities to work with students who have special needs and/or who come from diverse cultural backgrounds. Students enrolling in BTED 695 must meet all requirements for admission to Teacher Certification.

BTED 699 Independent Study in Business Education 1-3 cr.

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 Eberly College of Business and Information Technology dean.

BTST: Business Technology Support and Training

Department of Technology Support and Training

Eberly College of Business and Information Technology

BTST 581 Special Topics in Business Technology 1-3 cr.

Covers advanced or exploratory topics within the discipline. Specific content is developed by the instructor. Content will vary, depending upon the interests of the instructor and the students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

- BTST 614 Instructional Computing Basics** 3 cr.
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 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 are also discussed.
- BTST 631 Interactive Multimedia** 3 cr.
Provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education.
Prerequisite: BTST 614 or permission of the instructor.
- BTST 642 Training and Development in Business/ Workforce Development** 3 cr.
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 is included on topics such as computer literacy, desktop publishing, and telecommunications.
- BTST 644/* IT Policy and Strategy** 3 cr.
This course investigates strategic perspectives for aligning competitive strategy, core competencies, and information systems. Students will study the development and implementation of policies and plans to achieve organizational goals. They will also define the systems that support the operational, administrative, and strategic needs of the organization, its business units, and individual employees. Students will study and apply different approaches to managing the information systems function in organizations, including examination of the dual challenges of effectively controlling the use of well-established information technologies. Students will also study the different roles of the chief information officer.
- BTST 650 Issues and Trends in Business/Workforce Development** 3 cr.
Utilizing state-of-the-art technology, explores current issues and trends in business and technology education. Topics include the integration of technology in the classroom and trends in educational initiatives. Participants have an opportunity to use the Internet as a research tool, a high-tech workstation, and the latest presentation software.
- BTST 655 Emerging Information Technologies** 3 cr.
This course is designed to provide participants with up-to-date experience in areas of rapidly changing technology in end-user environments. Offerings will focus on topics of particular interest to Information Technology Support professionals and resource management techniques applied to business situations. Participants will be provided with up-to-date experience in integrating new technologies into the enterprise. Areas of concentration include software solutions and hardware environments.
- BTST 656 Applied Research in Business/Workforce Development** 3 cr.
An examination of methods and techniques of research in office systems and business education. Students select a research topic and conduct an actual study on an individualized basis or as part of a small group. A formal research report is an end product of the course. **Prerequisite:** GSR 615.
- BTST 663/* Project Management for Information Technology Professionals** 3 cr.
This course investigates strategies for managing projects within an organizational context, including the processes related to initiating, planning, executing, controlling, reporting, and closing a project. Students will study project integration, scope, time, cost, quality control, and risk management. Students will identify project champions and will work with user teams, training, and documentation. Students will also investigate the role of the information systems specialist.
- BTST 665 Information Security in the Enterprise** 3 cr.
Provides a broad overview of the threats to the security of information systems, with emphasis on the tools for information security, and areas of training and emphasis needed in organizations to reach and maintain a state of acceptable security.
- BTST 670 Organizational Communication** 3 cr.
This course investigates all levels of organizational communication. Students will identify, evaluate, and develop communications appropriate for various internal and external constituents of the corporation. In this process, students learn principles of corporate imaging, identity, and reputation building. Students will study and apply advanced communication skills required for leadership, executive responsibilities, and group dynamics. Emphasis will be on active learning. Cases and exercises will help develop team-building skills and insights on the problems faced by teams. The influence of emerging team structures will be explored through simulations and various communication technologies, including the virtual environment.
- BTST 675 Web Design Theory and Application** 3 cr.
Emphasis on the integration of research and the creation of websites to support users' information needs. Covers research strategies, website design, implementation, and evaluation..
- BTST 680 Technical Update** 1-3 cr.
Designed to provide students with up-to-date experiences in areas of rapidly changing technology. Offerings focus on topics of particular interest to business teachers in high-technology settings.
- BTST 681 Special Topics** 3 cr.
- BTST 682/* Integrating the Enterprise, IS Function, and Technologies** 3 cr.
This course investigates the information systems role in transforming organizations and industries. Students will study an integrated view of the organization from an external and internal perspective. Students will also study IS's internal role in integrating the enterprise through a cohesive set of business processes and functional applications to meet business needs. Students will discuss the tactical/operational responsibilities and roles of the chief information officer and governance considerations that link the IS-business organizations. Students will study the current/emerging issues in creating and coordinating the key activities necessary to manage the day-to-day operations of the IS function. Students will also study the development of an integrated technical architecture to serve organizational needs in a rapidly changing competitive and technological environment.
- BTST 698 MBA Internship** 1.5 cr. or 3 cr.
A planned, field-based, individually designed and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.
- BTST 699 Independent Study in Business** 1-3 cr.
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 Eberly College of Business and Information Technology dean.
- BTST 795 Thesis** 1-3 cr.
- Child Development and Family Relations**
Department of Human Development and Environmental Studies
College of Health and Human Services
- CDFR 526/* Techniques of Parent Education** 3 cr.
Focuses on scope and aims of parent education movement. Methods of helping families become more effective in their parent-child relationships are examined.
- CDFR 527/* Administration of Child Development Centers** 3 cr.
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.
- CDFR 581 Special Topics** 3 cr.
- *Indicates dual-listed class

CHEM: Chemistry

Department of Chemistry

College of Natural Sciences and Mathematics

CHEM 500 Special Studies 1-6 cr.

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.

CHEM 521/* Advanced Instrumental Methods of Analysis 3 cr.

Modern instrumental analysis, including electrical, spectrophotometric, x-rays, gas chromatography, and other methods. Four-hour lecture/laboratory.

CHEM 531/* Organic Molecular Structure Determination 3 cr.

Gives student experience in systematic identification of various classes of organic compounds by both chemical and physical methods. Four-hour lecture/laboratory.

CHEM 535/* Current Topics in Organic Chemistry 3 cr.

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.

CHEM 540/* Physical Chemistry (core course) 3 cr.

An introduction to spectroscopy and molecular structure. Lecture—three hours.

CHEM 581 Special Topics 3 cr.**CHEM 600 Seminar** 1 cr.

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.

CHEM 610 Inorganic Chemistry (core course) 3 cr.

Theoretical inorganic chemistry and, in particular, structure, periodicity, coordination chemistry, bonding, and chemistry of nonaqueous solvents. Lecture—three hours.

CHEM 620 Analytical Chemistry (core course) 3 cr.

Theoretical principles of analytical chemistry. Lecture—three hours.

CHEM 623 Physical and Chemical Methods of Separation 3 cr.

Application of chromatographic methods to the quantitative separation and analysis of chemical systems. Topics will include gas, column, paper and ion exchange chromatographic methods, and other methods of separation as time permits. Lecture—2 hours; laboratory—4 hours.

CHEM 630 Organic Chemistry (core course) 3 cr.

Principles of physical chemistry will be applied to the study of organic reaction mechanisms. Lecture—three hours.

CHEM 646 Biochemistry 3 cr.

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.

CHEM 681 Special Topics 3 cr.**CHEM 690 Research** 1-6 cr.

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.

CHEM 699 Independent Study 1-6 cr.

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.

CHEM 795 Thesis 4 cr.

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.

*Indicates dual-listed class

COMM: Communications Media

Department of Communications Media

College of Education and Educational Technology

COMM 503 Scriptwriting 3 cr.

Provides an introduction to scriptwriting for films and filmstrips. Various styles and techniques of writing will be analyzed, and each student is expected to experiment with the techniques presented. Emphasis on writing and in-class criticism of student script.

COMM 508/* Media Field Studies 3 cr.

A hands-on course designed to help students learn about the production process involving on-location production. The course will have three distinct phases. Students begin with research and pre-production tasks on campus, travel to an off-campus site to collect additional information and images, and use those images to complete a production. Students are responsible for travel expenses. **Prerequisite:** Permission from the instructor.

COMM 571 Beginning Photography 3 cr.

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, contact printing, and enlarging. Each student must have manual focusing and manual exposure setting capability. No previous photographic experience is necessary.

COMM 572 Photography II: Print 3 cr.

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. 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. **Prerequisite:** COMM 571 with a minimum grade of C.

COMM 581 Special Topics 3 cr.

Advanced topics, offered on an experimental basis, within the discipline of communications but not dealt with in other courses. **Prerequisite:** Permission of the instructor.

COMM 590 Improving Professional Practice in Instructional Settings 1-3 cr. and**COMM 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

COMM 600 Instructional Design and Development 3 cr.

Examines the systems approach for the design, development, and evaluation of instructional material (print, video, multimedia, etc.). Students learn about the history of instructional technology and its current applications. Each student produces a self-instructional prototype which requires the student to systematically and creatively apply the concepts and rules learned in the class.

COMM 601 Media Production 3 cr.

Students learn how to systematically plan, produce, use, and evaluate media. Each student produces different types of messages (motivational, informational, and instructional), using a variety of media.

- COMM 614 Instructional Computing Basics** 3 cr.
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 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 are also discussed.
- COMM 631 Interactive Multimedia** 3 cr.
Provides an introduction to designing and producing computer-generated multimedia presentations and courseware for industry and education.
Prerequisite: COMM 614 or permission of the instructor.
- COMM 681 Special Topics** 3 cr.
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.
- COMM 698 Internship** 2-6 cr.
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.
- COMM 699 Independent Study** 1-3 cr.
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. **Prerequisite:** Successful completion of the basic course in the medium selected; the professor's approval.
- COMM 801 Ideas That Shape Media** 3 cr.
Provides a detailed analysis of prevailing theories of media, cultural influences, and communication. Students read milestone research, discuss the impact that culture and media have on each other, and analyze how technology, technique, and culture collide to create various forms of communication. The course also focuses on trends in Communications Media and Instructional Technology.
- COMM 812 Media Ethics** 3 cr.
Analyzes ethical problems, using established theories, research, and personal insights. Discussions focus on ethics within the communications media and instructional technology field. Students will complete research and case study activities that require them to provide possible solutions to ethical problems in the field.
- COMM 822 Children and Media** 3 cr.
Analyzes the scope of media in relationship to children. Also examines the impact that media have on children in terms of behavior and culture, as well as the influence children have in shaping the media. Students will read and analyze current literature pertaining to the theoretical cause-and-effect patterns of communications and media on socialization patterns, overall growth and development, and changing learning, performance, and enhancement trends among children and adolescents.
- COMM 825 Quantitative Methods in Communication Research** 3 cr.
Presents students with methods to conduct quantitative research in the communications theoretical and applied domains. Provides students with the necessary skills to plan for and interpret quantitative data. Students will learn the fundamentals of quantitative modeling and statistical analysis to develop and answer communication problems. Students become familiar with principles for formulating hypotheses, selecting experimental and quasi-experimental designs, and using statistical software and other resources to conduct and interpret quantitative findings.
- COMM 828 Qualitative Methods in Communications Research** 3 cr.
Students will examine the theoretical basis and history of qualitative methods within the field of communications media and instructional technology. They will become familiar with primary qualitative methods and then apply that knowledge to important studies within the field. They will also design and implement qualitative research strategies in research exercises.
- COMM 832 Media Production** 1-6 cr.
This production course may be taken for variable credit between one and six credits. It provides students with an array of media production skills related to audio, video, photographic, typographic, two-dimensional design, and web-related production skills. The course is presented in modular form with each module equaling one credit. A student may test out of any or all of the modules but must substitute the credits with an elective approved by the student's advisor.
- COMM 846 Instructional Media Solutions** 3 cr.
Analyzes the varied theoretical approaches to the design, development, implementation, and evaluation of media solutions to human competency problems. Students discuss models of performance analysis and policies, strategies, and tactics for developing competence, including instructional design. Students are required to analyze existing instructional systems and present recommendations for improving those systems, based on models and strategies discussed in class.
- COMM 853 Corporate Communications** 3 cr.
Provides students with the necessary skills to design, inform, and implement communications media strategies within the corporate environment. Students will learn the importance of communication and its impact on the affected publics. Through developing written, oral, and managerial communication, students will be able to execute multidirectional communication within a corporate setting. Students will explore corporate communication functions, including internal communication, corporate promotions, and marketing communications.
- COMM 857 Doctoral Seminar in Communications Culture and Technology** 3 cr.
Provides an advanced forum in which to research, discuss, and document current and emerging topics, issues, and applications in communication technology. Serves to offer students the opportunity to conceptualize and develop models and strategies for group problem solving. Emphasis will be placed on students, applying this knowledge to in-class group problem solving. Students will work in a group(s) to formulate and implement a detailed plan for solving an organizational problem.
- COMM 860 Media Preproduction** 3 cr.
Focuses on preproduction activities such as script treatments, storyboarding, scriptwriting, editing, and production management. Students analyze case studies and real-world situations to better understand the planning of media development. Students also develop a preproduction plan for a substantial media production in the areas of audio, video, film, photography, animation, games, simulation, and educational media.
- COMM 876 On-line Media** 3 cr.
Introduces students to the development and distribution of media via satellite, broadband, and other digital delivery systems. Students will discuss production, fiscal, ethical, and technological issues surrounding streaming, file sharing, wireless connectivity, and pod casting. In the majority of the course, students will develop a production with audio and video components for on-line distribution and give justification for the selected strategies.
- COMM 881 Special Topics** 3 cr.
Will allow the department to develop and formatively evaluate potential new courses, especially electives, within the program. Will also allow the department to develop and deliver courses that are reactive to events and circumstances within the field that may lead to a one- or two- time offering of a course.
- COMM 882 Simulations and Games** 3 cr.
Focuses on the design, development, and distribution of electronic games and simulations. Discussions will focus on ethics, controversies, and economics of the gaming industry. The role of instructional, promotional, and entertainment-based simulations will be discussed. Students will learn to use advanced multimedia production tools to create simulations and games for varied purposes, accompanied by a written explanation of selected strategies.

COMM 900 Culture of Cyberspace 3 cr.

Presents both the business and production of multimedia development and the development of interactive multimedia environments, including kiosks, commercial web sites, educational software, and games. Students complete case studies, including needs assessment, audience analysis, cost analysis, goal analysis, and evaluation and then develop an interactive multimedia solution to a complex communication problem.

COMM 910 Advanced Doctoral Research in Communications 3 cr.

Serves as an advanced experience to assure students are prepared to do professional research in communications. Students will design a complete communications research project suitable for professional presentation and publication. Their work will encompass research design, measurement techniques, statistical procedures, and philosophies of research. Quantitative and qualitative approaches will be considered. Also covered are practical points such as data collection and generation strategies, concept definitions, database structure, and report design. **Prerequisite:** EDSP 817 or equivalent, COMM 825, and COMM 828.

COMM 995 Dissertation 1-12 cr.

Provides the student with an opportunity to complete and defend the dissertation. Constitutes the completion of the entire program of study. All coursework must be completed before the student can register for dissertation credits; therefore, all courses in the program are prerequisites. Additionally, the student must have successfully completed the proposal defense.

*Indicates dual-listed class

COSC: Computer Science

Department of Computer Science

College of Natural Sciences and Mathematics

COSC 581 Special Topics in Computer Science 3 cr.

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.

COSC 604 Elements of Internet Programming 3 cr.

The focus will be on writing platform-independent, object-oriented programs that are usable across the Internet. The language uses a write-once, run-anywhere approach, while providing adequate security. The course will cover input and output, applets, graphics primitives, control structures, encapsulation, inheritance and polymorphism, event-based processing, animations, multithreading, exception handling, sandbox security, networking, and java beans. **Prerequisite:** COSC 110 or equivalent programming course.

COUN: Counselor Education

Department of Counseling

College of Education and Educational Technology

COUN 590 Improving Professional Practice in Instructional Settings and 1-3 cr.**COUN 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. The course may focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. This course is offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

COUN 610 Introduction to Community Counseling 3 cr.

Provides an introduction to the work of the community counselor in a variety of roles in many different settings.

COUN 615 Counseling Across the Life Span 3 cr.

Examines theories of human growth and development across the lifespan as well as counseling theories, methods, and techniques that could be used to help clients/students address developmental challenges.

COUN 617 Basic Counseling Skills 3 cr.

Practice in developing effective basic counseling skills, including active listening, attending, building rapport, and demonstrating empathy. Observing, interviewing, and consulting procedures are developed.

COUN 618 Multicultural and Diversity Issues in Counseling 3 cr.

An overview of diversity issues in the field of counseling. Students increase their awareness of cultural issues, identity, and personal values, acquire knowledge of diverse groups, and learn culturally appropriate counseling skills. **Prerequisite:** None.

COUN 621 Introduction to Professional School Counseling 3 cr.

Provides an overview of the history and current trends in professional school counseling, specifically focusing on the role of the professional school counselor within a comprehensive, developmental school counseling program that is based on the American School Counseling Association National Model and applicable state models of school counseling.

COUN 624 Assessment Procedures for School Counselors 3 cr.

Basic statistical and measurement concepts utilized in testing and test interpretations in schools. Emphasis is also placed on the selection, administration, and interpretation of formal and informal assessment procedures that facilitate career, personal/social, and academic development in school settings.

COUN 626 Career Education in the Schools 3 cr.

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. **Prerequisite:** COUN 624.

COUN 627 Child Counseling and Consulting Theories 3 cr.

Theories, objectives, principles, and practices of counseling and consulting are covered. Emphasis is placed on techniques and practices related to children. **Prerequisite:** COUN 617.

COUN 628 Management of a Professional School Counseling Program 3 cr.

Helps the school counselor acquire the necessary competencies to organize and manage a professional school counseling program. Emphasis is on planning, designing, implementing, evaluation, and enhancing the school counseling program. **Prerequisite:** COUN 621.

COUN 629 Group Procedures (Child) 3 cr.

Emphasis is placed upon understanding and developing group techniques related to the development and growth of children. Group counseling with children is covered. **Prerequisite:** None.

COUN 634 Assessment Procedures for Community Counselors 3 cr.

Provides an overview of the fundamental knowledge of assessment principles and procedures used in community counseling. Standardized and nonstandardized testing will be covered and include statistical concepts such as standard scores, reliability, validity, norm groups, and commonly used instruments. Alternatives to standardized testing will be covered as methods to appraise individuals' abilities to live, learn, and work in the community.

COUN 636 Career Counseling and Development (Community) 3 cr.

An overview of the individual career development process from various theoretical perspectives. Also details the process of career planning and career counseling in community settings.

COUN 637 Counseling and Consultation Theories (Adolescent/Adult) 3 cr.

Individual counseling and consulting theories with adolescents and adults and their corresponding interventions are covered. A focus on client conceptualization and the formation of theory-specific change plans is also included. **Prerequisite:** COUN 617.

COUN 639 Group Counseling 3 cr.

Emphasis placed upon adolescent and adult groups, including the nature and variety of groups, the process involved in the development of group dynamics, the formation and operation of groups, the organization and structure of groups, and the influence of groups. **Prerequisite:** COUN 617, COUN 637.

- COUN 657 Individual Counseling Practicum (Adolescent/Adult)** 3 cr.
Supervised counseling experience under practicum conditions. Emphasis will be placed on implementing relationship-building skills while developing advanced methods of facilitating the counseling process. **Prerequisite:** COUN 637.
- COUN 659 Group Counseling Skills (Adolescent/Adult)** 3 cr.
Provides a supervised clinical experience to develop and practice group counseling facilitation skills appropriate to the various stages of a counseling group. **Prerequisite:** COUN 617 and COUN 639.
- COUN 667 Individual Counseling Practicum (Child)** 3 cr.
Provides a child counseling experience in applying appropriate interventions and consultation practices designed to facilitate the personal, social, and academic growth of children. **Prerequisite:** COUN 627.
- COUN 669 Group Counseling Practicum (Child)** 3 cr.
An experientially based course in which counselors in training learn how to manage group counseling experiences involving children (ages five to twelve). This supervised clinical experience draws upon the knowledge, theories, and skills presented in COUN 629, Group Procedures. **Prerequisite:** COUN 617, COUN 629.
- COUN 670 Human Sexuality Issues for Counselors** 3 cr.
Provides an overview of human sexuality issues for counselors and examines the role of sexuality in human adjustment, dynamics of individual/societal sexuality issues, and counseling approaches. **Prerequisite:** COUN 615.
- COUN 671 Introduction to Diagnostic Issues for Counselors** 3 cr.
Provides an introduction for counseling students to the various mental disorders with a focus on the history of the major classification system, definitions of various disorders, and the corresponding diagnostic criteria. Furthermore, current research on treatment approaches for counseling professionals is examined. Finally, this course is designed to help students view the mental health needs and challenges of clients from a lifespan and multicultural perspective. This course is introductory and is designed for individuals who have little/no experience in diagnostic issues and little/some experience in counseling. **Prerequisite:** COUN 634.
- COUN 672 Introduction to Family Issues in Counseling** 3 cr.
Provides an introductory overview of the major issues, theories, research, and intervention implications for the preparation of counselors to work with families. **Prerequisite:** COUN 617 and COUN 627 or COUN 637.
- COUN 673 Wellness-Based Counseling** 3 cr.
Definitions and models of wellness are presented. A theoretical model of human change processes is examined. Using a specific model of wellness in combination with the model of change, students explore human change and wellness from personal and interpersonal perspectives. Current methods and research on habit change, incorporating concepts of commitment, adherence, and maintenance of change are considered.
- COUN 674 Addictions and Addictions Counseling** 3 cr.
This three-credit elective course provides an opportunity to develop an understanding of the addictive process and its relation to counseling clients with a variety of chemical and behavioral addictions. The course examines theories, techniques, and practices of addictive behavior and addictions counseling. Student competencies are enhanced by participation in activities addressing theoretical, as well as practical, knowledge of addictions counseling.
- COUN 681 Special Topics** 3 cr.
- COUN 699 Independent Study** 1-3 cr.
Topic pertinent to the individual's program of study. By permission of department chairperson and advisor only.
- COUN 720 Ethical and Legal Issues in School Counseling** 3 cr.
Designed to examine the professional, ethical, and legal issues that impact the practice of the professional school. Considerable emphasis is placed upon the understanding and application of ethical standards and legal statutes that affect professional school counselors when counseling and making critical decisions about students. **Prerequisite:** COUN 621.
- COUN 730 Ethical and Legal Issues in Community Counseling** 3 cr.
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. **Prerequisite:** COUN 610. Students enrolled in M.Ed. program are restricted from taking this course.
- COUN 738 Advanced Counseling Theory: Specific Theoretical Approach** 3 cr.
This course extends beyond Counseling Theory (COUN 637) as it provides in-depth exploration of a specific counseling theory, including its origins, development, and range of individual and group counseling applications. Emphasis is on learning and practicing therapeutic intervention strategies rooted in this theoretical approach. This course can be taken up to three times, focusing on a different counseling theory. **Prerequisite:** COUN 617, 637 or equivalents.
- COUN 755 Field Experience** 3 cr.
Provides a supervised field placement for students in the Counseling programs. The plan and scope of the field experience will be determined by the student and supervising faculty on an individual basis. May be repeated for a maximum of six credits. **Prerequisite:** Core and population-specific courses.
- COUN 795 Thesis** 3 cr.
- COUN 798 Internship in Counselor Education** 3 cr. or 6 cr.
The internship provides an opportunity to apply didactic experiences in an actual work setting. Sites must be approved by the department.
- CRIM: Criminology**
Department of Criminology
College of Health and Human Services
- CRIM 600 Criminological Theory** 3 cr.
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.
- CRIM 601 Proseminar** 3 cr.
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.
- CRIM 605 Research Methods** 3 cr.
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.
- CRIM 610 Legal Issues in Criminology** 3 cr.
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.
- CRIM 630 Seminar in Administration and Management in Criminal Justice** 3 cr.
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.
- CRIM 631 System Dynamics in Administration of Justice** 3 cr.
A study of dynamic systems and analytical techniques relevant for understanding new perspectives of the administration of justice. Required of all master's students.
- CRIM 632 Organizational Dynamics within the Criminal Justice System** 3 cr.
An examination of organizational and systems theories, concepts, applications, and research within the criminal justice system. Attention is given to the role organizations play independently and collectively in the administration of justice. Required of all master's students.

- CRIM 645 The Dynamics of Cybercrimes** 3 cr.
An examination of the current and future issues in cybercrimes. Emphasis will be given to criminals and victims, law enforcement, state and federal laws, criminology theories, and the development of research topics in cybercrimes.
- CRIM 681 Special Topics** 3 cr.
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.
- CRIM 699 Independent Study** 3 cr.
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.
- CRIM 718/818 Quantitative Strategies for Analysis in Criminology** 3 cr.
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 learn to critique published criminological research.
- CRIM 730/830 Ethical and Philosophical Issues in Criminology** 3 cr.
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.
- CRIM 765/865 Criminal Justice Planning and Evaluation** 3 cr.
The study of planning and evaluation in criminology and the administration of justice and of the literature and practices, including problems, issues, and tasks confronting planners and evaluators.
- CRIM 770/870 Seminar in Contemporary Corrections** 3 cr.
An examination of current issues and problems in contemporary corrections.
- CRIM 781/881 Special Topics** 3 cr.
- CRIM 785/885 Seminar in Contemporary Juvenile Justice and Delinquency** 3 cr.
An examination of current issues and problems in contemporary juvenile justice and delinquency.
- CRIM 790/890 Seminar in the Contemporary Judicial System** 3 cr.
An examination of current issues and problems in the contemporary judicial system.
- CRIM 791 Synthesis Project** 3 cr.
Provides a synthesis of theory, research, and policy in criminology/criminal justice. This course will be taken during the student's final semester in the program, unless exceptional circumstances exist. The development of a substantial paper and oral presentation will be the required end products of this course. **Prerequisite:** CRIM 600, 601, and 605. Required of all non-thesis master's students.
- CRIM 795 Thesis** 3-6 cr.
- CRIM 798/898 Graduate Readings in Criminology** 3 cr.
With faculty supervision, students read at least six major criminological texts and participate in a seminar situation for the purpose of discussing the reading materials.
- CRIM 799/899 Independent Study** 3 cr.
- CRIM 810 Advanced Theoretical Criminology** 3 cr.
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.
- CRIM 817 Advanced Qualitative Methods** 3 cr.
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 individually design a project and carry out preliminary stages of data collection. Permission required.
- CRIM 820 Advanced Quantitative Methods** 3 cr.
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.
- CRIM 840 Advanced Criminal Justice Policy** 3 cr.
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.
- CRIM 845 Comparative Justice Systems** 3 cr.
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.
- CRIM 847 Victimology: Theory, Research, and Policy Issues** 3 cr.
Examines theoretical perspectives and research methods as they have impact on the research questions and findings in the field of victimology. Class, race, age, and gender are 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.
- CRIM 848 Criminal Violence: Theory, Research, and Issues** 3 cr.
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.
- CRIM 851 Doctoral Colloquium in Criminology** 3 cr.
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.
- CRIM 901 Advanced Applied Research I** 3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.
- CRIM 902 Advanced Applied Research II** 3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.
- CRIM 903 Advanced Applied Research III** 3 cr.
The application of selected principles of criminological theory and research methods toward understanding and resolving specific problems of justice processing.
- CRIM 904 Advanced Applied Teaching Techniques** 3 cr.
A review of prominent models of effective teaching and the applications of selected models of teaching theory to specific criminological courses.
- CRIM 995 Dissertation** 1-12 cr.
- CURR: Curriculum and Instruction**
Department of Professional Studies in Education
College of Education and Educational Technology
- CURR 590 Improving Professional Practice in Instructional Settings** 1-3 cr.
and
- CURR 591 Improving Professional Practice in Instructional Settings** 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. In addition, the course may be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.
- CURR 781/981 Special Topics** 1-3 cr.
- CURR 798 Supervised Doctoral Internship** 6 cr.
Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

- CURR 905 Curriculum Evaluation** 3 cr.
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 is on curricular evaluation in the context of theoretical foundations of curriculum. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program.
- CURR 910 Advanced Topics in Human Development and Learning** 3 cr.
Students analyze, evaluate, and synthesize theories of human development and learning. Emphasis is on learning and development throughout the life span. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program.
- CURR 915 Writing for Professional Publication** 3 cr.
Designed to enhance the scholarly and publishable writing skills of doctoral students in education. Students produce and submit a proposal for a presentation at a professional conference. Students 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 are developed. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 920 Doctoral Seminar in Research Methods** 3 cr.
Provides students with the opportunity to acquire, refine, and apply the knowledge and skills to evaluate and design educationally relevant research. Emphasis is on quantitative and qualitative research approaches within educational settings. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 925 Critical Analysis of Issues in Education** 3 cr.
Examines current issues and innovations which influence reform in basic and postsecondary education. Relationships between research, policymaking, and implementation are emphasized. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 930 Analysis of Effective Instruction** 3 cr.
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:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 935 Education for Cultural Pluralism** 3 cr.
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:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 940 Technology in the Curriculum** 3 cr.
Focuses on the dynamics of technology and how technology 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 explore the theoretical and the practical issues of technology in the curriculum as they apply to education in the twenty-first century. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 945 Literacy: Theory, Research, and Practice** 3 cr.
Examines critical issues and cognitive processes in language learning. Topics 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 are critically evaluated. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 951 Issues and Processes in Curricular Change** 3 cr.
Designed to provide students opportunities to analyze and evaluate critically curricular development processes and to examine those elements as they affect school curricula. **Prerequisite:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 955 Doctoral Seminar in Curriculum and Instruction** 3 cr.
Students 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:** Admission to the Curriculum and Instruction doctoral program and permission of program coordinator.
- CURR 982 Research Instrument Design** 3 cr.
Designed to prepare doctoral students to critique and develop research instruments for use in dissertation research. Emphasizes identifying the key issues associated with instrument design, 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.
- CURR 983 Qualitative Research Methods in Education** 3 cr.
Designed to prepare doctoral students to conduct qualitative data analysis in dissertation research. Emphasizes identifying the key issues associated with qualitative research, critiquing the published qualitative research, transcribing qualitative data, interpreting patterns, and using computers to perform data analysis. Students will learn to analyze, present, and write qualitative research reports.
- CURR 995 Dissertation** 1-12 cr.
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.

ECED: Early Childhood Education

Department of Professional Studies in Education
College of Education and Educational Technology

- ECED 590 Improving Professional Practice in Instructional Settings** 1-3 cr.
and
- ECED 591 Improving Professional Practice in Instructional Settings** 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.
- ECED 760 Child Study and Assessment** 3 cr.
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. Naturalistic observation, rating scales, tests, and portfolio assessment of children's work will be examined.
- ECED 761 History and Philosophy of Early Childhood Education** 3 cr.
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 time-honored traditions and important insights from leaders in the profession.
- ECED 762 Early Childhood Field Study** 3 cr.
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. **Prerequisite:** ECED 760, ECED 761, and ECED 764.

ECED 764 Early Childhood Curriculum 3 cr.
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.

ECED 765 Issues and Trends in Early Childhood Education 3 cr.
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 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 are emphasized.

ECED 766 Early Childhood Program Evaluation 3 cr.
Emphasizes the study and evaluation of programs designed for preschool through the primary grades. Students assess early childhood curricula, review relevant research, and use evaluation frameworks to assess program quality. Cross-cultural comparisons of early childhood curricula in the United States and programs from other cultures and nations are studied. **Prerequisite:** ECED 761, ECED 764, or permission of instructor.

ECON: Economics

Department of Economics

College of Humanities and Social Sciences

ECON 501 Foundations of Modern Economics 3 cr.
Survey of micro and macroeconomics designed for the student who is not already well grounded in the field.

ECON 633 Managerial Microeconomic Applications 1.5 cr.
Develops analytical tools from microeconomic theory that can be practically applied to improve managers' decision-making abilities. Special emphasis is placed on optimizing pricing, production, and performance evaluation decisions using available analytical and quantitative tools, including economic theory, regression, and visualization techniques. **Prerequisite:** ECON 121, ECON 122, MATH 121 or the equivalent, or permission of instructor.

ECON 634 Managerial Economics 3 cr.
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:** ECON 121, ECON 122, MATH 121 or the equivalent, or permission of instructor.

ECON 699 Independent Study 1-6 cr.
Directed readings, written assignments, and research on a specific topic determined by the student and the instructor. **Prerequisite:** ECON 501, credits of "C" or better in six semester hours of Principles of Economics, or permission of instructor.

ECON 820 Managerial Economics for Decision Making and Leadership 3 cr.
The application of microeconomics to decision-making. Exploration of analytical tools for measuring and defining optimal policy decisions. Optimal policies are managerial decisions that maximize, minimize, or satisfice specified objectives of the organization. Includes building quantitative models to apply to plausible situations, using appropriate computer-assisted decision techniques.

EDAD: Education Administration

Department of Professional Studies in Education

College of Education and Educational Technology

EDAD 590 Improving Professional Practice in Instructional Settings and 1-3 cr.

EDAD 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching,

learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDAD 660 School Finance 3 cr.
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.

EDAD 756 School Administration 3 cr.
Designed as a basic course in school administration, this course serves 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.

EDAD 660/860 School Finance 3 cr.
Budgeting procedures in school finances, facilities, and management are presented. 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.

EDAD 798 Principal Internship 3 or 6 cr.

EDEX: Education of Exceptional Persons

Department of Special Education and Clinical Services

College of Education and Educational Technology

EDEX 509 Instructional Strategies for Gifted Learners 3 cr.
Participants will explore issues of excellence and equity in gifted education; examine the unique characteristics of gifted learners; become oriented to the differentiation process; explore predispositions and behaviors of effective gifted teachers; and become acquainted with specific strategies for meeting the learning needs of gifted students.

EDEX 515 Preschool Education for Children with Disabilities 3 cr.
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. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300.

EDEX 516/* Education of Persons with Emotional or Behavioral Disorders 3 cr.
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. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 517/* Education of Persons with Mental Retardation or Developmental Disabilities 3 cr.
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. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 518/* Education of Persons with Physical or Multiple Disabilities 3 cr.
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. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 519/* Education of Persons with Brain Injuries or Learning Disabilities 3 cr.

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. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. Designed to meet teacher certification requirements.

EDEX 558/* Transition for Youth with Disabilities 3 cr.

Develops competencies in the skills necessary to help students with disabilities make a successful transition from school to adult life. Transition service elements are, at a minimum, postsecondary education and training, employment, and community living. For students with disabilities, successful outcomes require self-determination and other personal-social characteristics that must be identified and supported by the transition team throughout the entire transition planning process.

EDEX 560 Family Perspectives on Disability 3 cr.

Intended for any major who will work with families and youth with disabilities. By understanding families as competent and resourceful systems, students examine critically ways to collaborate effectively with family members. This course focuses on legal and philosophical bases for supporting families in making important decisions affecting the education and care of their children. **Prerequisite:** PSYC 101.

EDEX 569 Education of Persons with Emotional/Behavioral Disorders, Learning Disabilities, or Brain Injury 3 cr.

Focuses on major theoretical positions regarding etiology of emotional/behavioral disorders, learning disabilities, and brain injury; definition and identification of the populations; and educational approaches. The course will review research in the field, including current issues, trends, educational practices, and services. Throughout the course, a variety of instructional approaches (e.g., cooperative learning, simulations, role-playing) will be used to facilitate acquisition of new knowledge and skills. Students are expected to develop presentations using Internet resources and PowerPoint format. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. This course is designed to meet teacher certification requirements.

EDEX 578 Education of Persons with Mental Retardation/ Developmental Disabilities and Physical/Multiple Disabilities 3 cr.

Focus on major theoretical positions regarding etiology of mental retardation, developmental disabilities, a wide and diverse range of physical/multiple disabilities, and other health impairments. Definitions, population characteristics, and educational approaches are discussed. Reviews research in the field, including current issues, trends, practices, and services. **Prerequisite:** Certification or EDEX 650 or EDEX 111 or EDEX 300. This course is designed to meet teacher certification requirements.

EDEX 581 Special Topics**EDEX 590 Improving Professional Practice in Instructional Settings** 1-3 cr.**EDEX 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDEX 599 Independent Study in Special Education 1-3 cr.

Individual students develop research studies in consultation with a faculty member. Departmental consent required.

EDEX 650 Exceptional Children and Youth 3 cr.

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.

EDEX 681/781 Special Topics 3 cr.**EDEX 752 Assessment of Persons with Disabilities** 3 cr.

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.

EDEX 753/853 Research Seminar in Special Education 3 cr.

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.

EDEX 754 Advanced Instructional Design in Special Education 3 cr.

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.

EDEX 755 Professional Collaboration and Team Building for Special Educators 3 cr.

Focuses on strategies for collaborating with families, regular and special educators, paraprofessionals, and other service providers in the school and community.

EDEX 781 Special Topics 3 cr.**EDEX 785 Practicum and Internship** 3-9 cr.

Offers advanced students guided practicum experiences in selected schools, residential institutions, clinics, or agencies. Internships or supervised student teaching planned individually. Students analyze, evaluate, and report on their experiences.

EDEX 795 Thesis 3 cr.

*Indicates dual-listed class

EDHL: Education of Persons with Hearing Loss

Department of Special Education and Clinical Services

College of Education and Educational Technology

EDHL 590 Improving Professional Practice in Instructional Settings 1-3 cr.**EDHL 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDSP: Educational and School Psychology

Department of Educational and School Psychology

College of Education and Educational Technology

EDSP 523/* Educational Programming for Gifted Learners 3 cr.

To familiarize educators with various service delivery options in K-12 gifted education programs and to assist them in determining which options are best for which types of gifted learners. Participants will explore methods for interpreting educational assessments, modifying classroom instruction, and assessing effectiveness of interventions for high-ability students.

EDSP 577 Assessment of Student Learning 3 cr.

Acquaints students with major methods and techniques of evaluation used to assess and report growth, development, and academic achievement of learners in elementary and secondary schools, including interpretation of standardized test information.

EDSP 581 Special Topics	3 cr.	EDSP 755/855 Practicum I	3 cr.
EDSP 590 Improving Professional Practice in Instructional Settings and	1-3 cr.	Provides 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.	
EDSP 591 Improving Professional Practice in Instructional Settings	1-3 cr.	Acquaints students with diverse types of children and refines their understanding of critical issues confronting education. Prerequisite: For approved school psychology candidates or permission of instructor.	
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. Prerequisite: Appropriate teaching certificate or other professional credential or preparation.		EDSP 781/981 Special Topics	3 cr.
EDSP 624 Social, Emotional, and Cultural Factors in the Education of Gifted Learners	3 cr.	EDSP 795 Thesis	3 cr.
Designed to familiarize educators with the social and emotional characteristics of gifted learners and their families and to increase awareness of current and past attitudes toward high-ability learners in American cultures. The goal is to improve educational programs for gifted learners through an increased awareness of cultural, social, emotional, and familial factors related to positive learning outcomes for this population.		EDSP 804 Advanced Educational Psychology	3 cr.
EDSP 681 Special Topics in Educational Psychology	3 cr.	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.	
Designed for those students who wish to do independent research in special areas. Prerequisite: Departmental chairperson permission.		EDSP 811 Introduction to School Psychology	3 cr.
EDSP 699 Independent Study	3 cr.	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.	
EDSP 704/804 Advanced Educational Psychology	3 cr.	EDSP 812 Assessment for Intervention I	3 cr.
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.		Provides school psychology students with the knowledge and skills needed to administer, score, and interpret selected individually administered tests of intelligence and achievement. Trains students to conduct curriculum-based measurement procedures, to communicate assessment results, and to use assessment results for intervention planning. Prerequisite: For approved school psychology candidates or permission of instructor.	
EDSP 717/817 Applied Educational Research Methods	3 cr.	EDSP 813 Assessment for Intervention II	3 cr.
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.		Provides the student with skills necessary to administer and interpret informal, developmental, perceptual-motor, adaptive, achievement, and other allied measures used in a psychoeducational assessment. Moreover, students should become aware of issues associated with individualizing assessment based upon variables such as ethnicity, SES, gender, medical conditions, and linguistic and cultural differences. Prerequisite: For approved school psychology candidates or permission of instructor.	
EDSP 745/845 Crisis Intervention and Psychological Counseling of Exceptional Children	3 cr.	EDSP 817 Applied Ed Research Methods	3 cr.
Provides educational psychology students with theoretical background and entry-level skills for counseling children (K-12) who have special needs and assists their families with adjustment and coping skills. In addition to basic counseling techniques, students are exposed to best practices in counseling multicultural populations and those with disabilities and in crisis intervention. Emphasis is on short-term, goal-oriented interventions. The role of the psychologist in the development and practice of the school crisis intervention team is also addressed, as well as cooperative functioning with other service professionals in the schools.		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.	
EDSP 746/846 Learning and Instruction	3 cr.	EDSP 818 Instructional Consultation	3 cr.
Provides an in-depth examination of developmental, cognitive, and interactionist learning theories as they apply to classroom instruction. Emphasis is on direct application of theory to the improvement of classroom instruction and the relationship of learning and motivation.		Reviews the basic principles of the consultative process as applied to working with teachers and school-based problem-solving teams to help students with academic problems. Students will be expected to demonstrate skill in consultative interviewing regarding academic problems, problem identification, data gathering relevant to both curriculum and the classroom environment, and intervention design, execution, and evaluation in pre-kindergarten through high school settings. Prerequisite: For approved school psychology candidates; must have taken or take concurrently with EDSP 812 and EDSP 813; permission of instructor.	
EDSP 747/847 Advanced Psychology of Adolescent Education	3 cr.	EDSP 915 Doctoral Seminar in Applied Educational Research	3 cr.
Presents an in-depth discussion of developmental issues that impact adolescents in instructional environments. In particular, physical, societal, and educational influences as they affect high-risk behaviors in this age group are examined. Students are expected to research and present successful intervention programs for adolescents.		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: EDSP 816.	
EDSP 748/848 Advanced Studies in Behavioral Problems	3 cr.	EDSP 916 Doctoral Seminar in Advanced Educational Research	3 cr.
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.		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:** EDSP 915.

EDSP 942 Neuropsychology of Children's Learning Disorders 3 cr.

A neuropsychological approach to the identification of children with learning disorders is discussed. Such factors as etiology, epidemiology, subtyping, diagnoses, and remediation are considered. Students learn the theoretical framework necessary to understand the factors underlying learning disorders in children. **Prerequisite:** EDSP 812 or permission.

EDSP 949 Practicum II 3 cr.

Involves a series of opportunities for students to practice clinical and supervisory skills in a highly structured university clinic setting. Based on their level of training and experience, students are required to demonstrate distinct skills related to (1) organization and dynamics of the educational process; (2) assessment for intervention; (3) direct and indirect intervention methods; and (4) supervision of the clinical practice of other school psychologists. Certification and Track A doctoral students will enroll twice for 6 semester-hours, while experienced Track B doctoral students have a 3-semester-hour requirement. **Prerequisite:** For approved school psychologist certification and doctoral degree candidates only.

EDSP 952 Internship 3 cr.

Involves a series of supervised field experiences in public school, clinic, and hospital settings. Students apply their understanding and skills in the general practices of school psychology or in the area of specialization developed in their doctoral course sequence. The school internship, required of all certification and doctoral students, is a ten-month placement, at least half of which must be in a public school setting. An additional 300 clock hours are required for doctoral degree candidates in a setting appropriate for their area of specialization. **Prerequisite:** For approved school psychology candidates; completion of most course work, practica, and comprehensive examinations; permission of instructor.

EDSP 953 Child Neuropsychology 3 cr.

Examines brain-behavior relationships and neurodevelopmental functioning in children. Discusses the neuropsychological principles necessary to assess the educational, cognitive, and behavioral functioning of children in relation to the development of remedial programs. **Prerequisite:** EDSP 812 or permission of the instructor.

EDSP 963 Assessment of Personality and Behavior Problems of Children 3 cr.

An introduction to various personality and behavior assessment techniques currently used. **Prerequisite:** For approved school psychologist candidates or permission of the instructor.

EDSP 964 Seminar in School Psychology I 3 cr.

An examination of practices, trends, and issues in a specialized area of diagnosis. Areas to be examined are based on the predetermined interests of the students and the expertise of the available faculty. **Prerequisite:** Permission of instructor.

EDSP 965 Seminar in School Psychology II 3 cr.

An examination of practices, trends, and issues in a specialized area of treatment or remediation. The areas to be examined correspond to those covered in EDSP 764. The focus of the seminar is 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.

EDSP 966 Educational and Psychopharmacological Issues Associated with Child Neuropsychology 3 cr.

The purpose of this course is twofold. First, to familiarize the student with the general principles of clinical psychopharmacology and how the effects of medication may change or hinder the child's academic performance and social behaviors. Second, to familiarize the student with the theoretical and practical issues associated with neuropsychological assessment of school-aged children. Both the above areas delineate the factors associated with a child's ability to benefit from an education. **Prerequisite:** For approved school psychology

candidates; permission of instructor.

EDSP 977 Seminar in Family-School Relations 3 cr.

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 are emphasized. **Prerequisite:** Permission of the instructor.

EDSP 978 Family Services for School-Related Problems of Children with Special Needs 3 cr.

A supervised experience in brief family interventions for school-related problems. Students provide direct services in a clinic setting to families of children in special education and those in general education with specific problems related to learning. **Prerequisite:** EDSP 977 and PSYC 834.

EDSP 995 Dissertation 9 cr.

*Indicates dual-listed class

EDUC: Education

Department of Professional Studies in Education
College of Education and Educational Technology

EDUC 581 Special Topics 1-3 cr.

EDUC 590 Improving Professional Practice in Instructional Settings 1-3 cr.

EDUC 591 Improving Professional Practice in Instructional Settings 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

EDUC 650/850 School and Community 3 cr.

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.

EDUC 658/858 School Law and Negotiations 3 cr.

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 law.

EDUC 702 Reading Practicum: Diagnostic Case 3 cr.

EDUC 703 Reading Practicum: Remedial Case 3 cr.

EDUC 731 Curriculum Development 3 cr.

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.

EDUC 751 Recent Issues and Innovations in Education 3 cr.

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.

EDUC 752 School Evaluation 3 cr.

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.

EDUC 781 Special Topics 1-3 cr.

ELED: Elementary Education

Department of Professional Studies in Education
College of Education and Educational Technology

ELED 581 Special Topics 3 cr.

ELED 590 Improving Professional Practice in Instructional Settings and 1-3 cr.

ELED 591 Improving Professional Practice in Instructional Settings 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

ELED 642 Mathematics in Elementary School 3 cr.

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.

ELED 681 Special Topics in Education 3 cr.

Designed for the students who wish to do independent research in special areas.

ELED 698 Supervised Internship 6 cr.

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.

ELED 699 Independent Study in Elementary Education 1-3 cr.

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.

ELED 743 Resource Materials in Elementary Science 3 cr.

Introduces underlying philosophy and use of materials of several of the current national curriculum programs in elementary science. Emphasizes 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.

ELED 755 Developmental Influences on Children's Learning 3 cr.

Examines the physical, cognitive, social, and emotional development of children and the impact of development on learning processes. Students will discuss, analyze, and apply developmental theory and research to address issues confronting contemporary early childhood and elementary practitioners. Final projects will emphasize collaboration with professionals in other fields who work with children, families, and educators. **Prerequisite:** Permission of advisor.

ELED 781 Special Topics

ELED 795 Thesis 3 cr.

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 advisor and two additional faculty members.

ELED 798 Supervised Doctoral Internship 3 cr.

Applied field experience chosen by doctoral students with the approval of the dissertation advisory committee. **Prerequisite:** Permission only.

ELED 995 Dissertation 1-12 cr.

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.

ELMA: Elementary and Middle School Mathematics

Department of Mathematics

College of Natural Sciences and Mathematics

ELMA 517 Introduction to Probability and Statistics 3 cr.

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:** MATH 152 or equivalent.

ELMA 520 Pre-Calculus Mathematics I 3 cr.

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:** MATH 152 or equivalent.

ELMA 556 Principles of Geometry I 3 cr.

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:** MATH 152 or equivalent.

ELMA 557 Introduction to Number Theory 3 cr.

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:** MATH 152 or equivalent.

ELMA 558 Introduction to Logic and Logical Games 3 cr.

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; introduction to quantification theory and its value in determining validity of mathematical arguments, inference schemes, and logical puzzles; and consideration of other topics in logic suitable for a K-8 mathematics curriculum. **Prerequisite:** MATH 152 or equivalent.

ELMA 559 Computer-Related Topics in the Elementary and Middle School 3 cr.

Provides teachers with the concepts and techniques necessary to teach computer-related topics to children in the elementary and middle schools. **Prerequisite:** MATH 152 or equivalent.

ELMA 571 Basic Concepts of Algebra 3 cr.

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:** MATH 152 or equivalent.

ELMA 581 Special Topics 3 cr.

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:** MATH 152 or equivalent.

ELMA 650 Curriculum and Instruction in Elementary School Mathematics 3 cr.

Familiarizes 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.

ELMA 652 Diagnosis and Remedial Teaching of Mathematics 3 cr.

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. Valuable for those teaching in elementary, middle school, or remedial programs. **Prerequisite:** Methods course in teaching mathematics or consent of instructor.

ELMA 653 Mathematics for the Gifted Student 3 cr.

Examines different approaches for mathematically gifted students. Students 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.

ELMA 654 Teaching Problem Solving in the Elementary and Middle School 3 cr.

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.

ELMA 655 Mathematics for Early Childhood 3 cr.

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:** MATH 152 or equivalent.

ELMA 681 Special Topics 3 cr.

Special Topics which go beyond the scope of regularly 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.

ELMA 698 Supervised Internship 3 cr.

A professional work experience in a cooperating school district under the supervision of designated public school personnel, subject to review and evaluation by a university faculty member. Registration by permission only.

ELMA 699 Elementary Math—Independent Study 1-6 cr.

Under the guidance of a faculty member, a student may study some area of mathematics or mathematics education not covered in the regular courses.

ELMA 795 Thesis 3 cr.**ELR: Employment and Labor Relations**

Department of Employment and Labor Relations
College of Health and Human Services

ELR 526/* Case Studies in Labor-Management Relations 3 cr.

Study of labor-management relationships in a variety of organizational settings through utilization of the case study technique.

ELR 581 Special Topics in Employment and Labor Relations 3 cr.

According to student demand, special graduate course on selected topics.

ELR/HSAD 610 Employee Rights under Law 3 cr.

Provides a review of the major legislative rights and benefits available to employees under law in terms of their impact on labor and management in the employment relationship. The main focus will be the analysis and application of state and federal employment laws.

ELR 612 Labor Relations Practice and Administration 3 cr.

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.

ELR 613 Fundamentals of the American Labor Movement: Theory and Practice 3 cr.

Introduction to terms, theories, and practice of employment and labor relations in the United States.

ELR 615 Dispute Settlement 3 cr.

Review of the theories underlying and legislation supporting labor arbitration, emphasizing development of advocacy skills through simulations of actual disputes.

ELR 618 Seminar: Current Issues in Employment and Labor Relations 3 cr.

Detailed examination of current professional issues in the field.

ELR/HSAD 619 Advanced Research in Employment Relations and Health Services Administration 3 cr.

Provides students with the advanced knowledge needed to understand the process of research development, effectively evaluate research studies, interpret common statistical information, use the statistical package for social sciences, and develop and execute a research project.

ELR 621 Labor Relations in the Public Sector 3 cr.

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.

ELR 622 Discrimination in Employment 3 cr.

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.

ELR 623 Structure and Government of Unions 3 cr.

The union examined as an institution, with focus on its organizational structure; administration; relationships with the employer; members; and state and national affiliates. Particular unions will be chosen for case study.

ELR 624 Comparative Labor Relations 3 cr.

International dimensions of labor relations are explored by examining the labor-management relations in a foreign country or region.

ELR 625 Processes of Collective Bargaining 3 cr.

Survey of current laws, principles, and procedures in use in modern collective bargaining and evolving trends.

ELR/HSAD 631 Human Resources Management in the Public Sector 3 cr.

Provides students with an in-depth analysis of human resource management with a special examination of public sector organizations. Emphasizes the job functions and issues facing the human resource professional and organizations. Course topics include the current environment in human resources, the acquisition and preparation of human resources, the assessment and development of Human Resource Management (HRM), the strategies involved in compensation administration, and collective bargaining and labor relations issues in the public sector.

ELR 632 Compensation Administration 3 cr.

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.

ELR 640 Negotiations 3 cr.

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.

ELR 641 Contract Administration 3 cr.

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.

ELR 642 Concerted Activity 3 cr.
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.

ELR 650 Alternative Work Styles 3 cr.
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 are considered from the point of view of productivity, worker satisfaction, and social utility.

ELR 681 Special Topics in Employment and Labor Relations 3 cr.
According to student demand, special graduate courses on selected topics.

ELR 698 Internship 3 cr.
Field experience in employment and labor relations. An internship log and term paper are required.

ELR 699 Independent Study 3 cr.
Students select one or more topics of critical importance in employment and labor relations and meet with faculty member for independent reading, analysis, and evaluation. **Prerequisite:** Approval of department chairperson, college dean, and provost.

ELR/HSAD 751 Conflict Resolution 3 cr.
This course will provide students with an in-depth analysis of conflict resolution in many settings, primarily in the employment relationships. The student will be exposed to the current environment surrounding conflict resolution; the legal, ethical, and emotional issues that are common in disputes; and the format by which employment disputes are resolved.

ELR 795 Thesis
For students writing the thesis, ELR 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).

*Indicates dual-listed class

ELTC: Elementary/Teacher Certification

Department of Professional Studies in Education
College of Education and Educational Technology

ELTC 660 History, Philosophy, and Ethics in Elementary Education 3 cr.
Traces the purposes and impact of major educational philosophies on elementary education throughout history. Candidates for elementary teacher certification will examine personal assumptions about the process of education, develop understanding of the contributions and limitations of various educational philosophies, analyze values and practices in the field, and apply these insights as they fulfill the role of elementary school teacher. **Prerequisite:** None.

ELTC 661 Integrated Curriculum in the Elementary School 3 cr.
Study of educational programming and curricular initiatives designed to meet the learning needs of elementary school children, kindergarten through sixth grade. Candidates for elementary certification at the graduate level will examine principles of curriculum design and effective ways of integrating subject matter in the elementary school as well as compare/contrast elementary curriculum from various districts, states, and countries. Students are required to design a unit that emphasizes literacy and integrates the fine arts with the traditional content areas of the curriculum. **Prerequisite:** None.

ELTC 664 Assessment of Student Learning and Elementary Curriculum 3 cr.
Examines issues and strategies affecting the assessment of the five- to ten-year-old child's physical, social, emotional, cognitive, and aesthetic development and the evaluation of elementary curriculum. Naturalistic observation, rating scales, standardized tests, state academic standards, teacher-constructed tests, portfolio assessment of children's work, and program evaluation will be emphasized. **Prerequisite:** None.

ELTC 665 Issues in Elementary Education and Pedagogy 3 cr.
Designed to orient graduate students seeking elementary teacher certification to general teaching methods, pedagogical perspectives, and instructional practices suitable for children in the elementary grades. Candidates will acquire skills in identifying significant issues in elementary education by using problem-solving strategies, communicating ideas, and functioning as change agents in educational institutions. Interpersonal skills and collaborative relationships with colleagues, families, communities, and agencies will be emphasized. **Prerequisite:** None.

ELTC 670 Practicum I (Social Studies, Citizenship, Multicultural Education, and Diversity) 3 cr.
A field-based course that examines the teaching of social studies from a multicultural education and diversity perspective. Students will demonstrate their understanding of these principles through the design and implementation of lessons that meet the standards of national professional organizations in social studies, citizenship, and multicultural education for elementary students. **Prerequisite:** None.

ELTC 675 Practicum II (School Law and Professional Practice) 3 cr.
A field-based course that focuses on legal issues in the elementary school context and supports the professional development of novice teachers. Students will demonstrate knowledge of school law precepts that govern professional practice and document their professional growth throughout the program in a teacher portfolio. **Prerequisite:** Permission.

ENGL: English

Department of English

College of Humanities and Social Sciences

ENGL 518 Literature for Adolescents 3 cr.
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.

ENGL 526/* ESL Methods and Materials 3 cr.
An introduction to English as a Second Language theory and practice. Aims: (1) general understanding of current theory and methods of teaching ESL; (2) ability to select appropriate, and adapt existing, materials for elementary and high school ESL students. Recommended for all English teachers who expect to have ESL students in their classes.

ENGL 581 Special Topics in Language and Literature 1-3 cr.
Allows students to pursue subjects such as textual criticism, prosody, and computers and literature not covered in existing courses.

ENGL 625 Introduction to TESOL 3 cr.
Introduces key concepts in teaching English as a second or foreign language. Offers a broad introduction to the knowledge and skills needed to become a professional teacher of ESL or EFL and prepares students for the remainder of the M.A./TESOL program. Students are expected to improve their language ability as well as their research and presentation skills in this course. Required for M.A./TESOL students in their first semester.

ENGL 630 Research on the Teaching of Literacy and Literature 3 cr.
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.

ENGL 641 Topics in ESL Pedagogy 3 cr.
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.

ENGL 643 TESL/TEFL Methodology 3 cr.
Surveys current theory and practice in teaching English to non-native speakers and includes traditional and innovative approaches, design, and procedures for teaching all language skills at various educational levels.

- ENGL 644 ESL Material and Media** 3 cr.
Introduces the basic principles of ESL course design and the evaluation, adaptation, and design of ESL classroom materials and media. Students gain an understanding of the structure and uses of ESL materials, as well as a hands-on experience in syllabus design and the evaluation, adaptation, and creation of ESL materials for specific purposes. Students work on an ESL/EFL media and materials project and put on a Materials and Media Fair where they show their projects.
- ENGL 674 Bibliographical Methods in English** 3 cr.
Practical training in special methods and materials of research in English.
- ENGL 675 Literature and the International Student** 3 cr.
Develops the reading, writing, listening, and speaking skills needed for success by the international student in the graduate study of literature in the American university. Examines the principles of literary analysis, research, and documentation in the United States and orients the student to the American library system and the American college classroom.
- ENGL 676 Critical Approaches to Literature** 3 cr.
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.
- ENGL 681/781/881 Special Topics** 3 cr.
Courses relating to specialized interests in literature, rhetoric, or linguistics which fulfill special needs or interests. May become permanent course offerings.
- ENGL 688 Practicum in TESOL** 3 cr.
Intended to provide a balance between observation and practical teaching experience. Students plan, teach, and reflect on lessons. Emphasis is placed on application of theory and pedagogical knowledge gained from course work, as well as on developing skills to reflect on teaching and its consequences for learners. Class size is limited to fifteen students. Although not a prerequisite, this course can be used as a way to prepare for a teaching internship.
- ENGL 690 Writing as a Way of Learning** 3 cr.
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.
- ENGL 692 American English Grammar** 3 cr.
The study of phonology, morphology, syntax, and semantics of present-day American English, using various approaches to the analysis of grammar and usage.
- ENGL 693 Seminar in Teaching English in the Secondary School** 3 cr.
Explores recent developments in teaching of language, composition, and literature.
- ENGL 694 Observation in Teaching English** 3 cr.
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.
- ENGL 696 Internship in ESL/EFL** 3 cr.
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.
- ENGL 698 Internship** 3 cr.
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.
- ENGL 699 Independent Study** 1-3 cr.
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.
- ENGL 703/803 Language and Cognition** 3 cr.
Examines areas where language, thought, and cognitive process interact. Studies the essential nature of meaning and mental concepts, the core characteristics of language, and the complex relations between the two domains.
- ENGL 705/805 Language and Social Context** 3 cr.
Introduces the study of language as a social phenomenon, including such topics as language varieties, stereotypes, and social identity; language planning and language policy; standard and nonstandard usage; censorship; discourse analysis; language attitudes; language, culture, and thought; communicative competence; small group communication; and classroom interactions.
- ENGL 723/823 Second Language Teaching** 3 cr.
Considers trends, issues, and research in second language teaching and assessment; also considers ways teachers can explore teaching beliefs and practices. **Prerequisite:** ENGL 640.
- ENGL 724/824 Second Language Acquisition** 3 cr.
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.
- ENGL 725/825 Second Language Literacy** 3 cr.
Studies theory, research, and pedagogy associated with the development of literacy in two languages, either simultaneously or successively. Focuses on how individuals and groups become literate in English as an additional or second language. Includes explorations of political, cultural, social, and contextual, as well as cognitive, textual, and educational, issues that arise in acquiring and using a second literacy. Open to M.A./TESOL and Ph.D. students in Composition and TESOL.
- ENGL 730/830 Teaching Writing** 3 cr.
Studies characteristics of the writing process and of the basic writer, methods for the evaluation of writing, and approaches to the teaching of writing.
- ENGL 734/834 Linguistics and the English Teacher** 3 cr.
Examines four key topics: foundations of linguistic thought, applications of linguistics to the teaching of English, classroom discourse patterns, and language pedagogy.
- ENGL 742/842 Cross-Cultural Communication** 3 cr.
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.
- ENGL 744/844 Reading Theory and the College English Teacher** 3 cr.
Examines the psycholinguistic and ethnographic research on the fluent reading process of native and non-native college readers, as it pertains to the teaching of reading and writing for academic purposes.
- ENGL 760/860 Teaching College Literature** 3 cr.
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.
- ENGL 761/861 Topics in American Literature Before 1870** 3 cr.
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.
- ENGL 762/862 Topics in American Literature Since 1870** 3 cr.
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.
- ENGL 763/863 Topics in British Literature Before 1660** 3 cr.
Studies major figures, movements, or topics within the period. The specific content of the course is determined by the instructor and announced in advance.
- ENGL 764/864 Topics in British Literature Since 1660** 3 cr.
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.

- ENGL 765/865 Topics in Literature as Genre** 3 cr.
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.
- ENGL 766/866 Topics in Comparative Literature** 3 cr.
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.
- ENGL 771/871 Topics in Postmodern Literature** 3 cr.
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.
- ENGL 772/872 Topics in Women's Literature** 3 cr.
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.
- ENGL 773/873 Topics in American or British Minority Literature** 3 cr.
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.
- ENGL 781/881 Special Topics**
- ENGL 795 Thesis** 6 cr.
- ENGL 797/897 Independent Seminar** 3 cr.
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. Course is 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.
- ENGL 799/899 Independent Study** 1-3 cr.
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.
- ENGL 800 Introduction to Research** 3 cr.
Introduces students to various types of research in Composition and TESOL for examining the transmission of literacy.
- ENGL 808 Technology and Literacy** 3 cr.
Presents an overview of the interrelationship between literacy and technology. Demonstrates approaches to teaching English using computer technology.
- ENGL 815 Qualitative Research Methods in Composition and TESOL** 3 cr.
Involves both reading about and training in qualitative research methods such as participant observation, interviewing, coding, and analysis. Also covers dissemination of research findings. **Prerequisite:** ENGL 800.
- ENGL 831 Rhetorical Traditions** 3 cr.
Studies how rhetorical traditions influence the teaching of composition. Examines how cultural factors such as history, politics, ideology, gender, race, and ethnicity affect the composing process. Encourages students to think of composition as an open, multicultural event of imagination and social innovation.
- ENGL 833 Theories of Composition** 3 cr.
Reviews the major theories of composition, especially those of the modern and postmodern eras. Examines how cultural factors such as education, history, politics, ideology, gender, race, and ethnicity affect the theorizing about composition. Encourages students to construct their own theories of composition by entering into a collaborative cultural and intellectual process.
- ENGL 845 Theories of Literacy** 3 cr.
Examines the status of current and past theories of literacy, including the nature of literacy itself; the ways literacy is shared and used by individuals, families, and cultures; and the political, social, and personal ramifications of literacy.
- ENGL 846 Advanced Seminar in Literacy** 3 cr.
Explores a single topic in depth in the fields of Composition and TESOL. Topics are announced in advance and have recently included writing centers, computers in composition, alternative research methods, discourse analysis, and writing program administration. May be taken more than once.
Prerequisite: Any one of ENGL 823, 824, 825, 830, 831, 833.
- ENGL 848 Advanced Topics in Linguistics** 3 cr.
Focuses on a single topic in depth. Topics will be announced in advance and will include language history and change, writing systems, models of language, linguistic stylistics, narrative analysis, cross-linguistic patterns in syntax, language structure and use, and more. **Prerequisite:** ENGL 803 or ENGL 805.
- ENGL 955 The History and Theory of Criticism** 3 cr.
Studies the founding texts of the Western tradition in ancient Greece beginning with Plato, Aristotle, and the sophists and places them in the historical context of significant cultural turns in literary, rhetorical, and cultural theory leading up to the present. As preparation for ENGL 956, this course examines key moments in the history of Western metaphysics in relation to contemporary concerns for theory, pedagogy, multiculturalism, and the changes in higher education, especially as they affect English studies.
- ENGL 956 Literary Theory for the Teacher and Scholarly Writer** 3 cr.
Focuses on contemporary literary and cultural theory, especially as it affects the teaching, scholarship, and curricular design of English studies, which has undergone significant changes in recent decades. Examines contemporary theoretical approaches such as New Criticism, poststructuralism, deconstruction, reader response, Marxism, New Historicism, cultural studies, feminism, postcolonialism, gay and lesbian theory, and others, with a special emphasis on practice: how theory affects the classroom, the curriculum, and the writing of professional presentations and publications.
- ENGL 983 Seminar: Literary Theory Applied to Major American Author or Theme** 3 cr.
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.
- ENGL 984 Seminar: Literary Theory Applied to Major British Author or Theme** 3 cr.
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.
- ENGL 985 Seminar: Comparative Literary Theory Applied to Traditional and Special Literatures** 3 cr.
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 to conflicting social and literary values. The specific course content is chosen by the instructor and announced in advance.

ENGL 995 Dissertation 12 cr.

NOTE: Special Topics in Language and Literature and courses with titles beginning "Topics in" (761-766 and 771-773), 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.

*Indicates dual-listed class

FDED: Foundations of Education

Department of Professional Studies in Education
College of Education and Educational Technology

FDED 514 Comparative Foundations of Education 3 cr.

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.

FDED 581 Special Topics 3 cr.**FDED 590 Improving Professional Practice in Instructional Settings and** 1-3 cr.**FDED 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

FDED 595 International Education Studies Program 3 cr.

A travel-seminar conducted in a foreign country and designed to afford educators and students of education the opportunity to investigate teaching-learning process in cultural settings other than their own. Particular attention to such current educational issues as theories of curriculum development, methodology, teacher education, and changing value systems.

FDED 611 Historical Foundations of Education 3 cr.

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.

FDED 612 Philosophical Foundations of Education 3 cr.

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.

FDED 613 Social Foundations of Education 3 cr.

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.

FDED 699 Independent Study 1-6 cr.**FDNT: Food and Nutrition**

Department of Food and Nutrition
College of Health and Human Services

FDNT 544/* Food Composition and Biochemistry 3 cr.

Covers basic chemistry and biochemistry of essential components of food originating from plant and animal sources. **Prerequisite:** CHEM 355.

FDNT 547/* Nutritional Aspects of Food Technology 3 cr.

Studies current known effects of food processing techniques on the nutritional value and safety of food. **Prerequisite:** FDNT 212 and BIOL 241.

FDNT 558/* Advanced Human Nutrition 3 cr.

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. **Prerequisite:** FDNT 212, CHEM 255, and BIOL 151.

FDNT 564/* Food and Nutrition Research Methods 3 cr.

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. **Prerequisite:** FDNT 362, FDNT 458, CHEM 351, and MATH 217.

FDNT 581 Special Topics 3 or 4 cr.**FDNT 601 Food Service Management Theory and Practicum** 3 cr.

Management of the production and delivery of high-quality nutritious meals. Menus will reflect the current food and nutrition interest of healthy individuals as well as special diets prescribed in health care. **Prerequisite:** Graduate of Didactic Program in Dietetics or undergraduate course work in food service management.

FDNT 602 Information Technology 1 cr.

Reviews, updates, and integrates knowledge and skills for the delivery of information and data for the dietetic professional. The content of this course is designed to introduce specialized technology, resources, instructional techniques, and SPSS that are applicable to the dietetic profession.

Prerequisite: Graduate of Didactic Program in Dietetics or undergraduate course work in computer applications.

FDNT 603 Food and Nutrition Education 1 cr.

Focus on the development of effective educational plans to teach consumer audiences of all ages about food and nutrition through an examination of current pedagogy (theory and application) with emphasis on the learning paradigm. **Prerequisite:** Graduate of Didactic Program in Dietetics or completion of undergraduate course work in educational psychology and/or methods of teaching.

FDNT 604 Medical Nutrition Therapy 2 cr.

Examines nutritional management of the acute-care patient with emphasis on the role of the dietitian. Students will complete an in-depth clinical case study. **Prerequisite:** Graduate of Didactic Program in Dietetics or undergraduate course work in clinical nutrition.

FDNT 605 Nutrition Intervention Strategies 1 cr.

Theory and practice of nutrition intervention strategies in modifying the complexity of dietary behaviors. Application of intervention strategies with nutrition-specific examples. **Prerequisite:** Graduate of Didactic Program in Dietetics or undergraduate course work in counseling skills.

FDNT 612 Administration of Food Service Systems 3 cr.

Addresses food service as a system of interrelated parts and of controlling management resources. Analyzes different types of food service delivery systems and covers legal responsibilities of a food service administrator. **Prerequisite:** FDNT 358, FDNT 259, FDNT 313, FDNT 356, or three years' work experience in a food service management position.

FDNT 641 Eating Behaviors and Food Habits 3 cr.

Investigation and analysis of historical, political, religious, ethnic, environmental, and social influences which affect food consumption patterns. **Prerequisite:** PSYC 101 and SOC 151.

FDNT 642 Contemporary Issues in Food and Nutrition 3 cr.

Current information in foods and nutrition is investigated, analyzed, and evaluated for practical implementation.

FDNT 645 Proteins, Carbohydrates, and Fats 3 cr.

Nutritional considerations of protein, carbohydrate, and fat metabolism. Physiological and biochemical functions of these nutrients will be discussed.

FDNT 646 Vitamins and Minerals 3 cr.

Biochemical role of vitamins and minerals in macronutrient metabolism. Focus on biochemical and physiologic functions and current research implications.

FDNT 650 Seminar in Food and Nutrition I 1.5 cr.

Addresses the depth and breadth of nutrition as a field of inquiry with understanding of the elements of the research process. Emphasis will be given to various designs (both quantitative and qualitative) and methodologies (e.g., principles, techniques, materials, and procedures) that are used for research in nutrition and dietetics and to promote evidence-based practice. The student will examine, appraise, and communicate nutrition research literature by giving a professional oral seminar utilizing effective presentation techniques.

FDNT 651 Professional Dietetic Practice 3 cr.

Examines professional topics relevant to the dietetic professional. Provides a forum for clinical case study presentations and education about professional development opportunities and challenges. **Prerequisite:** FDNT 604 or experience as a clinical dietitian.

FDNT 652 Seminar in Institutional Food Service Management 1 cr.

Reviews and evaluates management aspects in institutional food service. Discusses field experiences and observations with experienced health care professionals to gain further insight with respect to management (labor, materials, finances, marketing, time and team management) and administrative issues. Evaluates student's personal performance related to management skills and prepares for future skill enhancement. **Prerequisite:** FDNT 601 or food service management employment experience.

FDNT 660 Seminar in Food and Nutrition II 1.5 cr.

Addresses the depth and breadth of nutrition/dietetics as a field of inquiry and provides an understanding of the elements of the research process. The student will identify a research problem/question, design and conduct either a comprehensive literature review or small-scale research project, and analyze/interpret the information/data collected. A formal presentation of research will be professionally presented in written (e.g., poster presentation, article formatted for publication, grant proposal) form. **Prerequisite:** FDNT 650 or by permission.

FDNT 681 Special Topics 1-3 cr.**FDNT 696 Internship** 1-6 cr.

Supervised practice experience for students who have completed FDNT 601, 602, 603, 604, and 605 (eight credits) and are concurrently completing IUP's dietetic internship.

FDNT 698 Internship 1-6 cr.

Supervised work experience for Food and Nutrition majors. Permission: Department chairperson.

FDNT 711 Nutrition in the Life Cycle 3 cr.

Studies bodily functions at different stages of development under differing environmental conditions and at various levels of biological organization.

FDNT 743 Clinical Dietetics 3 cr.

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.

FDNT 795 Thesis 1-4 cr.**FDNT 799 Independent Study in Food and Nutrition** 1-3 cr.

Prerequisite: 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.

*Indicates dual-listed class

FIN: Finance**Department of Finance and Legal Studies****Eberly College of Business and Information Technology****FIN 500 Foundations of Finance** 1.5 cr.

Designed for EMBA students without prior Finance background to prepare them for MBA Financial Management course. Provides students with the concepts that constitute the base for finance theory and the foundations for the techniques used in making financial decisions.

FIN 510/* Financial Institutions and Markets 3 cr.

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. **Prerequisite:** ECON 325, FIN 324, or permission of Eberly College of Business and Information Technology graduate coordinator.

FIN 520/* Investment Analysis 3 cr.

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. **Prerequisite:** ACCT 301, FIN 310, FIN 324, or permission of Eberly College of Business and Information Technology graduate coordinator.

FIN 524/* International Financial Management 3 cr.

Provides an insight into the unique issues and problems that the manager of the multinational enterprise will face, such as working capital management; capital budgeting process; financing and investing abroad; capital and money markets; foreign exchange markets; and risk management. **Prerequisite:** FIN 310 or equivalent.

FIN 581 Special Topics in Finance 3 cr.

Covers advanced or exploratory topics within the discipline. Specific content developed by the instructor. Content will vary, depending upon the interests of the instructor and students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

FIN 630 Financial Management 3 cr.

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:** FIN 310.

FIN 632 Seminar in Finance 3 cr.

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:** FIN 630.

FIN 635 Principles of Investments in Securities 3 cr.

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:** FIN 630.

FIN 681 Special Topics in Finance 3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

FIN 698 MBA Internship 1.5 or 3 cr.

A planned, field-based, individually designed, and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.

FIN 699 Independent Study in Finance 1-3 cr.

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 Eberly College of Business and Information Technology dean.

FIN 795 Thesis 4-6 cr.

For students writing a thesis, FIN 795 should be scheduled for the semester in which the student plans to complete his/her work. The thesis is a committee thesis (4-6 cr.), for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

*Indicates dual-listed class

GEOG: Geography

Department of Geography and Regional Planning
College of Humanities and Social Sciences

- GEOG 511/* History of Geography** 3 cr.
History of the discipline, great ideas, leading professionals, and unresolved issues are studied.
- GEOG 513 Cartography** 3 cr.
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.
- GEOG 514 Map and Photograph Interpretation** 3 cr.
Develops skill in extracting information and synthesizing data from maps and aerial photographs as applied to geologic, land use, planning, and terrain analysis problems.
- GEOG 515/* Remote Sensing** 3 cr.
Methods of remote sensing such as thermal sensing, multi-spectral 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.
- GEOG 516 Introduction to Geographic Information Systems** 3 cr.
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:** GEOG 513 or equivalent or permission of instructor.
- GEOG 517/* Technical Issues in GIS** 3 cr.
A project-based class where students learn the skills to develop and maintain a Geographic Information System. Students will construct functional systems. Designing GIS systems to use specification data collection, data input, project management, and system documentation covered. **Prerequisite:** GEOG 516.
- GEOG 518 Geographic Information Systems (GIS) for Crime Mapping and Social Scientific Analysis** 3 cr.
Provides students with knowledge of the theoretical basis of Geographic Information Systems (GIS) and its applications for criminologists and other social scientists. In the process of demonstrating some of the capabilities of GIS, the specifics of selected GIS and database software packages will also be covered. During the course of the semester, students will develop the skills to use GIS packages, manipulate and query geographic data to solve problems, perform simple spatial analysis, and understand how to utilize GIS in law enforcement/social science problem-solving and decision-making processes. **Prerequisite:** None.
- GEOG 519 Geographic Information Systems (GIS) for Environmental Applications** 3 cr.
Provides students with knowledge of the theoretical basis of Geographic Information Systems (GIS) and its applications for environmental scientific analysis. In the process of demonstrating some of the capabilities of GIS, the specifics of selected GIS and database software packages will also be covered. During the course of the semester, students will develop the skills to use GIS packages, manipulate and query geographic data to solve problems, perform simple spatial analysis, and understand how to utilize GIS for environmental analysis and resource management. **Prerequisite:** None.
- GEOG 521 Enterprise GIS Management** 3 cr.
Principles and methods for creating, operating, maintaining, and managing data for multi-user geospatial information systems are studied. Each student will customize, document, and operate a multi-department, multi-user geographic information system of his/her design. **Prerequisite:** GEOG 517 or consent of instructor.
- GEOG 531 Population Geography** 3 cr.
Spatial variations in numbers, characteristics and dynamics of human population, models, and theoretical constructs relevant to demographic structures and processes are studied.
- GEOG 532 Urban Geography** 3 cr.
Analysis of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.
- GEOG 533 Geography of Transportation and Trade** 3 cr.
Transportation systems and their use: accessibility, circulation, time and distance concepts, and trade patterns. Empirical and theoretical approaches are examined.
- GEOG 534 Political Geography** 3 cr.
Geographic factors and conditions are analyzed as they relate to character and function of states. Political institutions in light of geographic conditions.
- GEOG 536 Social Geography** 3 cr.
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.
- GEOG 540 Conservation: Environmental Analysis** 3 cr.
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.
- GEOG 541 Climatology** 3 cr.
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.
- GEOG 542 Physiography** 3 cr.
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.
- GEOG 543 Geography of Fresh Water Resources** 3 cr.
Focuses on surface and groundwater as 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, and wetlands, including case studies of selected river basins.
- GEOG 550 Introduction to Planning** 3 cr.
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. Legal and institutional bases of planning practice are covered as well.
- GEOG 552 Planning Methods** 3 cr.
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans.
- GEOG 554 Planning Design** 3 cr.
Presents concepts of city, subdivision, and transportation design in relation to topography, natural resources, and other physical elements. **Prerequisite:** GEOG 550.
- GEOG 558 Land Use Law** 3 cr.
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:** GEOG 550 or GEOG 564.
- GEOG 564/* Land Use Policy** 3 cr.
Introduces students to and provides an overview of land use issues at the regional, state, and federal levels. Emphasizes 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.

GEOG 568 Planning Theory 3 cr.
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:** GEOG 550

GEOG 581 Special Topics 3 cr.
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 584 Field Studies in Geography and Social Studies 3 cr.
Immerses the student in a regional environment. Helps the student to critically see and to interpret a cultural landscape. The experience is predominantly off campus. Using a combination of structured field exercises, culturally specific readings, primary and secondary data, and standard geographic field techniques, the course strives to develop for the student a deeper affective and cognitive understanding of a cultural region. May be repeated under a different study area title. **Prerequisite:** Permission of instructor.

GEOG 610 Research in Geography and Regional Planning 3 cr.
Elements and techniques of scientific research, as applied to geographic and planning problems, are studied. A research proposal is developed.

GEOG 612 Quantitative Techniques in Geography and Regional Planning 3 cr.
Descriptive and inferential statistical techniques applied to spatial distribution and spatial association of physical and cultural phenomena and testing of spatial theoretical constructs.

GEOG 614 Thought and Philosophy in Geography and Regional Planning 3 cr.
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:** GEOG 610.

GEOG 617 Field Techniques in Geography and Planning 3 cr.
Field tools and techniques are evaluated and used in the study of a specific area. Interpretation of spatial patterns of phenomena is emphasized.

GEOG 618 GIS Applications Development 3 cr.
Takes students with GIS analysis skills to the next level: developing 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:** GEOG 516.

GEOG 620 Spatial Structure of the Economy 3 cr.
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.

GEOG 623 Regional Development 3 cr.
Theory and policy implications of the spatial aspects of development in various regions of underdevelopment.

GEOG 625 Environmental Planning 3 cr.
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.

GEOG 630 Cultural Geography 3 cr.
Literature and methods of cultural geography. Topics include population, settlements, human ecology, culture areas, and related features.

GEOG 633 Settlement Geography 3 cr.
Settlement patterns and processes; origins, diffusion, classification, pioneer, settlement planning, and agricultural colonization.

GEOG 650 Regional Geography 3 cr.
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.

GEOG 665 Plan Implementation 3 cr.
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:** GEOG 550.

GEOG 670 Professional Problems in Geographic Education 3 cr.
Classroom problems and discussion centered about new viewpoints in geography. Individual reports, group discussion, and research included.

GEOG 675 Spatial Analysis Techniques 3 cr.
A techniques and project-based course where students learn advanced spatial analysis skills utilizing Geographic Information Systems. Students will learn the concepts underlying spatial analysis techniques and obtain hands-on experience operationalizing methods through use of GIS hardware and software. **Prerequisite:** GEOG/RGPL 316/516.

GEOG 680 Seminar 3-6 cr.
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.

GEOG 681 Special Topics 3 cr.
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 698 Internship 3-12 cr.
Professional learning experience with emphasis on practical applications of academic background. **Prerequisite:** Twelve academic credits and a 3.00 cumulative GPA.

GEOG 699 Independent Study 1-6 cr.
Independent research and study under faculty direction. Interested students should apply to director of graduate studies.

GEOG 795 Thesis 3-6 cr.
Registration for thesis must be approved by the department's graduate coordinator and chairperson ahead of time.

*Indicates dual-listed class

GEOS: Geoscience

Department of Geoscience
College of Natural Sciences and Mathematics

GEOS 581/681 Special Topics 1-3 cr.
As student demand and circumstances may dictate, special graduate courses may be offered by any member of the Geoscience graduate faculty.

GEOS 699 Independent Study 1-3 cr.
Independent research under faculty direction.

*Indicates dual-listed class

GSR: Graduate General Service

The School of Graduate Studies and Research

GSR 516 Statistical Methods I 3 cr.
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.

GSR 517 Statistical Methods II 3 cr.
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:** GSR 516 or equivalent.

GSR 615 Elements of Research 3 cr.
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.

GSR 581/681/781/881/981 Special Topics 1-3 cr.
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 School of Graduate Studies and Research.

GSR 699 Independent Study 1-3 cr.
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 School of Graduate Studies and Research.

GSR 795 Thesis 3-4 cr.

GSR 951 Extended Dissertation 3 cr.

HIST: History

Department of History

College of Humanities and Social Sciences

HIST 501 History of Ancient Greece 3 cr.
Analyzes major political, social, economic, and cultural developments in ancient Greek civilization from the Bronze Age to the death of Alexander.

HIST 502 History of Ancient Rome 3 cr.
Traces Roman history from early Republic to fall of Empire. A study of a civilization from its inception to its collapse.

HIST 503 Medieval Europe I, 400-1000 3 cr.
History of early Medieval Europe, from decline of Rome to beginnings of High Middle Ages; emphasis on political, social, economic, religious, and intellectual developments.

HIST 504 Medieval Europe II, 1000-1350 3 cr.
History of late Medieval Europe, from High Middle Ages to Renaissance period; emphasis on political, social, economic, religious, and intellectual developments.

HIST 505 Renaissance and Reformation 3 cr.
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.

HIST 506 Early Modern Europe 3 cr.
Greatness of France under Louis XIV; Sweden; Thirty Years' War; emergence of modern society; French Revolution.

HIST 507 History of Europe, 1815-1914 3 cr.
Study of Europe in nineteenth century, with emphasis on the emergence of major thought patterns, Romanticism, Socialism, and Positivism.

HIST 508 Twentieth-Century Europe 3 cr.
Political, economic, and diplomatic trends of Europe since 1900, with major emphasis on causes and results of war and search for security.

HIST 511 Rise and Fall of Hitler's Empire 3 cr.
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.

HIST 520 History of England to 1688 3 cr.
Survey of growth of English nation, with emphasis on political, social, and economic developments leading to seventeenth-century conflict between Crown and Parliament.

HIST 521 History of England, 1688-Present 3 cr.
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.

HIST 522 French Revolution and Napoleon 3 cr.
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.

HIST 526 History of Russia 3 cr.
General survey of Russian history, culture, and institutions. Special consideration given to study of historical forces formative of revolution in 1917.

HIST 527 History of Soviet Russia 3 cr.
General survey of contemporary Soviet history, culture, and institutions. Special emphasis given to study of communist theory and its place in current Russian historiography.

HIST 530 History of Islamic Civilization 3 cr.
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.

HIST 531 Modern Middle East 3 cr.
Survey of changes that have taken place in the Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HIST 540 Colonial America 3 cr.
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.

HIST 541 The American Revolution 3 cr.
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.

HIST 542 The Early Republic 3 cr.
Survey of United States history from 1783 to 1850, with special attention to constitutional, political, and social trends.

HIST 543 Civil War and Reconstruction 3 cr.
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.

HIST 550 History of Latin America: Colonial Period, 1450-1820 3 cr.
Study of life of people, Indian cultures, conquest by Spaniards and Portuguese, government during Colonial Period, and Wars of Independence.

HIST 551 History of Latin America: National Period, 1820-Present 3 cr.
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.

HIST 560 History of Pennsylvania 3 cr.
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.

HIST 561 American Diplomacy, 1775-1900 3 cr.
Traces foreign relations of the United States from Independence to emergence as a world power. Topics concentrate on themes of commercial relations, political isolation, expansion, and debate over imperialism.

HIST 562 History of American Diplomacy 1900+ 3 cr.
Treats primarily our twentieth-century involvement in world affairs and domestic debate over that involvement. Special emphasis will be placed on the role of interest groups and increasing power of Executive Department over foreign affairs.

HIST 563 Thought and Culture in Early America 3 cr.
Selected topics in early American intellectual and cultural growth, with emphasis on Puritanism, Enlightenment, Cultural Nationalism, and Romantic Movement.

- HIST 564 Thought and Culture in Modern America** 3 cr.
Selected treatment of historical development of modern American movements in social and political thought, religion, philosophy, fine arts, and literature.
- HIST 565 History of Black America Since Emancipation** 3 cr.
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.
- HIST 567 Native American History** 3 cr.
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.
- HIST 569 Women in America** 3 cr.
Surveys of religious, legal, political, social, and popular culture perspectives of womanhood in America from colonial times to present.
- HIST 572 History of the Early American Working Class** 3 cr.
Description and analysis of nature and significance of the U.S. working class in eighteenth and nineteenth centuries. Work settings and communities of workers are examined as well as unions such as the National Labor Union and Knights of Labor.
- HIST 573 History of the Modern American Working Class** 3 cr.
Description and analysis of the nature and significance of the U.S. working class in the twentieth century. Work settings and strikes are examined and analyzed, as well as unions such as the United Mine Workers and United Auto Workers and leaders including Samuel Gompers, John L. Lewis, and George Meany.
- HIST 581 Special Topics in History** 3 cr.
Each semester, courses are offered in interest areas which are not part of the regular course offerings.
- HIST 591 Film as History** 3 cr.
Deals with the cinema as social, cultural, and intellectual history from its origins to the present day.
- HIST 600 Readings in History** 3-6 cr.
Directed readings of historical materials, focused on a general topic.
- HIST 601 History Seminar** 3-6 cr.
Area research, culminating in a formal paper.
- HIST 605 Introduction to Public History** 3 cr.
Introduces wide range of activities in which public historians engage. Explores theoretical and practical issues associated with historic preservation, historical editing, oral history, the management of archival and manuscript collections, and a variety of other public history activities. Also considers broader conceptual issues associated with the concept of public history.
- HIST 606 Topics in Public History** 3 cr.
Focuses on one specific field of public history activity (field varies from semester to semester). Extensive reading in the literature of that field and completion of an appropriate project or paper. **Prerequisite:** HIST 605
- HIST 614 Research Methods** 3 cr.
Investigation of library systems, reference works, bibliographies, how to compile a bibliography, organizing research, use of statistics, style systems in printing.
- HIST 681 Special Topics** 3 cr.
- HIST 698 History Internship** 1-6 cr.
With departmental approval, students are attached to local or national government or private agencies doing directive, bibliography, archival, or museum work. Advising professor meets with intern regularly and determines what papers or reports will be required.
- HIST 699 Independent Study** 3 cr.
Student selects topic for individual study with an instructor.
- HIST 795 Thesis** 3-6 cr.

HPED: Health and Physical Education

Department of Health and Physical Education
College of Health and Human Services

- HPED 510/* Exercise Prescription** 3 cr.
Teaches individuals to write exercise prescriptions based upon a subject's tolerance for physical activity. Special emphasis will be given to risk factors, techniques of evaluation, drugs, injuries, environmental factors, and motivation with respect to their role in physical activity assessment. In-depth experiences working with qualified medical personnel will be provided. **Prerequisite:** HPED 343.
- HPED 512/* Physical Activity and Stress Management** 3 cr.
Acquisition of necessary understandings of anxiety and stress with respect to the nature, the place they hold in our society, and the intervention strategies related to physical activity. A paper relating the utilization of these techniques is required.
- HPED 513/* Physical Activity and Aging** 3 cr.
Presents the major aspects of physical activity, its importance to the older adult, and the organization of an activity program. Specific attention will be given to the physiology of activity, effects of activity on growth and aging, exercise prescription, flexibility, overweight and obesity, and motivational strategies. A paper is required that deals with analysis of problems of the aged as observed from visitations to nursing homes, senior citizens' organizations, and social service agencies.
- HPED 526/* Health Science Instruction** 3 cr.
An overview of health curriculum K-12, with a focus on middle school and secondary health education teaching methods and media of instruction. Includes unit development, opportunities for classroom instruction, and guidelines for maintaining professional growth. Explores current research in classroom techniques, motivational strategies, and assessment of student learning. **Prerequisite:** HPED 316 (undergraduates) and admission to Teacher Education Program or permission of instructor (undergraduate).
- HPED 550/* Curriculum and Programming in Sexuality Education** 3 cr.
Designed to provide and share information that will be helpful to current and future school personnel in developing sexuality education programs in their schools and local communities.
- HPED 581 Special Topics** 3 cr.
- HPED 601 Sport and Society** 3 cr.
Designed to acquaint the student with the reciprocal relationships between sport and physical activity as they affect human development in the societies and cultures out of which sport emerges.
- HPED 602 Sport Psychology** 3 cr.
Study of the psychological effects and implications of participation in sport and physical activity. Emphasis on personality and motivational dynamics as they relate to sport involvement in human behavior.
- HPED 603 Physiological Basis of Sport** 3 cr.
An examination of the physiological factors that influence performance in sport with emphasis on the analysis of various training techniques.
- HPED 610 Coaching Management** 3 cr.
Focuses on the understanding and application of techniques for coaching an athletic team. Current research on coaching strategies, psychology of sport, sociology of sport, liability management, and the physiological conditioning of athletes are emphasized. **Prerequisite:** None.
- HPED 620 Exercise Prescription for Chronic Diseases** 3 cr.
Examines the medical and therapeutic considerations for exercise prescriptions, as defined by the American College of Sports Medicine, for individuals with chronic medical disorders. Competencies needed to function as clinical exercise specialist will be emphasized. **Prerequisite:** Permission.

HPED 625 Management Concepts in Fitness 3 cr.

Overview of issues, challenges, and professional responsibilities involved in the management of health and fitness programs and facilities. Focuses on the management of clinical, community, commercial, and corporate fitness programs. Topics include fitness program development, organizational structure and planning, personnel issues, financial management, marketing, and risk and liability issues related directly to operating a clinical and commercial fitness program. **Prerequisite:** None.

HPED 631 Motor Learning 3 cr.

Examines theories and concepts of motor control. Provides necessary skills and tools to evaluate performance, provide effective instruction, and create practice sessions that optimize acquisition and retention of movement skills. Requires a strong background in the areas of anatomical and mechanical kinesiology and basic understanding of the central nervous system operations.

HPED 632 Assessment of Human Physiological Functions 3 cr.

Study of various physical fitness components and their contribution to a person's well-being and how to measure and evaluate physical fitness.

HPED 634 Current Literature in Health, Fitness, and Sport 3 cr.

Focus on knowledge and demonstration of skills required for development of a master's thesis proposal. Emphasis is on research design and the statistics appropriate to analyze various types of research. Students will be involved in the identification, interpretation, and analysis of peer-reviewed research specific to the discipline of health, physical activity, and sport. **Prerequisite:** None.

HPED 635 Sport Management 3 cr.

Theory and practice of human management with applications to sport; formal structure of organizations, goal setting, organizational personality, group processes, and leadership styles.

HPED 637 Sport Facilities Management 3 cr.

An administrative and management course designed to prepare sport managers to develop and operate competitive, recreational, instructional, therapeutic, and multifaceted sport complexes. Course work includes planning, design, construction, budgeting, programming, staffing, equipping, administration, maintenance, safety, and rehabilitation. Three lecture hours.

HPED 640 Research Methods for Health, Sport, and Physical Activity 3 cr.

Provides a foundation for the research process in fields related to health and human performance. Types of research, writing a research report, and evaluation of commonly used techniques for data analysis are explored. Computer statistical programs and library resources are used to facilitate the student's development of reading and conducting research. **Prerequisite:** HPED 634.

HPED 641 Administration of Aquatic Programs 3 cr.

Examines the organizational procedures, administrative techniques, and practices employed in aquatics with special emphasis on adapted, competitive, instructional, recreational, social, and water safety programs.

HPED 642 Design and Operation of Aquatic Facilities 3 cr.

Elements and principles of planning, design, and operation of swimming pools, waterfront facilities, and related equipment necessary for the aquatic administrator.

HPED 645 Advanced Teaching Techniques in Physical Education 3 cr.

Provides the tools necessary to effectively design and implement unit plans of instruction in physical education. Assists in developing teaching qualities that enhance participation and encourage lifetime activity. Provides an overview of the physical education curriculum, K-12, with an emphasis on middle and high school levels. Explores recent developments in the field of physical education with emphasis on instructional strategies, assessment procedures, and use of technology.

HPED 650 Wellness: A Classroom Approach 3 cr.

Designed to provide classroom teachers and educational specialists with knowledge, skills, and management capabilities to plan, implement, and evaluate personal, classroom, and school health promotion and wellness programs. The intent of this course is to educate teachers to promote health and wellness needs of children and youth.

HPED 652 Sport Business 3 cr.

Focuses on the application of knowledge in marketing, finance, sales, sponsorships, promotions, media, and public relations to the sports industry. Strategies specific to sports will be emphasized. **Prerequisite:** None.

HPED 655 Health and Fitness for Elementary School Children 3 cr.

Prepares students to teach health and fitness to grades K-6. Includes developmentally appropriate content and teaching strategies based on national and state standards with opportunities for teaching in peer laboratory and school settings. Reviews current issues and research on childhood health behaviors. Analyzes behavioral strategies for promoting lifetime physical activity.

HPED 658 Emergency Management for Schools 3 cr.

Provides knowledge, tools and skills necessary to prepare for and respond to emergency situations that could occur during the school day, at school sponsored events and functions, or while transporting school students. Requires demonstration of appropriate response to a school emergency and skills necessary to maintain the health, safety, and welfare of students.

HPED 670 Advanced Seminar in Adapted Physical Education 3 cr.

Provides K-12 physical education teachers with the knowledge necessary to include students with disabilities in general physical education classes. An overview of current laws, assessment, the IEP process, and information on specific disabilities as relates to physical education will be addressed. Practical experience will be provided by participation of students in the Special Needs Activity Program.

HPED 672 Epidemiology of Physical Activity 3 cr.

Introduces the student to the principles of epidemiology and the specific relationship between physical activity and chronic disease. Exercise-based public health initiatives and health promotion programming are emphasized.

HPED 680 Seminar 3 cr.

Specific subjects will be considered through readings, reports, discussions, and guest presenters. A paper will be required. A specific title will be listed in the schedule of classes. May be repeated.

HPED 681 Special Topics 3 cr.**HPED 698 Internship** 3-6 cr.

Prospectus must be presented by student. Objective is to provide an in-depth experience in an area of interest to the student under the guidance of a faculty member and a cooperating supervisor. **Prerequisite:** Faculty approval.

HPED 699 Independent Study 1-3 cr.

Students may study intensively a subject of their interest under the guidance of a faculty member with the appropriate expertise. Prospectus must be presented by the student. **Prerequisite:** Approval of faculty member, department chairperson, college dean, and associate provost.

HPED 795 Thesis 3-6 cr.

*Indicates dual-listed class

HSAD: Health Services Administration

Department of Employment and Labor Relations

College of Health and Human Services

NURS/HSAD 555 Health Care Informatics 3 cr.

This is an introductory and overview course in the application of the disciplines of health sciences, computer science, and information science in collecting, processing, and managing information to promote decision making in health care.

HSAD 605 Epidemiology in Health Services Administration 3 cr.

Addresses the concepts and methods of epidemiology as they apply to a variety of health events. Examines concepts of epidemiology, identifies data sources, and interprets epidemiological research findings. Issues in the application of epidemiology to health services administration are addressed.

HSAD 609 Ethics and Social Issues in Healthcare 3 cr.
Explores ethical imperatives as they apply to the provision of health services in the twenty-first century. Selected ethical frameworks provide the structure to analyze emerging cultural and societal issues impacting the delivery of health care services. The provision of health services to vulnerable populations, as well as rural health issues, will be of particular interest.

ELR/HSAD 610 Employee Rights under Law 3 cr.
Provides a review of the major legislative rights and benefits available to employees under law in terms of their impact on labor and management in the employment relationship. The main focus will be the analysis and application of state and federal employment laws.

NURS/HSAD 614 Health Policy 3 cr.
Focuses on the legislative, regulatory, and political processes that impact health services in the United States. Students will examine their role in health policy development at the federal, state, and local levels. Selected policies will be analyzed for their effect on health care delivery. The influence of U.S. policy on the health of those in other countries will be explored.

ELR/HSAD 616 Health Law 3 cr.
Focuses on legal language, tort law, legal issues, and legal sanctions of state and national health care laws as applied to individuals and organizations. Through lectures, discussions, readings, and presentations, students will learn to solve problems of health care administration within the current health care legal system and develop an understanding of the legal issues present within the current health care field.

ELR/HSAD 619 Advanced Research in Employment Relations and Health Services Administration 3 cr.
Provides students with the advanced knowledge needed to understand the process of research development, effectively evaluate research studies, interpret common statistical information, use the statistical package for social sciences, and develop and execute a research project.

ELR/HSAD 631 Human Resources Management in the Public Sector 3 cr.
Provides students with an in-depth analysis of human resource management with a special examination of public sector organizations. Emphasizes the job functions and issues facing the human resource professional and organizations. Course topics include the current environment in human resources, the acquisition and preparation of human resources, the assessment and development of Human Resource Management (HRM), the strategies involved in compensation administration, and collective bargaining and labor relations issues in the public sector.

NURS/HSAD 730 Financial Management in Health Care 3 cr.
This course will provide an opportunity for students to examine the financial decision-making processes used by health care administrators. Emphasis will be on understanding health care payment systems, assessing and developing financial plans, and making financial decisions in a variety of health care settings.

ELR/HSAD 751 Conflict Resolution 3 cr.
This course will provide students with an in-depth analysis of conflict resolution in many settings, primarily in the employment relationships. The student will be exposed to the current environment surrounding conflict resolution; the legal, ethical, and emotional issues that are common in disputes; and the format by which employment disputes are resolved.

HSAD 761 Health Services Administration Practicum 3 cr.
This capstone course provides a culminating educational experience. Working with a mentor in a health service organization, the student is required to design, implement, and evaluate a project utilizing the skills and knowledge acquired through the Health Services Administration program and reflecting professional values and critical thinking developed during the course of study.

HSAD 795 Thesis 3-6 cr.

IFMG: Information Management Department of Management Information Systems and Decision Sciences Eberly College of Business and Information Technology

IFMG 581 Special Topics in Information Systems 1-3 cr.
Covers advanced or exploratory topics within the discipline. Specific content developed by the instructor. Content will vary, depending upon the interests of the instructor and students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

IFMG 640 Management Information Systems 3 cr.
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:** IFMG 300.

IFMG 644/* IT Policy and Strategy 3 cr.
Investigates strategic perspectives for aligning competitive strategy, core competencies, and information systems. Students will study the development and implementation of policies and plan to achieve organizational goals. They will also define the systems that support the operational, administrative, and strategic needs of the organization, its business units, and individual employees. Students will study and apply different approaches to managing the information systems function in organizations, including examination of the dual challenges of effectively controlling the use of well-established information technologies. Students will also study the different roles of the chief information officer.

IFMG 645 IS Concepts and Architecture 3 cr.
Presents traditional and emerging IS theory at the graduate level. Organizational foundations, the decision process, investment in enterprisewide systems, legal and ethical implications of the digital business, and behavioral dimensions of systems implementation are the focus. Systems theory, quality, decision process, and ethical and behavioral implications are included. Network and enterprisewide architectures applicable to hardware and software implementation trade-offs are included.

IFMG 650 Analysis Modeling and Design 3 cr.
The traditional systems development life cycle is covered in detail and integrated with other contemporary methodologies. Structured techniques are emphasized as a forerunner to object-oriented design issues. Project feasibility, data and decision modeling, interface, I/O design, implementation, and team development are included. Student will use CASE, prototyping, and usual development tools.

IFMG 655 Data Communications and Network Technology 3 cr.
Principles and application of networking are presented with an emphasis on communications and Internet technologies. Telephone systems, hardware, software, client and server applications and techniques, managerial concerns, and web-enabled databases are covered.

IFMG 660 Data Management 3 cr.
Data management designs and development issues are discussed in detail at the graduate level with respect to large data architectures and systems. Design and development issues include logical modeling, concurrent processing, data administration, and managerial distribution concerns of security, concurrency, integrity, and recovery.

IFMG 662 Data Warehousing and Mining 3 cr.
Data warehousing and mining involve the design, implementation, and evaluation of the data warehouse. Information architectures, web-enabled warehouse design, on-line analytical processing, metadata, implementation, and evaluation are stressed. Data mining and modeling are combined with statistics and patterning to garner business intelligence in the marketplace.

IFMG 663/* Project Management for Information Technology Professionals**3 cr.**

Investigates strategies for managing projects within an organizational context, including the processes related to initiating, planning, executing, controlling, reporting, and closing a project. Students will study project integration, scope, time, cost, quality control, and risk management. They will identify project champions and work with user teams, training, and documentation. Students will also investigate the role of the information systems specialist.

IFMG 681 Special Topics in Management Information Systems**3 cr.**

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 Eberly College of Business and Information Technology graduate coordinator.

IFMG 682/* Integrating the Enterprise, IS Function, and Technologies**3 cr.**

Investigates the information systems role in transforming organizations and industries. Students will study an integrated view of the organization from an external and internal perspective. Students will also study IS's internal role in integrating the enterprise through a cohesive set of business processes and functional applications to meet business needs. Students will discuss the tactical/operational responsibilities and roles of the CIO and governance considerations that link the IS-business organizations. They will study current/emerging issues in creating and coordinating the key activities necessary to manage the day-to-day operations of the IS function. Students will also study the development of an integrated technical architecture to serve organizational needs in a rapidly changing competitive and technological environment.

IFMG 698 MBA Internship**1.5 or 3 cr.**

A planned, field-based, individually designed, and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.

IFMG 699 Independent Study in Management Information Systems**1-3 cr.**

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 Eberly College of Business and Information Technology dean.

LDRS: Administration and Leadership

Department of Sociology

College of Humanities and Social Sciences

LDRS 781/881 Special Topics**3 cr.****LDRS 800 Proseminar****3 cr.**

Proseminar (professional seminar) helps students to develop doctoral-level academic skills. It includes skill-building in scholarly writing, orientation to academic technologies, professional development in the academic culture, and planning strategically for dissertation research from the outset of students' program of study.

LDRS 801 Leadership Theories**3 cr.**

Focuses on several leadership theories related to administering social agencies, schools, business, and industry.

LDRS 802 Leadership Applications**3 cr.**

Builds on LDRS 801 and other ALS courses, synthesizing major ideas about leadership, organizations, resource constraints, organizational goals, and other germane topics. In addition, the course will emphasize the development of critical thinking skills and the ability to synthesize materials from various sources into coherent arguments. It also stresses the importance of applying concepts from political science, sociology, and economics to better understand how organizations function and how individuals within organizations function.

LDRS 810 Nonprofit Management**3 cr.**

Examines the administration and management of nonprofit organizations, including concrete aspects of program creation and operations such as boards, bylaws, 501 (c) (3) tax-exempt status, mission statements, program development, personnel policies, budgeting, marketing, strategic planning, volunteers, fundraising, public relations, lobbying, and program monitoring and evaluation.

LDRS 811 Administration in the Public Sector**3 cr.**

Designed to introduce students to the study of public administration, the course focuses primarily on the administrative structures and practices of American national government and is structured around four broad topics: First, to provide students with a necessary theoretical perspective on public bureaucracy, several major schools of thought regarding organizational structure and behavior are examined. Second, the role of bureaucracy in a constitutional democracy is explored. Third, the institutional environment in which bureaucracy must function is specified, and relationships between bureaucracy and other government institutions are analyzed. Finally, the internal operation of a bureaucracy is discussed and specific functions and methods examined.

LDRS 861 Program Evaluation**3 cr.**

Designed to cover major theoretical, methodological, and practical issues in program evaluation. Emphasis is given to key elements for the study of evaluation, including the history and modern concepts of evaluation; theoretical notions aligned with evaluation; design elements in evaluation studies; the setting and implementation of intervention programs; and the development, presentation, and use of evaluation results. This course will draw on previous course work in social theory, leadership, and methods. Students will use their collective knowledge to develop a synthesis of applied research geared toward assessing program processes, outcomes, and impacts and formulating actions for intervention improvements.

LDRS 898 Field Experience in Administration and Leadership Studies**3 cr.**

Designed to provide the student with an opportunity to solve a practical problem associated with the leadership and administration of an organization. The student may elect to undertake a policy/problem analysis process that integrates prior substantive and analytically oriented course work. 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 be taken only after the student receives candidacy.

LDRS 995 Dissertation**9 cr.****LIBR: Library**

The University Libraries

Academic Affairs Division

LIBR 600 Bibliography of Music**3 cr.**

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 prepare an extensive annotated bibliography of a music subject within their special interest.

LTCY: Literacy

Department of Professional Studies in Education
College of Education and Educational Technology

LTCY 590 Improving Professional Practice in Instructional Settings and 1-3 cr.

LTCY 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

LTCY 600 Foundations of Literacy Instruction 3 cr.
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.

LTCY 607 Instruction and Learning With Literature 3 cr.
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.

LTCY 644 Issues and Trends in the Language Arts 3 cr.
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. **Prerequisite or corequisite:** LTCY 600.

LTCY 648 Creativity and the Elementary School Child 3 cr.
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.

LTCY 681 Special Topics 1 cr. to 3 cr.

LTCY 697 Seminar in Special Problems in Reading 3 cr.
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.

LTCY 698 Analysis of Research in Literacy 3 cr.
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. **Prerequisite:** LTCY 600 or permission of coordinator.

LTCY 699 Independent Study in Reading Education 1-3 cr.
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.

LTCY 701 Assessment and Acceleration 3 cr.
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. **Prerequisite:** LTCY 600.

LTCY 702 Reading and Writing in the Content Areas 3 cr.
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. **Prerequisite:** LTCY 600 or permission of coordinator.

LTCY 705 Organization and Administration of Reading/Writing Programs 3 cr.

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. **Prerequisite or corequisite:** LTCY 607, 644, 698, 701, and 702.

LTCY 770 Practicum and Seminar for Reading Specialists I 3 cr.
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 videoconferencing. **Prerequisite:** LTCY 702 and LTCY 705.

LTCY 771 Practicum and Seminar for Reading Specialists II 3 cr.
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 are included. An electronic portfolio is maintained. Supervision of the Reading Specialist Program faculty will be on site and through videoconferencing. **Prerequisite:** LTCY 702 and LTCY 705.

LTCY 795 Thesis 1-6 cr.
Prerequisite: Permission of the coordinator.

MATH: Mathematics

Department of Mathematics
College of Natural Sciences and Mathematics

MATH 518/* Sampling Survey Theory and Its Applications 3 cr.
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) MATH 214, MATH 216, MATH 217, or GSR 516.

MATH 521-522 Advanced Calculus I, II 3 cr.
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.

MATH 523/* Complex Variables I 3 cr.
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 advisor.

MATH 525/* Applied Mathematical Analysis I 3 cr.
Provides the necessary background for an understanding of mathematical programming, proofs of convergence of algorithms, convexity, and factorable functions. 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.

MATH 527/* Topology 3 cr.
Basic topological concepts, including some topological invariant relationships between topology and other disciplines of mathematics, are discussed. **Prerequisite:** Differential and Integral Calculus.

- MATH 545/* Deterministic Models in Operations Research** 3 cr.
An introductory course on using the basic tools of solving deterministic models in operations research. Topics include optimization techniques and applications such as linear programming, nonlinear and dynamic programming, transportation models, and network models. In addition, sensitivity analysis, duality, simplex methods, and integer programming are discussed. Students will use technology to solve problems and interpret the results. **Prerequisite:** Two semesters of calculus and one semester of linear algebra.
- MATH 546/* Probabilistic Models in Operations Research** 3 cr.
A survey of probabilistic methods for solving decision problems under uncertainty. Probability review, decision theory, queuing theory, inventory models, and Markov chains are covered. Students will use technology to solve problems and interpret the results. **Prerequisite:** Two semesters of calculus, one semester of introductory linear algebra, and introductory probability and statistics.
- MATH 547/* Modeling and Simulation** 3 cr.
Construction and solution of mathematical models. Emphasis is on applications in areas such as logistics, natural and social sciences, and manufacturing. Discrete and continuous system models are analyzed using mathematical and computer-based methods. Introduction to computer simulation. Introductory course in differential equations is recommended but not required. **Prerequisite:** Two semesters of calculus, one semester of introductory linear algebra, and introductory probability and statistics.
- MATH 551/* Numerical Methods for Supercomputers** 3 cr.
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. **Prerequisite:** Permission of the instructor.
- MATH 553/* Theory of Numbers** 3 cr.
Elementary properties of divisibility, congruences, Chinese remainder theories, primitive roots and indices, quadratic reciprocity, diophantine equations, and number theoretic functions. **Prerequisite:** Differential and Integral Calculus.
- MATH 563/* Mathematical Statistics I** 3 cr.
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. **Prerequisite:** Differential and Integral Calculus.
- MATH 564/* Mathematical Statistics II** 3 cr.
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:** MATH 563.
- MATH 571/* Linear Algebra** 3 cr.
Theory of vector spaces and linear transformations, applications to linear equations, determinants, and characteristic roots are studied.
- MATH 576-577 Abstract Algebra I, II** 3 cr.
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.
- MATH 581-583 Topics Seminars in Mathematics** 3 cr.
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 advisor. **Prerequisite:** Consent of instructor.
- MATH 610 Real-Data Approach to Teaching Mathematics** 3 cr.
Presents the content knowledge as well as effective teaching strategies to incorporate real data in the teaching of grades K-12 mathematics curriculum. Students will learn to integrate real data into the teaching of numerical concepts, pre-algebra, algebra, probability, statistics, geometry, and advanced mathematics. The intended audience is K-12 teachers who wish to learn content and teaching methods to integrate real data into the teaching of mathematics. **Prerequisite:** Permission of the instructor.
- MATH 625 Analysis for Applied Mathematics** 3 cr.
A graduate-level introduction to classical applied mathematics. Topics include vector spaces and orthogonality, eigenvalue problems, quadratic forms, vector calculus in n-space, infinite series and applications, Fourier series, least squares approximation, and systems of differential equations. **Prerequisite:** Calculus sequence and introductory linear algebra or permission of the instructor.
- MATH 631 Foundations of Mathematics** 3 cr.
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.
- MATH 640 Numerical Mathematics** 3 cr.
Intended for graduate students in mathematics and the sciences, this course will cover solving mathematical problems using computer algorithms, in particular root finding methods, direct and iterative methods for linear systems, nonlinear systems, eigenvalue problems, and differential equations. **Prerequisite:** Calculus sequence, introductory linear algebra, and programming literacy, or permission of the instructor.
- MATH 641 Ordinary and Partial Differential Equations** 3 cr.
Solution techniques for linear and solvable nonlinear ordinary and partial differential equations are covered. A variety of methods including series solutions, operator methods, Laplace transforms, characteristics, and separation of variables are demonstrated for numerous applications to physical problems. Systems of differential equations, associated phase plane, and stability theory are addressed. Solutions and applications for the equations of mathematical physics are discussed, including the heat equations, Laplace's equations, and the wave equation. **Prerequisite:** MATH 625 or permission of the instructor.
- MATH 643 Graphs, Networks, and Combinatorics** 3 cr.
Introduces elementary concepts of graph theory and its applications and the fundamentals of combinatorics. Systematic methods for counting are given via the study of arrangements and generating functions through the use of classical and analytical techniques. **Prerequisite:** Calculus sequence.
- MATH 645 Nonlinear Programming Models** 3 cr.
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. **Prerequisite:** MATH 525 and MATH 545 or equivalent courses.
- MATH 647 Advanced Simulation** 3 cr.
An in-depth study of computer simulation techniques using simulation software. Emphasis is on discrete-event systems, although continuous-event systems will also be modeled. Model validation and verification including statistical analysis. **Prerequisite:** MATH 545 and MATH 563.
- MATH 650 History of Mathematics** 3 cr.
People and ideas that have shaped the course of events in mathematics. Major attention given to developing activities for the secondary school mathematics classroom which incorporate the historical viewpoint.
- MATH 651 Seminar in Teaching Junior High School Mathematics** 3 cr.
Explores problems of teaching mathematics at junior high level. Emphasis on a discovery, lab-oriented approach to teaching. **Prerequisite:** Permission of instructor.

MATH 652 Seminar in Teaching Senior High School Mathematics 3 cr.
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.

MATH 654 Curriculum and Supervision in Mathematics 3 cr.
Basic principles underlying effective mathematics curriculum from both a theoretical and an experimental viewpoint. Investigates supervisor's role as source of stimulation, leadership, and expertise in teaching mathematics.

MATH 655 Projective Geometry 3 cr.
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. **Prerequisite:** Undergraduate courses in linear algebra and geometry.

MATH 665 Applied Regression Analysis and Design of Experiments 3 cr.
Designed as an applied course in regression analysis, analysis of variance, and experimental design. The student is introduced to least squares, the matrix approach to linear regression, the examination of residuals, dummy variables, the polynomial model, best regression equations, multiple regression, and mathematical model building. Statistical software is used for the data analysis. Analysis of variance (ANOVA) and design of experiments including one- and two-factor analysis, randomized block designs, and Latin squares are covered. Both the ANOVA and regression approaches to these concepts are introduced, as well as the appropriate nonparametric alternatives. **Prerequisite:** MATH 564 or permission of the instructor.

MATH 667 Applied Statistical Methods 3 cr.
Focus will be on the understanding and the application of statistical techniques in sampling, categorical data analysis, and time series. Statistical software is used for data analysis. **Prerequisite:** MATH 564 or permission of the instructor.

MATH 681-683 Special Topics in Mathematics 3 cr.
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.

MATH 684 Topics in Operations Research 3 cr.
Special Topics in operations research beyond the scope of regularly offered graduate courses. Offered as student interest and available staff permit. **Prerequisite:** Permission of the instructor.

MATH 685 Topics in Probability and Statistics 3 cr.
Special Topics in probability and statistics beyond the scope of regularly offered graduate classes. Offered as student interest and available staff permit. **Prerequisite:** Permission of the instructor.

MATH 688 Topics in Applied Mathematics 3 cr.
Special Topics in applied mathematics beyond the scope of regularly offered graduate classes. Offered as student interest and available staff permit. **Prerequisite:** Permission of the instructor.

MATH 698 Internship 1-6 cr.
Positions with participating companies or agencies provide students with experience in mathematics-related work under the supervision of agencies and faculty.

MATH 699 Independent Study in Mathematics 3 cr.
Under the guidance of faculty member, a student may study some area of mathematics not included in the regular courses.

MATH 795 Thesis 3 cr.

*Indicates dual-listed class

MEDU: Master's in Education

Department of Professional Studies in Education
College of Education and Educational Technology

MEDU 590 Improving Professional Practice in Instructional Settings 1-3 cr.
and

MEDU 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

MEDU 761 Community and Culture 6 cr.
This team-taught Thematic Unit provides 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.

MEDU 762 Instruction and the Learner 6 cr.
This team-taught Thematic Unit prepares 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 use a model of reflective thinking and teaching to apply their knowledge of instructional technology to facilitate classroom learning. They will also learn to apply constructivist perspectives on instruction to personal classroom practice. **Prerequisite:** MEDU 761.

MEDU 763 Teacher as Researcher 6 cr.
This Thematic Unit provides 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. **Prerequisite:** MEDU 761, MEDU 762.

MEDU 764 Educational Change and Technology 6 cr.
This team-taught Thematic Unit prepares graduate students with a strong theoretical and practical knowledge base focusing on a number of educational changes occurring in schools today. Topics include (but are not limited to) the possibilities and challenges of technology and the Information Superhighway, school organization, program design, instructional strategies, assessment practices, and the roles and relationships of educators, families, and community. **Prerequisite:** MEDU 761, MEDU 762, MEDU 763.

MEDU 765 Curriculum and Instruction 6 cr.
This team-taught Thematic Unit prepares graduate students with a strong theoretical and practical knowledge of a variety of instructional design and delivery strategies. Through critical inquiry, students 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 are 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 also invite and support development of students' research assignments. **Prerequisite:** MEDU 761, MEDU 762, MEDU 763, MEDU 764.

MEDU 766 Teacher as Leader 6 cr.
 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 presents a variety of teacher leadership models as well as the theories related specifically to teachers and adult development. Students plan and implement specific projects in their own schools that relate to these two variables. In addition, students are required to research and write papers and to develop simulations to enhance their understanding of these theories and models.
Prerequisite: MEDU 761, MEDU 762, MEDU 763, MEDU 764, MEDU 765.

MGMT: Management

Department of Management

Eberly College of Business and Information Technology

MGMT 500 Compensation Management 3 cr.
 Studies the policies and programs that help managers design and administer compensation systems for private- and public-sector enterprises. Includes motivation theories and practice in designing of compensation systems.
Prerequisite: MGMT 300 or equivalent.

MGMT 501 Management Development and Training 3 cr.
 Principles, problems, and procedures in planning, organizing, directing, and controlling all aspects of training and development programs in business enterprise. Methods of improving and development of managerial skills are emphasized. **Prerequisite:** MGMT 300, 310, or equivalent of both.

MGMT 503 Small Business Planning 3 cr.
 Integrates the content of much of the business core and relates it to the business planning for small businesses and entrepreneurial efforts. The student will be introduced to the concepts which will support the development of an effective business and marketing plan.

MGMT 505 Organizational Staffing 3 cr.
 Focuses on the "staffing" or "employment" subsystem of the human resource management function and deals with the theoretical, technical, administrative, and legal issues involved in the recruitment, selection, placement, transfer, and promotion of individuals by organizations. Topics covered include human resource planning, job analysis, job descriptions and job specifications, recruitment and selection processes, equal employment opportunity and affirmative action, reliability and validity of selection instruments and techniques, and contemporary issues in selection. **Prerequisite:** MGMT 300 and MATH 214 or equivalent of both.

MGMT 534 Quality Management 3 cr.
 Emphasizes the philosophy that quality is an organization-wide phenomenon that influences every aspect of operations. An overview of current quality management philosophies and tools and techniques for managing quality in any organization. **Prerequisite:** MATH 214 or equivalent.

MGMT 537 Supply Chain Management 3 cr.
 Deals with the design and evaluation of supply chain systems with a focus on strategic and technological issues. These concepts will be developed through exploration of contemporary practices, case studies, and research, as analytical frameworks of Supply Chain Management. Theoretical and practical understanding of manufacturing and service planning and control, including systems modeling, purchasing and sourcing, logistics, strategic alliances, inventory management, scheduling, etc. Manufacturing and service technologies and trends are also emphasized. Computer applications are used for understanding the interrelationships between various components of Operations System. **Prerequisite:** MGMT 330 or equivalent.

MGMT 551 International Management 3 cr.
 Provides a general foundation on managing multinational corporations (MNCs). Examines the macro- and structural-level issues of MNCs. Focuses on planning, organization structure, managerial decision making, and human resource management in global structures and differences between MNCs and domestic organizations. **Prerequisite:** MGMT 310 or equivalent.

MGMT 554 International Competitiveness 3 cr.
 The study of the most important challenges that face nations and firms alike in gaining or restoring competitiveness. Focuses on factors that determine the success of nations and their firms in highly dynamic world markets. Various theories, models, and cases dealing with competitive advantage are examined.
Prerequisite: MGMT 350 or equivalent.

MGMT 571 Organizational Launch and New Venture Development 3 cr.
 Student teams write and present business plans for new ventures. The emphasis of this intensively interactive and uniquely structured course is on applying concepts and techniques studied in various functional areas to the new venture development environment. In preparing the business plan, students learn to screen for effective venture ideas, identify and define the fundamental issues relevant to the new venture, identify the venture's market niche and define its business strategy, and determine what type of financing should be raised—how, when, by whom, and how much. A solid understanding of business basics is required. Actual business plans are used to address these issues. **Prerequisite:** MGMT 310.

MGMT 572 Organizational Entrepreneurship 3 cr.
 One of the most consistent patterns in business is the failure of leading companies to stay atop their industries when technologies or markets change. There are a variety of reasons for this, including bureaucracy, poor planning, not-invented-here syndrome, etc., but there are no guarantees in today's high-tech industries of continued success for the leaders. This class will explore the "hows" and "whys" some companies are able to retain their competitive edge and others are not. **Prerequisite:** MGMT 310 or equivalent.

MGMT 581 Special Topics in Management 1-3 cr.
 Covers advanced or exploratory topics within the discipline. Specific content is developed by the instructor. Content will vary, depending upon the interests of the instructor and the students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

MGMT 613 Organizational Analysis 3 cr.
 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 are viewed from a number of perspectives, including classical theory and case analysis, to illustrate and extend the major topics of the course. **Prerequisite:** MGMT 310.

MGMT 623 Seminar in Personnel 3 cr.
 Designed to offer the MBA 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: MGMT 613.

MGMT 635 Seminar in Management and Organizational Leadership 3 cr.
 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:** MGMT 613.

MGMT 637 Operations Management 3 cr.
 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.

MGMT 650 International Business 3 cr.

Provides the student with the knowledge needed for operating effectively in a global economy. Examines the operations of firms functioning in the global market place. Focuses on how these companies function in a globally integrated economy through sophisticated networks of alliances, mergers and acquisitions, and integrated systems of knowledge and product flows. The course highlights the necessity for companies to balance the need for global integration while responding to national/cultural variations.

MGMT 651 International Management 3 cr.

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.

MGMT 681 Special Topics in Management 3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

MGMT 695 Business Policy 3 cr.

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.

MGMT 698 MBA Internship 1.5 or 3 cr.

A planned, field-based, individually designed, and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.

MGMT 699 Independent Study in Management 1-3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

MGMT 795 Thesis 4-6 cr.

For students writing the thesis, MGMT 795 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.), for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

MKTG: Marketing**Department of Marketing****Eberly College of Business and Information Technology****MKTG 521/* Marketing Research** 3 cr.

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:** MKTG 320.

MKTG 530/* International Marketing 3 cr.

International marketing is analyzed with consideration given to the significance of government regulation, organization structures of export and import enterprises, and credit policies. **Prerequisite:** MKTG 320.

MKTG 534 Marketing Logistics 3 cr.

This upper-division course focuses on planning, organizing, and controlling the marketing logistics function. In addition to the acquisition and application of management science methods, students will integrate and apply previously gained knowledge to analyze and solve complex marketing logistics problems. Areas of major concentration include facility location, transportation, inventory management, and customer service. **Prerequisite:** MKTG 320 and MGMT 330 or equivalent of each.

MKTG 539/* Internet Marketing 3 cr.

Presents a strategic framework for developing marketing strategies on the Internet. Extends the Marketing Mix framework to E-Commerce using current theories and applications in on-line product, on-line pricing, web-based marketing communication, and distribution strategies. Other topics include marketing research on the Internet, electronic retailing, Internet-based customer relationship management, and legal-ethical dimensions of e-marketing. Students will use Internet-based on-line marketing cases. **Prerequisite:** MKTG 320 or equivalent.

MKTG 581 Special Topics in Marketing 1-3 cr.

Covers advanced or exploratory topics within the discipline. Specific content is developed by the instructor. Content will vary, depending upon the interests of the instructor and the students' need and demand for the advanced or exploratory topic. **Prerequisite:** Permission of instructor and Eberly College of Business and Information Technology graduate coordinator.

MKTG 603 Marketing Management 3 cr.

An analytical and quantitative approach to decision making and the planning, development, implementation, and control of a marketing program.

Prerequisite: MKTG 320.

MKTG 606 Advances in Global Marketing 3 cr.

Deals with current and classical global marketing issues including the globalization phenomenon, firms' marketing strategies directed at dealing with it, and other emerging issues in the global marketplace. The discussion will specifically target managerial and strategic aspects pertaining to the firm's foreign market entry, product, pricing, promotion, and distribution decisions in the global context.

MKTG 650 International Business 3 cr.

Provides the student with the knowledge needed for operating effectively in a global economy. Examines the operations of firms functioning in the global market place. Focuses on how these companies function in a globally integrated economy through sophisticated networks of alliances, mergers and acquisitions, and integrated systems of knowledge and product flows. The course highlights the necessity for companies to balance the need for global integration while responding to national/cultural variations.

MKTG 681 Special Topics in Marketing 3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

MKTG 698 MBA Internship 1.5 or 3 cr.

A planned, field-based, individually designed, and faculty-supervised work-experience to enhance the student's professional competence in Business Administration and selected functional area. Maximum of 3 credits can be applied towards MBA electives. **Prerequisite:** Completed 15 graduate credits. Approval by department chair and graduate coordinator.

MKTG 699 Independent Study in Marketing 1-3 cr.

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 Eberly College of Business and Information Technology graduate coordinator.

MKTG 795 Thesis 4-6 cr.

For students writing the thesis, MKTG 795 should be scheduled for the semester in which they plan to complete their work. The thesis is a committee thesis (4-6 cr.) for which the student's advisor, two additional faculty members, the Eberly College of Business and Information Technology graduate coordinator, and/or the representative of the dean of the Eberly College of Business and Information Technology may constitute the committee.

*Indicates dual-listed class

MRSC: Marine Science

Department of Biology

College of Natural Sciences and Mathematics

MRSC 500 Problems in Marine Science 3 cr.

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.

MRSC 581 Special Topics 1-3 cr.**MUHI: Music History**

Department of Music

College of Fine Arts

MUHI 503 Music of the Baroque Era 3 cr.

A survey of music from about 1600 to 1750.

MUHI 504 Music of the Classical Era 3 cr.

A survey of music from about 1725 to about 1827.

MUHI 505 Music of the Romantic Era 3 cr.

A survey of music from about 1800 to 1910.

MUHI 507 Music of the Twentieth Century 3 cr.

A survey of the principal stylistic trends in music from 1900 to the present.

MUHI 508 Music of the Sixteenth Century 3 cr.

A survey of music from about 1500 to 1600.

MUHI 581/681 Special Topics 3 cr.**MUSC: Music**

Department of Music

College of Fine Arts

MUSC 501 Advanced Choral Conducting 2 cr.

Material will include large choral works with and without accompaniment. Student will be expected to develop skills in reading score.

MUSC 502 Advanced Instrumental Conducting 2 cr.

An intensive study of large instrumental works. Skill development of each individual will be stressed.

MUSC 510 Seminar in Music 3 cr.

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.

MUSC 511 Composition 3 cr.

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.

MUSC 512 Advanced Orchestration 3 cr.

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.

MUSC 516 Analytical Techniques 3 cr.

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.

MUSC 537 Techniques of the Marching Band 2 cr.

Theory and practical application of fundamentals of precision drill. This course also deals with building "half-time shows" and with materials and instrumentation of the marching band.

MUSC 540-550 Summer Music Workshop 1-3 cr.

Concentration in special interest areas. Content varies.

MUSC 551 Italian and English Diction 2 cr.**MUSC 553 French Diction** 2 cr.**MUSC 554 German Diction** 2 cr.**MUSC 575 Music Ensemble** 1-3 cr.

Provides graduate students with the opportunity to participate in up to three ensembles. Each student must audition for ensemble placement at the beginning of each semester.

MUSC 581 Special Topics 1-3 cr.**MUSC 600 Bibliography of Music** 3 cr.

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.

MUSC 618 Comprehensive Musicianship 3 cr.

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.

MUSC 619 Methods for Comprehensive Musicianship 3 cr.

Includes learning strategies, experiences, and activities appropriate for introducing comprehensive musicianship at elementary and secondary school levels.

MUSC 620 Foundations of Music Education 3 cr.

Study of historical, philosophical, and social foundation of music education, including educational thought and implications for school music programs.

MUSC 622 Composition II 3 cr.**MUSC 623 Composition III** 3 cr.**MUSC 631 Administrative Problems in Music Education** 2 cr.

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.

MUSC 632 Research Techniques in Music 3 cr.

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.

MUSC 635 Psychology of Music Education 2 cr.

An analysis of the latest evidence produced by the field of psychology in music as applied in actual classroom situations.

MUSC 636 Advanced Technology of Music Education 2 cr.

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.

- MUSC 681 Special Topics** 1-4 cr.
- MUSC 698 Internship** 3 cr.
- MUSC 699 Independent Study in Music** 1-6 cr.
- MUSC 795 Thesis** 4 cr.
- NURS: Nursing**
Department of Nursing and Allied Health Professions
College of Health and Human Services
- NURS/HSAD 555 Health Care Informatics** 3 cr.
An introductory and overview course in the application of the disciplines of health sciences, computer science, and information science in collecting, processing, and managing information to promote decision making in health care.
- NURS 581 Special Topics** 3 cr.
Topical courses offered on an experimental basis.
- NURS 610 Health Promotion and Social Issues** 3 cr.
Enhances the ability of the student to develop an understanding and appreciation of human diversity and social issues in health and illness. Focuses on the analysis of the cultural and social issues affecting health, including ethnicity, race, gender, age, and geographic locations. Students compare health care norms and practices and develop solutions to health care problems.
- NURS/HSAD 614 Health Policy** 3 cr.
Focuses on the legislative, regulatory, and political processes that impact health services in the United States. Students will examine their role in health policy development at the federal, state, and local levels. Selected policies will be analyzed for their effect on health care delivery. The influence of U.S. policy on the health of those in other countries will be explored.
- NURS 619 Leadership Strategies in Nursing** 3 cr.
Provides an overview of the characteristics and quality of leadership in professional nurses. Focuses on analyzing and synthesizing leadership and management concepts, modules, and theories. Effective leadership strategies for the nurse administrator and practitioners will be explored.
- NURS 620 Theoretical Foundation for Nursing** 3 cr.
Focuses on the critique, evaluation, and utilization of nursing and related theories for nursing practice. Students will be expected to analyze the appropriateness of theories for utilization in practice and research.
- NURS 622 The Practice of Nursing Research I** 3 cr.
Prepares the graduate nursing student to examine the conceptual, theoretical, and ethical contexts of nursing research. Concepts of statistical theory, measurement strategies, and data collection issues are presented, as they are applicable to clinical nursing research. Students also investigate funding procedures for small clinical studies. **Corequisite:** NURS 620.
- NURS 623 The Practice of Nursing Research II** 3 cr.
Prepares the graduate nursing student to become proficient in the application of research to nursing practice, including evaluation of research studies, problem identification within clinical practice settings, development of practice protocols, and measurement of patient outcomes. Research findings will be studied as the basis for clinical and organizational decision making. **Prerequisite:** NURS 622 or equivalent.
- NURS 628 Advanced Professional Role Development** 3 cr.
Analysis of the current and changing roles of advanced nursing in the current sociopolitical environment. Provides opportunities for reflection upon personal career development. Emphasis is placed on the development of a variety of professional communication and presentation skills needed for the advanced nursing role. Students prepare an article appropriate for a professional journal and deliver a professional presentation. Skills in resume/vitae writing and grant writing are also included. Opportunities are provided for development of skills that enhance the advanced nurse's ability to work collaboratively with others.
- NURS 681 Special Topics** 3 cr.
Topical courses offered on an experimental basis.
- NURS 699 Independent Study** 3 cr.
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.
- NURS 722 Measurement and Evaluation in Nursing Education** 3 cr.
Presents various methods of evaluating program, classroom, and clinical performance in nursing. Students are assisted in developing classroom and clinical examinations for nursing. Principles of test construction and methods for developing various test items as a means of measuring critical thinking in nursing students are also addressed. Social, ethical, and legal issues of evaluation are included.
- NURS 723 Program Development in Nursing Education** 3 cr.
Focuses on the process of program development for nursing education in a variety of levels and settings based upon program assessment strategies. The major issues of program development, revision, and evaluation that challenge nurse educators are also addressed. The role of accreditation agencies in program development and evaluation is also studied. Students are given opportunities to plan a curricular program that addresses future education needs of the nursing profession.
- NURS 725 Teaching Strategies for Nursing Curricula** 3 cr.
Explores and analyzes theories of learning, instructional modalities, teaching strategies, and evaluation methods pertaining to nursing education in the classroom and clinical practice settings.
- NURS 729 Nursing Administration** 3 cr.
Concepts and theories related to the management process are used to examine the roles and responsibilities of the nurse manager in health care organizations. The influences of environment and technology as well as issues and trends that impact on nursing management are explored.
- NURS/HSAD 730 Financial Management in Health Care** 3 cr.
Provides an opportunity for students to examine the financial decision-making process used by health care administrators. Emphasis will be on understanding health care payment systems, assessing and developing financial plans, and making financial decisions in a variety of health care settings.
- NURS 731 Nursing Administration Practicum I** 3 cr.
The nurse administrator's role and responsibility in health care organization are examined in the class and the clinical setting. Current issues and problems dealing with marketing, recruitment, retention, and quality of care are addressed. Influence of professional and technological factors on the functions of health care and the role of the nurse administrator are explored. This course provides the student with the opportunity to synthesize advanced practical knowledge in nursing administration and develop an administrative project under the guidance of an administrator mentor at an appropriate clinical site. **Prerequisite:** NURS 622, NURS 729, NURS 730.
- NURS 732 Nursing Administration Practicum II** 3 cr.
Provides the student with an opportunity to work with a nursing administrator in an appropriate health care agency to apply theoretical concepts to the practice of nursing administration. Students explore the roles and responsibilities of the nurse administrator. Topics include human resource management, staff development, strategic planning, quality improvement, and outcomes measurement and evaluation. Students implement and evaluate the outcomes of an administration project. This course consists of a biweekly, two-hour seminar and a weekly practicum of six hours in a clinical setting. **Prerequisite:** NURS 623, NURS 729, NURS 730, NURS 731.
- NURS 734 Concepts of Community Health Nursing** 3 cr.
Provides an in-depth study of the requisite concepts and skills for community health nursing. Building on the understanding of individuals as clients, the students will now gain perspective on aggregates and communities as recipients of nursing care and the delivery sites of community health care. Included in the content will be epidemiological principles that are the foundation of clinical decision making in community health nursing practice. The relevance of nursing research to community health nursing practice will also be discussed. The course will also provide an opportunity to advance health and social policies as they relate to community health care. **Prerequisite:** NURS 511, NURS 612, and NURS 620. **Corequisite:** NURS 610, NURS 613.

- NURS 735 Aggregates in the Community** 3 cr.
Provides the family and community theory to support nursing care for families, aggregates, and select communities through primary, secondary, and tertiary health prevention. Clinical/laboratory component provides opportunity to utilize advanced nursing skills when providing care for families, groups, and communities. **Prerequisite:** NURS 734. **Corequisite:** NURS 622.
- NURS 736 Leadership in Community Health Nursing** 3 cr.
Provides an opportunity for students to assume leadership roles in the assessment, planning, development, coordination, and evaluation of health care programs for individuals, families, groups, and communities. Clinical/laboratory component provides students with the opportunity to plan and coordinate community health programs. Students will formulate research questions regarding the care of families, groups, and the community. **Prerequisite:** NURS 735. **Corequisite:** NURS 614.
- NURS 743 Nursing Education Practicum** 3 cr.
Provides opportunities for students to synthesize and integrate educational theories, research, and curriculum planning and evaluation into the role of nurse educator. Students work with a nurse educator in an area of interest (hospital, staff development, schools of nursing). As the capstone course of the nursing education track, students are expected to develop an appropriate project in a chosen setting. Responsibilities of the nurse educator as a teacher, mentor, role-model, advisor, and scholar will be addressed. This course consists of a weekly one-hour seminar and a weekly practicum of six hours. **Prerequisite:** NURS 623, NURS 722, NURS 723, NURS 725.
- NURS 795 Thesis** 3-6 cr.
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.
- NURS 801 Doctoral Colloquium in Nursing** 1-3 cr.
Provides an academic setting for graduate students to present research and theoretical papers for group discussion. Special Topics in nursing will be selected each semester. **Prerequisite:** by permission.
- NURS 802 Leadership in Nursing: A Case Study Approach** 3 cr.
Focus on analysis of leadership theory. Examines cases of exemplary leaders and organizations in nursing to gain insight into both the psychological and sociological aspects of successful leadership in a changing field. The student will apply case study methodology to the analysis of leaders and leadership styles.
- NURS 820 Seminar in Nursing Theory** 3 cr.
Provides an overview of major nurse scholars' contributions to theoretical development in nursing. The student will examine scholarly works regarding the history of nursing theory, philosophical underpinnings of nursing theory, and the relationship of nursing theory, practice, and research. The student will explore concept and statement development and its relationship to overall theory development in nursing and the linkage with nursing research.
- NURS 860 Faculty Development in Nursing Education** 3 cr.
Provides students with an opportunity to explore the complexity of the role and issues facing nursing faculty in higher education outside the classroom setting. The student will appraise the skills necessary to succeed in the nursing education environment and develop a plan for professional growth and scholarly achievement. Research related to nursing faculty development and success in academia will be analyzed.
- NURS 861 Pedagogical Practices in Nursing Education** 3 cr.
Application of educational theories to the nurse educator role in higher education will be explored. A critical review of the role of the teacher in the clinical and classroom setting, teaching strategies, and student-centered learning outcomes will be conducted. The student will apply the art of reflection to the practice of teaching.
- NURS 862 Curriculum Evaluation in Nursing** 3 cr.
Examines various curriculum designs in nursing. The student will critique the qualities of effective nursing curricula at the undergraduate and graduate level. The student will analyze current accreditation standards in nursing education and their relationship to curriculum evaluation. Methods for conducting ongoing curriculum revision based on a quality outcomes assessment plan will be explored.
- NURS 863 Evaluation in Nursing Education** 3 cr.
Application of measurement theory to nursing education. Presents various strategies to assess and evaluate classroom and clinical performance in nursing education. Evidence-based assessment and evaluation practices, including test construction, are proposed and critiqued. Social, ethical, and legal issues related to evaluation are analyzed.
- NURS 864 Technology in Nursing Education** 3 cr.
Provides a foundation for educators to incorporate technology into nursing programs. Strategies for the use of technology in nursing education will be explored. The student will apply knowledge of distance education technology to the practice of teaching in nursing and evaluate the effectiveness of distance education teaching strategies.
- NURS 951 Quantitative Nursing Research** 3 cr.
Provides students with advanced knowledge and skill in quantitative research methodology and design related to nursing education. The student will analyze, evaluate, and critique relevant study designs and methods used in experimental, quasi experimental, and nonexperimental research. Evaluative issues regarding power analysis, sampling, and data collection techniques will be addressed. Strategies for enhancing the scientific and methodological rigor will be explored. **Prerequisite:** GSR 517.
- NURS 952 Qualitative Nursing Research** 3 cr.
Qualitative research methods used in nursing will be critiqued. The use of case study, phenomenology, grounded theory, hermeneutics, historical research, and ethnography will be appraised for their use in nursing education research. Techniques for conducting qualitative research and data analysis will be practiced. Issues related to rigor and confirmability of the data will be evaluated.
- NURS 953 Research Seminar I** 3 cr.
Provides students with the opportunity to participate in nursing education research tool development for quantitative or qualitative research. The student will participate in tool development, testing, and evaluation. The course will also explore sampling issues and development of a recruitment plan for use in nursing education research. Opportunities for peer critique will be an integral component of this course. **Prerequisite:** NURS 951 and 952.
- NURS 954 Research Seminar II** 3 cr.
Builds upon prior knowledge of qualitative and quantitative research methods and provides opportunities to participate in research activities in collaboration with mentors. The course focuses on various approaches to data analysis, development of Institutional Review Board (IRB) proposals, and grant writing. Opportunities for peer critique will be an integral component of this course. **Prerequisite:** NURS 953.
- NURS 993 Nursing Professoriate Practicum** 3 cr.
Designed to provide the student with an opportunity to select and operationalize aspects of the nurse educator role. The student will apply an understanding of the nursing faculty role to teaching and learning and develop one or more aspects of a plan for professional development. **Prerequisite:** NURS 860, 861, 862, 863, and 864.
- NURS 994 Dissertation Seminar** 3 cr.
Provides the student with an opportunity to develop a dissertation proposal focusing on nursing education. Students will have opportunities for peer review and critique of their work. The course will culminate in an oral presentation of the proposal that will prepare students for dissertation defense. **Prerequisite:** NURS 820 and NURS 954.
- NURS 995 Dissertation** 1-9 cr.
A culminating research project requiring mastery of an area of interest relevant to nursing education. Requires a comprehensive literature review and the collection and analysis of data. A successful oral defense of the finished project is required. The student must complete a minimum of 9 credits of dissertation to satisfy graduation requirements.

PHIL: Philosophy

Department of Philosophy

College of Humanities and Social Sciences

PHIL 560/* Philosophy of Language 3 cr.

An investigation of issues 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.

PHIL 581 Special Topics 3 cr.**PHIL 599 Independent Study 1-6 cr.**

*Indicates dual-listed class

PHYS: Physics

Department of Physics

College of Natural Sciences and Mathematics

PHYS 511 Secondary School Physics Laboratory Practice 1-3 cr.

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.

PHYS 520 Advanced Laboratory Practice 3 cr.

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.

PHYS 531 Modern Physics 3 cr.

An introduction to particle and wave properties of matter, atomic structure, quantum mechanics, and the quantum mechanical model of the atom.

PHYS 533 Thermal and Statistical Physics 3 cr.

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.

PHYS 535 Electronics 4 cr.

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.

PHYS 536 Advanced Electronics 3 cr.

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:** PHYS 535.

PHYS 541 Analytical Mechanics I 2 cr.

Kinematics, particle dynamics, gravitation, free and forced harmonic motion. Treatment of these topics utilizes vector calculus and differential and integral calculus.

PHYS 542 Analytical Mechanics II 2 cr.

Central-force motion, high-energy collisions.

PHYS 545 Optics 3 cr.

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.

PHYS 551 Electricity and Magnetism I 2 cr.

Coulomb's law, electrostatic potential, Gauss's law, and dielectrics will be presented using vector calculus in a modern field formalism. **Prerequisite:** PHYS 510.

PHYS 552 Electricity and Magnetism II 2 cr.

Biot and Savart's law, induced emf, vector potential, displacement current, special relativity, and electromagnetic radiation will be presented using techniques introduced in PHYS 551. **Prerequisite:** PHYS 551.

PHYS 555 Computer Interfacing 3 cr.

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. **Prerequisite:** Experience in writing computer programs in the C language.

PHYS 561 Quantum Mechanics I 3 cr.

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. **Prerequisite:** PHYS 541 and PHYS 531 or equivalent.

PHYS 565 Introduction to Nuclear Physics 3 cr.

Survey of introductory nuclear physics including nuclear size, mass, types of decay, models, forces, elementary particles, reaction theory.

PHYS 575/* Physics of Semiconductor Devices I 3 cr.

Develops the basic foundation for a student 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. **Prerequisite:** PHYS 533, PHYS 535, PHYS 545, or permission of instructor.

PHYS 590/* Solid State Physics 3 cr.

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. **Prerequisite:** PHYS 531 and 542.

PHYS 599 Special Studies 1-6 cr.

A Special Topics may be offered at the discretion of the department to fulfill a special necessity.

PHYS 600 Methods of Research in Physics 2 cr.

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.

PHYS 601 Theoretical Physics I 3 cr.

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 partial differential equations. **Prerequisite:** Permission of department.

PHYS 602 Theoretical Physics II 3 cr.

A continuation of PHYS 601, covering Tensor analysis, matrices, group theory, Sturm-Liouville theory, special functions, Fourier series, integral transforms, Green's functions, and integral equations. **Prerequisite:** PHYS 601.

PHYS 611 Computational Physics 3 cr.

Introduction to developments in computational physics, emphasizing physical concepts and applications rather than mathematical proofs, derivations, and code developments. In particular, shows how computers can be used to learn about physics concepts and how they can be used as tools in solving physics problems. A familiarity with the concept of programming is assumed.

Prerequisite: PHYS 473/561, or equivalent, or permission of the instructor.

PHYS 634 Statistical Mechanics 3 cr.

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: PHYS 561 or its equivalent.

PHYS 641 Advanced Mechanics I 3 cr.
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:** PHYS 542 or its equivalent.

PHYS 651 Advanced Electromagnetic Theory I 3 cr.
Solution of boundary value problems using Green's functions and separation of variables techniques. Cartesian and spherical coordinate systems, multipole expansions, macroscopic electrostatics and magnetostatics, Maxwell's equations, and plane electromagnetic waves. **Prerequisite:** PHYS 552 or equivalent.

PHYS 652 Advanced Electromagnetic Theory II 3 cr.
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:** PHYS 651.

PHYS 657 Solid State Theory 3 cr.
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:** PHYS 561 or its equivalent.

PHYS 658 Physics and Applications of Industrial Materials 3 cr.
Introduces the essential physics and current industrial applications of technologically important materials by way of both lecture and lab components. Materials of interest will span semiconductors, ceramics, polymers, and composites that find application in microelectronics, magnetic recording, flat panel displays, medical application, and micro machines.

PHYS 661 Quantum Mechanics II 3 cr.
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.

PHYS 662 Quantum Mechanics III 3 cr.
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.

PHYS 690 Research Problems in Physics 1-6 cr.
Introduction to advanced research problems through individual assignment. **Prerequisite:** Permission of department.

PHYS 699 Independent Study 1-6 cr.
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.

PHYS 795 Thesis 1-6 cr.

*Indicates dual-listed class

PLSC: Political Science

Department of Political Science

College of Humanities and Social Sciences

PLSC 500 Research Methods in Political Science 3 cr.
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. Focuses on measurement principles, research design and data collection, univariate distributions, sampling, and bivariate analysis.

PLSC 520 International Law 3 cr.
Study of the development, nature, and function of international law, including recent trends.

PLSC 521 International Organizations 3 cr.
Inquiry into purposes, structures, and actions of contemporary international political organizations, such as United Nations, regional, and functional organizations.

PLSC 550 The Presidency 3 cr.
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.

PLSC 551 The Legislative Process 3 cr.
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.

PLSC 554 Metropolitan Problems 3 cr.
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.

PLSC 555 Intergovernmental Relations 3 cr.
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.

PLSC 558 Judicial Process 3 cr.
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.

PLSC 559 Constitutional Law and Civil Liberties 3 cr.
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.

PLSC 560 Classical Political Thought 3 cr.
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.

PLSC 561 Modern Political Thought 3 cr.
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.

PLSC 562 American Political Thought 3 cr.
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.

PLSC 570 Introduction to Public Administration 3 cr.
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.

PLSC 571 Issues in Public Administration 3 cr.
An intensive study of the role of federal agencies and their administrators in determining and developing public policies. Public administration in practice is emphasized by using case studies, third-person teaching, problem-based exercises, and debates.

PLSC 575 Public Sector Leadership and Accountability 3 cr.
Examines the characteristics of leadership and ethical principles which facilitate effective decision making and responsible behavior by elected and appointed officials at all levels of government. Current issues and circumstances will be emphasized during class discussions.

PLSC 581 Special Topics 1-3 cr.
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.

- PLSC 582-587 Political Studies** 3 cr.
Comparative study of government and politics of a selected region.
- PLSC 582 Political Studies: Africa** 3 cr.
- PLSC 583 Political Studies: Asia** 3 cr.
- PLSC 584 Political Studies: Middle East** 3 cr.
- PLSC 587 Political Studies: Latin America** 3 cr.
- PLSC 588 Political-Military Strategy** 3 cr.
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.
- PLSC 589 Developing Nations** 3 cr.
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.
- PLSC 631 Human Resource Management in Public Sector** 3 cr.
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.
- PLSC 666 Public Policy Analysis** 3 cr.
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.
- PLSC 668 Public Sector Financial Administration** 3 cr.
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.
- PLSC 670 Foreign Policy Studies** 3 cr.
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.
- PLSC 671 Seminar in Public Administration** 3 cr.
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.
- PLSC 672 Comparative Political Studies** 3 cr.
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.
- PLSC 674 Analytical Techniques** 3 cr.
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.
- PLSC 675 International Political Economy** 3 cr.
Examines the interaction between governments and markets on economic issues. This examination will occur comparatively both within countries and between nations. Acquaints 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. Focus is on both international political economy as a subject and a field of study.
- PLSC 678 The Ethical Dimensions of Leadership** 3 cr.
Focuses on the ethical dimensions of leadership and strategies to integrate ethical considerations into organizational, administrative, decision-making, and policy processes. To facilitate discussion and the application of ethics to professional practice, a series of speakers examines the relationship between ethics and leadership within varying contexts. Case studies, videos, and exercises link theory and practice. Students are expected to complete all assigned readings prior to each class to facilitate their active participation in all discussions. A literature review project provides students with the opportunity to pursue individualized interests related to leadership and ethics. Students not currently enrolled in the Administration and Leadership Studies Program must have the instructor's permission to register for this course. **Prerequisite:** Doctoral students - HMSV 701 Leadership Theories; graduate students - PLSC 666 Public Policy or SOC 610 Human Services Administration.
- PLSC 681 Special Topics** 1-3 cr.
In-depth study of a specific problem or topic not regularly treated in courses. May be repeated.
- PLSC 690 Professional Practicum** 3 cr.
Designed for graduate students who elect either an internship or field-based research project to fulfill the directed research requirement of Master of Arts in Public Affairs degree. Students are expected to enroll in the practicum during the summer following the completion of two semesters of course work. The practicum lasts twelve weeks from mid-May through mid-August. An important part of the practicum is four seminars that meet on four Saturdays for four hours in mid-May, mid-June, mid-July, and mid-August. The seminars focus on the development of a field-based or internship-based project design and the linkage of administrative and/or organizational theory with the practical experience acquired during the internship or field-based research activity.
- PLSC 698 Political Science Internship** 3-6 cr.
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.
- PLSC 699 Independent Study** 1-3 cr.
Readings and written assignments on a specific topic determined by student and instructor in charge. May be repeated.
- PLSC 795 Thesis** 3 cr.
- PSYC: Psychology**
Department of Psychology
College of Natural Sciences and Mathematics
- PSYC 554 Developmental Psychology** 3 cr.
A comprehensive study of human growth and development from conception to death. Major research findings and developmental theories will be considered.
- PSYC 578 Psychology of Death and Dying** 3 cr.
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.
- PSYC 581 Special Topics** 3 cr.
Designed to examine a Special Topics in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.
- PSYC 795 Thesis** 1-6 cr.
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.
- PSYC 801 Research Methods in Psychology I** 3 cr.
The design, statistical analysis, and report of laboratory experiments will be studied. **Prerequisite:** Permission.

- PSYC 802 Clinical Research Methods** 3 cr.
Introduction to data analysis techniques and methodological problems commonly encountered in clinical research. Methods appropriate for single subjects as well as groups are explored. **Prerequisite:** PSYC 801 and PSYC 841.
- PSYC 803 Evaluation Research** 3 cr.
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, PSYC 801 or equivalent.
- PSYC 810 Historical Trends in Psychology** 3 cr.
Comprehensive overview of historical antecedents of contemporary psychology. **Prerequisite:** Permission.
- PSYC 811 Teaching of Psychology** 1 cr.
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.
- PSYC 830 Methods of Intervention I** 3 cr.
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.
- PSYC 831 Methods of Intervention II** 3 cr.
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. **Prerequisite:** PSYC 830 and permission.
- PSYC 832 Therapeutic Techniques Lab** 2 cr.
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. **Prerequisite:** PSYC 830 or equivalent, simultaneous enrollment in PSYC 831, and instructor permission.
- PSYC 833 Clinical Group Techniques** 3 cr.
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.
- PSYC 834 Family Therapy** 3 cr.
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.
- PSYC 835 Advanced Psychopathology** 3 cr.
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. **Prerequisite:** Previous undergraduate course in Abnormal Psychology and permission.
- PSYC 836 Personality Theory and Systems of Psychotherapy** 3 cr.
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.
- PSYC 841 Psychological Assessment I** 3 cr.
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.
- PSYC 842 Psychological Assessment II** 3 cr.
Continuation of PSYC 841 with increased emphasis on development of skills in areas of objective and projective tests, behavioral observations, self-report measures, and other assessment techniques. **Prerequisite:** PSYC 841 and permission.
- PSYC 852 Models of Learning** 3 cr.
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.
- PSYC 853 Issues in Developmental Psychology** 3 cr.
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.
- PSYC 855 Racial, Cultural, and Gender Issues in Psychology** 3 cr.
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.
- PSYC 856 Drugs and Behavior** 3 cr.
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.
- PSYC 857 Clinical Neuropsychology** 3 cr.
The study of the relationship between human brain dysfunction and abnormal behavior. Includes assessment techniques used to diagnose brain damage. **Prerequisite:** Permission.
- PSYC 858 Advanced Social Psychology** 3 cr.
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.
- PSYC 860 Child Clinical Psychology** 3 cr.
Approaches unique to child psychopathology, assessment, and intervention are explored. Ages from birth to adolescence are covered. **Prerequisite:** Permission.
- PSYC 861 Psychology and Medicine I** 3 cr.
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.
- PSYC 881 Special Topics** 1-6 cr.
Designed to examine a Special Topics in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.
- PSYC 920 Professional Issues** 3 cr.
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.
- PSYC 943 Psychological Assessment III** 3 cr.
Continuation of PSYC 842 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:** PSYC 842 or permission.
- PSYC 960 Advanced Psychotherapy with Children** 3 cr.
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:** PSYC 860 or permission.

PSYC 961 Psychology and Medicine II 3 cr.

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: PSYC 861.

PSYC 962 Hypnotic Methods in Psychotherapy 2 cr.

In-depth study of theory, research, and the clinical practice of hypnosis.

Prerequisite: PSYC 830, PSYC 835, or their equivalents, and instructor permission.

PSYC 971 Family and Couples Clinic 1-6 cr.

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. **Prerequisite:** PSYC 834 or its equivalent, successful supervised clinical experience, and instructor permission.

PSYC 972 Stress and Habit Disorders Clinic 1-6 cr.

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. **Prerequisite:** PSYC 831, PSYC 835 or their equivalents, and instructor permission.

PSYC 973 Assessment Clinic 1-6 cr.

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. **Prerequisite:** PSYC 841, PSYC 842 or their equivalents, and instructor permission.

PSYC 974 Special Projects/Intake Clinic 1-6 cr.

Students participate in specialized clinical activities. Specific methods of assessment, intervention, and consultation vary according to the special clinical project. Available for variable credit and repeated enrollment.

Prerequisite: PSYC 831, PSYC 842, PSYC 832, or their equivalents and instructor permission.

PSYC 981 Special Topics 1-6 cr.

Examines a Special Topics in depth. Students prepare presentations representing selected research areas. **Prerequisite:** Permission.

PSYC 982 Independent Study in Psychology 1-6 cr.

Individual students develop and conduct research studies in consultation with a faculty member. **Prerequisite:** Permission.

PSYC 993 Advanced Psychological Practicum 1-21 cr.

Provides supervised experience in applied settings. Variable credit depending on setting. **Prerequisite:** Permission.

PSYC 994 Internship 3 cr.

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.

PSYC 995 Doctoral Project (Dissertation) 3-9 cr.

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.

QBUS: Quantitative Business

Department of Management Information Systems
and Decision Sciences

Eberly College of Business and Information Technology

QBUS 500 Foundations of Business Statistics 3 cr.

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.

QBUS 581 Special Topics 3 cr.**QBUS 601 Data Analysis and Decision Making** 3 cr.

Familiarizes students with statistical techniques for making comparisons and predictions about a population based on sample data. Major attention is given to identifying and describing the process involved in carrying out a statistical analysis and how a variety of desktop tools and statistical packages may be used within the managerial and business decision process. Topics include analysis of variance, regression (linear and multiple), time series, statistical process control, decision analysis, linear programming, and simulation.

QBUS 604 Seminar in Methodology of Business Research 3 cr.

Helps students acquire a basic understanding of the research process and a knowledge of the research methods needed in the design and execution of a competent applied behavioral research. Emphasizes measurement and scaling, survey research, and data analysis. **Prerequisite:** QBUS 601.

RHAB: Rehabilitation

Department of Special Education and Clinical Services

College of Education and Educational Technology

RHAB 590 Improving Professional Practice in Instructional Settings 1-3 cr.**RHAB 591 Improving Professional Practice in Instructional Settings** 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

SAFE: Safety Sciences

Department of Safety Sciences

College of Health and Human Services

SAFE 520/* Law and Ethics in the Safety Profession 3 cr.

Examines ethical and legal issues faced by practicing safety professionals. Students identify and evaluate these issues in terms of their own value system, as well as legal and prudent practice within the safety, health, and environmental profession. Case studies and anecdotal presentations are used to examine common issues and to prepare the students for their potential roles as expert witnesses in various forms of litigation. Specific reference is made to participation of the safety professional in workers' compensation cases, Occupational Safety and Health Review Commission hearings, class action suits, and trials by jury. **Prerequisite:** Permission of the instructor.

SAFE 541/* Accident Investigation 3 cr.

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. Emphasizes determining sequence of events to develop management actions which will prevent recurrence of accidents. **Prerequisite:** Permission of instructor.

SAFE 542/* Current Issues in Safety 3 cr.

Examines the emerging issues currently faced by the safety, health, and environmental (SH&E) practitioner that extend beyond the conventional areas of academic preparation. In addition to exploring certification, ethics, compliance issues, quality management, worldwide concerns, and other common issues, each student will research and present information on a specific item of current relevance in the safety profession. **Prerequisite:** SAFE 211 and SAFE 301 or permission of the instructor.

- SAFE 543/* Construction Safety** 3 cr.
In-depth coverage of hazard recognition, evaluation, and control principles used for the variety of phases of construction. Information regarding the development of a construction safety program along with extensive coverage of federal standards related to the construction industry is also provided. **Prerequisite:** SAFE 211 or permission of the instructor.
- SAFE 561/* Air Pollution** 3 cr.
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. Emphasizes information that is practical for the safety sciences and industrial health professionals. **Prerequisite:** CHEM 101 and 102 or equivalent and SAFE 301 or equivalent courses or permission of the instructor.
- SAFE 562/* Radiological Health** 3 cr.
Studies of problems associated with ionizing radiation in the human environment. Emphasizes biological effects, radiation measurement, dose computational techniques, exposure control, and local and federal regulations. The study and use of various radiological instruments are included. **Prerequisite:** PHYS 112 and SAFE 301 or permission of instructor.
- SAFE 565/* Right-to-Know Legislation** 3 cr.
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. **Prerequisite:** SAFE 301 and SAFE 311 or permission of the instructor.
- SAFE 581 Special Topics** 3 cr.
A dual-level elective offering in which the specific topic may vary from one term to the next. **Prerequisite:** Permission of the instructor.
- SAFE 602 Research Methods in Safety Management** 3 cr.
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. **Prerequisite:** MATH 217 or permission of the instructor.
- SAFE 603 Human Relations in Safety Management** 3 cr.
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. **Prerequisite:** PSYC 101 and MGMT 642 or permission of instructor.
- SAFE 604 Industrial Toxicology** 3 cr.
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. Acquaints students with requirements for operating an animal toxicology facility as well as means of obtaining relevant human experience data. **Prerequisite:** CHEM 101, CHEM 102, MATH 217, or permission of instructor.
- SAFE 605 Application of Safety Engineering Principles** 3 cr.
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. **Prerequisite:** SAFE 211 and PSYC 112 or permission of the instructor.
- SAFE 606 Hazardous Materials Management** 3 cr.
Examines the technical and management aspects of handling hazardous materials, including hazardous waste. Definitions and the procedures for determining hazard properties are reviewed. The student is introduced to the various regulations that pertain to hazardous materials. Responsibilities for creating/receiving, storing, handling/using, shipping, and ultimately disposing of hazardous materials are discussed in detail. Examination of current trends and future directions is included. **Prerequisite:** SAFE 311, CHEM 101, and CHEM 102 or permission of the instructor.
- SAFE 610 Safety, Health, and Environmental Administration** 3 cr.
Examines administrative concepts and principles regarding organizing and managing the functional areas of safety, health, and the environment within an organization. Students are introduced to management practices unique to SH&E programs as well as concepts related to organizational culture, labor relations, professional ethics, workers' compensation, and medical management.
- SAFE 620 Safety Data Management** 3 cr.
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. **Prerequisite:** SAFE 412 or permission of instructor.
- SAFE 621 Programming Safe Behavior** 3 cr.
Students learn to apply behavior principles to motivate safe behavior (SB) in the workplace. Included are Programming Safe Behavior, SB program funding proposals, employee performance analysis, safe behavior definitions, workplace motivations and incentives, and SB program design, implementation, and evaluation. **Prerequisite:** Permission of the instructor.
- SAFE 623 Advanced Safety Administration** 3 cr.
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. **Prerequisite:** SAFE 412 or permission of instructor.
- SAFE 624 Solving Safety Problems** 3 cr.
Students are presented with common scenarios that safety professionals face while trying to advise management on ways to prevent accidents. Students use problem-solving skills and safety knowledge to deal effectively with and resolve safety management problems such as being assigned a safety responsibility that is clearly another manager's responsibility and having objections raised about one's proposed project plans. **Prerequisite:** SAFE 603 or permission of the instructor.
- SAFE 625 Risk Strategies for the SH&E Professional** 3 cr.
Provides the student with a thorough understanding of the fundamentals of risk management, including leading-edge risk identification, control, finance, and transfer recommendations. Addresses workers' compensation, product risk management, construction risk management and wrap-up programs, catastrophic risk management, quantitative methods, risk finance, and risk management technology.
- SAFE 630 Pollution Control** 3 cr.
Introduces students to both management and engineering strategies in the prevention and control of pollution to the environment from industrial activities. Includes a brief history of pollution, legal aspects of prevention and control, the management of major types of industrial wastes, and the control of releases into both water and air.
- SAFE 644 Preventing Unsafe Acts** 3 cr.
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.
- SAFE 645 Principles of Occupational Safety** 3 cr.
Provides the student with fundamental knowledge of the technical and managerial aspects of the safety and health function within an organization. The effects of loss incidents, accident causation, safety and health legislation, and safety program development are among the managerial aspects covered. The technical aspects of the course focus on the recognition, evaluation, and control of common safety, fire, and repetitive motion hazards in the workplace. Does not count toward degree requirements for the M.S. Degree in Safety Sciences.
- SAFE 647 Applied Ergonomics** 3 cr.

Ergonomic principles used in the identification, analysis, and implementation of intervention strategies to address hazards in the workplace are presented. Focus is on the application of strategies to identify and correct ergonomic problems in the workplace using evaluation equipment and video case studies of actual workplace situations. **Prerequisite:** BIOL 155 or permission of the instructor.

SAFE 660 Applied Industrial Hygiene 3 cr.

Examines the current expectations and responsibilities of professionals engaged in the practice of industrial hygiene. Students become familiar with 1) the current approaches to anticipating and identifying potential health hazards in the workplace and/or environment, 2) methods and techniques for determining quantitatively the amount of environmental stresses present, and 3) proper strategies and methods for implementing effective controls. **Prerequisite:** BIOL 155, SAFE 301, SAFE 303, and SAFE 402 or permission of the instructor.

SAFE 663 Industrial Hygiene Laboratory Methods 3 cr.

Laboratory methods germane to industrial hygiene sampling and analytical methods are studied in depth. Introduces a variety of laboratory procedures as well as biological monitoring. Sampling and analytical statistics are also emphasized. **Prerequisite:** SAFE 302 and SAFE 303 or permission of instructor.

SAFE 664 Industrial Noise Control 3 cr.

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.

SAFE 667 Principles of Occupational Health 3 cr.

Provides comprehensive coverage of the industrial hygienist's responsibility for recognition, evaluation, and control of environmental stressors arising in or from the workplace. Students learn how to recognize and evaluate exposures to chemical, physical, and biological hazards. Emphasis is also placed on the identification of appropriate control strategies, including program development and evaluation. This course will not count toward meeting the degree requirements for the M.S. Degree in Safety Sciences.

SAFE 672 Process Safety in the Chemical Industries 3 cr.

Designed to cover all important aspects of loss prevention as it is practiced in the chemical process industries. Seeks 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:** SAFE 311 or equivalent or permission of instructor.

SAFE 673 Disaster Preparedness 3 cr.

Principles and techniques for preparing for various types of disasters. 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:** SAFE 311 or equivalent or permission of instructor.

SAFE 674 Fire Safety in Building Design 3 cr.

Examines fundamental principles for the safe design of buildings from a fire hazard standpoint. Emphasis is given to an understanding of building codes, fire properties of building materials, building design criteria to limit the spread of fire and smoke, control of ignition sources, storage of combustibles and flammables, life safety, and active fire protection systems. **Prerequisite:** SAFE 311 or permission of instructor.

SAFE 681 Special Topics 3 cr.

A graduate-student-only elective offering in which the specific topics may vary from one term to the next. **Prerequisite:** Permission of instructor.

SAFE 699 Independent Study 3 cr.

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.

SAFE 795 Thesis 3 cr.

The thesis will require a committee review with one faculty member serving as the student's advisor. 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.

*Indicates dual-listed class

SAHE: Student Affairs in Higher Education

Department of Student Affairs in Higher Education
College of Education and Educational Technology

SAHE 590 Improving Professional Practice in Instructional Settings 1-3 cr.
and

SAHE 591 Improving Professional Practice in Instructional Settings 1-3 cr.

Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.

SAHE 621 History of Higher Education in the United States 3 cr.

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.

SAHE 624 Student Affairs Functions in Higher Education 3 cr.

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.

SAHE 625 Theories of Personality and Human Development 3 cr.

Designed to expose 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.

SAHE 631 Student Development in Higher Education 3 cr.

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.

SAHE 634 Assessment and Evaluation in Student Affairs 3 cr.

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. **Prerequisite:** SAHE 621, SAHE 624, and SAHE 625.

SAHE 638 Topical Areas in Student Affairs 3 cr.

Provides the graduate student an opportunity to examine four areas of content related to the study of student affairs (technology, academic governance, law, and the community college) in higher education that have an impact on the student affairs profession and the work of practitioners.

SAHE 640 Cultural Pluralism in Higher Education 3 cr.

An overview of the issue of cultural pluralism in higher education. Encourages the development of culturally effective student affairs practitioners who will promote cross-cultural understanding among college students. Examines the projected demographic realities for the groups traditionally termed "minority" and explores notions of culture, oppression, marginalization, racial identity, and multicultural organizations. Exposure to these issues will occur in both the theoretical and personal realms with student introspection and participation intended as key features of the course.

SAHE 646 Interpersonal Sensitivity 3 cr.

Participants explore their interpersonal interaction style in groups and individually. Human potential of the students is 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.

SAHE 681/781 Special Topics 3 cr.**SAHE 698 Internship** 3 cr.

A supervised study and/or work experience of at least 150 hours with an institution of higher education or an appropriate professional association determined individually between the student and the supervising faculty member. Sites must be approved by the department. **Prerequisite:** Permission only.

SAHE 731 Practicum in Student Affairs 3 cr.

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.

SAHE 733 Management of Organizational Behavior in Higher Education 3 cr.

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.

SAHE 735 Individual and Group Interventions 3 cr.

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. **Prerequisite:** SAHE 621, SAHE 624, SAHE 625, and SAHE 631.

SAHE 737 The American College Student 3 cr.

Examines the culture of undergraduate students in American higher education to prepare professionals for the clients they will serve. Focuses on the changing student clientele and its subgroups and cultures. Undergraduate characteristics, attitudes and values, and broad issues regarding their participation in the educational experience are explored.

SAHE 740 Contemporary Issues in Higher Education 3 cr.

Introduces 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.

SAHE 795 Thesis 3 or 6 cr.**SDR:Interdisciplinary Program****College of Natural Sciences and Mathematics****SDR 586 Selected Topics in SDR** 1-6 cr.

Lecture-laboratory course designed for first responders in the Weapons of Mass Destruction community and related emergency planners. Topics will be related to the most recent advances in chemical, biological, radiological, and nuclear (CBRN) detection, identification, analysis, and mitigation. Topics and instructors may be the same or may vary. **Prerequisite:** Permission of instructor and local, state, or federal agency/organization authorization.

SDR 600 Effects of Biological Materials Use 5 cr.

This is the biology course associated with Level 4: Advanced Characterization of Unknown Substances, a module of chemistry, biology, and radiology/nuclear physics courses developed for first responders in the Weapons of Mass Destruction community. Investigation and analysis of current status of bioterrorism as it relates to different microbes and potential bioterrorism agents. Integrates advanced safety techniques in handling microbes with basic principles and facts of microbiology, microscopy, and microbe identification using molecular, biological, and immunological techniques. Features in-depth discussion of principles and applications of polymerase chain reactions. Hands-on training is complemented by formal lectures. **Prerequisite:** BIOL 111, 112 and 250, CHEM 232, and BIOC

301/311 (biochemistry lecture and lab) or equivalent or instructor permission and local, state, or federal agency/organization authorization.

SDR 601 Advanced Characterization Theory and Practical Applications Using GC/MS, FT-IR, and Organic Chemistry 5 cr.

This is the chemistry course associated with Level 4: Advanced Characterization of Unknown Substances, a module of chemistry, biology, and radiology/nuclear physics courses developed for first responders in the Weapons of Mass Destruction community. Designed for experienced members of the first responder community, this intensive, advanced-level chemistry course focuses on the hazards, reactions, detection, and identification of Chemical Warfare Agents, selected Toxic Industrial Chemicals, selected Toxic Industrial Materials, and important precursors. The principles and applications of Infrared Spectroscopy and Gas Chromatography/Mass Spectrometry are emphasized. Additionally, the course focuses on actions required in the event of an attack, accident, or incident involving chemical WMD. **Prerequisite:** CHEM 111, 112, 231, 232, or equivalent or permission of instructor and local, state, or federal agency/organization authorization.

SDR 602 Short- and Long-Term Effects of Radiological Materials Use 2 cr.

This is the radiology/nuclear physics course associated with Level 4: Advanced Characterization of Unknown Substances, a module of chemistry, biology, and radiology/nuclear physics courses developed for first responders in the Weapons of Mass Destruction community. Designed for experienced first responders with significant prior knowledge in general physics concepts, this is an advanced-level course in radiation detection and radiology. It provides effective training on radioactive materials, radiation detection, identification of isotopes, quantifying materials (activities of the sources) dispersed in an area, and radiation dosimetry to estimate exposure and radiological consequences. This advanced-level course requires the understanding and application of the theoretical concepts using the scientific methods, analysis, synthesis, and complex problem-solving skills in radiation and radiological physics. **Prerequisite:** PHYS 111, 112, 121, and 122 or equivalent or permission of instructor and local, state, or federal agency/organization authorization.

SDR 603 Advanced Field Experience in Disaster Response 6 cr.

Designed to provide students with an opportunity to apply classroom learning to response to real and mock incidents that involve chemical, biological, radiological, and nuclear (CBRN) weapons. The students are required to analyze, interpret, and draw conclusions based on the data collected and to make the appropriate response call. **Prerequisite:** SDR 600, 601, and 602 and local, state, or federal agency/organization authorization.

SDR 610 Advanced Techniques in Biotechnology for Disaster Response 5 cr.

Introduction to advanced techniques and procedures used in biological research as they relate to assessing detrimental bioagents and infectious diseases. Examines advances in existing sensing technologies while introducing the latest innovations in bio-detection technologies. **Prerequisite:** SDR 600, 601, and 602 and local, state, or federal agency/organization authorization.

SOC: Sociology

Department of Sociology

College of Humanities and Social Sciences

SOC 527/* Social Perspectives on Intimate Partner Violence 3 cr.

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.

SOC 528/* Child Abuse 3 cr.

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.

SOC 542 Social and Cultural Aspects of Health and Medicine 3 cr.

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.

SOC 552 Disability and Society 3 cr.

Analyzes disability from a sociological perspective. Includes a consideration of historical and current views of disability and a review of related concepts from the fields of medical sociology and the sociology of deviance. Also includes an analysis of the effects of disabilities on individuals and families through the life course and a consideration of related ethical, economic, political, and social policy issues. The emphasis is on disability as a social construction.

SOC 581/681/781/881 Special Topics in Sociology 3-6 cr.

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.

SOC 698/798 Internship 3-6 cr.

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.

SOC 699/799/899 Independent Study in Sociology 1-3 cr.

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.

SOC 704/804 Social Policy 3 cr.

Focuses on the development of social policy, first and foremost; on the history and development of the social welfare system in the United States with particular attention to the concepts used to discuss and explain social welfare institutions' policies and programs; on the mechanisms and structures to deliver services; and on the factors that have tended to constrain or facilitate the attainment of social justice. Development of social welfare policy is traced within the context of the social and political economy of the period to gain an understanding of how political, economic, and social ideologies have shaped attitudes about social policy.

SOC 705 Research Seminar in Sociology 3 cr.

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.

SOC 709 Contemporary Sociological Theory 3 cr.

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.

SOC 710/810 Sociology of Human Services 3 cr.

Introduction to the theoretical and applied roles of human services in our society. Organizational theories, delivery systems models, and implementation issues are discussed.

SOC 711 Human Services Administration 3 cr.

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.

SOC 712/812 Methods for Human Service Practitioners 3 cr.

Enables students to apply sociological methods such as observation, interviewing, and questionnaire development to direct service situations. Students work with service users in area agencies to help them identify their resources, concerns, and priorities and to develop family service plans.

SOC 721/821 Sociology of Health Care 3 cr.

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.

SOC 730/830 Seminar in Alcohol and Drug Abuse 3 cr.

The social and personal problems associated with alcohol and drug abuse are considered. Attention is given to the etiology, social factors, and economics of abuse, as well as to prevention and intervention issues.

SOC 732/832 Addiction and the Family 3 cr.

Assesses the impact of alcohol or drug addition on individuals and their families. Research on addiction patterns, codependency, and family treatment is discussed. Special attention is given to gender and racial differences in addiction and their impact on the family.

SOC 736/836 Sociology of the Family 3 cr.

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 are made, with the focal theme being the "decline of the family." Specific topics 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.

SOC 738/838 Seminar on At-Risk Children 3 cr.

Examines the impact of societal structures on children in the United States today. Emphasizes the adverse impact of poverty and related conditions, such as poor health care, neglect, homelessness, parental drug abuse, and neighborhood violence. Economic, political, and cultural factors that produce these conditions are reviewed and compared with those in other countries with better child outcomes. This review and comparison lead to a consideration of implications for social policy change.

SOC 742/842 Industrial Sociology 3 cr.

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.

SOC 744/844 The Sociology of Deviance 3 cr.

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.

SOC 748/848 Gender and Society 3 cr.

Considers the position of women and men in society. Examines current perspectives and research on the nature of gender differences and causes of gender inequality. Explores how gender is structured and maintained in both public and personal lives, in such arenas as family, education, and work and in gendered interactions of friendship and love, sexuality, and violence.

SOC 754/854 Social Inequality 3 cr.

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 affect inequality in the United States.

- SOC 756/856 Social Change** 3 cr.
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.
- SOC 757/857 Aging and Society** 3 cr.
Focuses on the social problems encountered by aging individuals in various societies. The impact of sociological factors, such as social class, ethnicity, and technological change, on the lives of the elderly are studied. The institutional structures and services designed to cope with changing demographics are also discussed.
- SOC 761 Microcomputing Applications in Sociology** 3 cr.
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:** COSC 101 or equivalent.
- SOC 762/862 Analysis of Social Data** 3 cr.
Introduces students to statistics and their use in analyzing and understanding social phenomena and social data. In particular, helps students develop the skills and knowledge needed to conduct their own quantitative research, both as graduate students and as professionals, and to better understand and critique research which students come across in their work. By the end of the course, students will have an understanding of the concepts underlying the use of statistics, the ability to critique and question statistics they encounter in daily life, the ability to use professional statistical software (such as SPSS) comfortably, and the ability to use many different statistical techniques in their own research. It will also provide a foundation for learning more advanced statistics.
- SOC 763/863 Quantitative Research Methods I** 3 cr.
Examination of diverse research designs in the social sciences, with a particular emphasis on quantitative research designs. The course will focus on understanding and critiquing quantitative research designs. Special attention will be given to the integration of theory and research. Specific content includes concepts such as causality, internal validity, external validity, reliability of measurement, operational validity, sampling, and specific research designs.
- SOC 764/864 Quantitative Research Methods II** 3 cr.
Emphasis on advanced social science quantitative methods relevant to students in sociology, human services, and administration and leadership studies. Specific topics include multiple regression, reliability analysis, factor analysis, and logistic regression.
- SOC 765/865 Qualitative Research Methods** 3 cr.
Qualitative research represents one main branch of social inquiry into the human experience. This course will provide students with a solid understanding of the key principles associated with qualitative research, as well as a framework for understanding how this approach compares with quantitative research. Particular emphasis will be placed on the philosophical, social, and ethical dimensions of assuring quality and credibility in social inquiry and the resulting methodological implications. The course also offers an overview of the various types of qualitative research, such as case study, ethnography, phenomenological study, and grounded theory. Against this background, students will develop skills in the specific methods associated with qualitative research design, including sampling, data-gathering, data analysis, representation, and assurance of quality. Students will experience the range of skills involved through actually designing, conducting, and reporting on a small qualitative study.
- SOC 777 Teaching Sociology** 3 cr.
Examines various aspects of the teaching process: effectively developing course goals and objectives, lecturing and leading discussion, using alternative pedagogical approaches, designing instruments to evaluate student performance, developing course syllabi, addressing diversity issues in the classroom, etc. Students will develop skills and practice in these aspects of teaching sociology. **Prerequisite:** Graduate standing in Sociology or permission of the instructor.
- SOC 781/881 Special Topics** 3 cr.
- SOC 795 Thesis** 3-6 cr.
For the student writing the master's thesis. A thesis proposal must be submitted to the department's graduate coordinator and approved by the Sociology Master's 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.
- SOC 798 Internship** 3-6 cr.
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.
- SOC 803 Social and Organizational Theory** 3 cr.
Examination of the use of theory for understanding social phenomena. Focuses on developing understanding of the role of theory in the social sciences and skills in accessing, critiquing, synthesizing, and applying theory. Students will do a thorough study of a selection of primary sources of key classical and contemporary social theories and of the foundational theories underlying understandings of organizations. Students will be able to understand the contributions and limitations of these theories and critically analyze theoretical perspectives. **Prerequisite:** None.
- *Indicates dual-listed class**
- SPLP: Speech-Language Pathology**
Department of Special Education and Clinical Services
College of Education and Educational Technology
- SPLP 590 Improving Professional Practice in Instructional Settings and** 1-3 cr.
SPLP 591 Improving Professional Practice in Instructional Settings 1-3 cr.
Reviews current research in instructional practices, motivational techniques, and professional issues. May focus on any of these aspects of teaching, learning, or professional practice. May be presented with a kindergarten through grade twelve, elementary, middle school, secondary, or adult orientation. Offered only for continuous professional development and may not be applied toward a graduate degree. **Prerequisite:** Appropriate teaching certificate or other professional credential or preparation.
- SPLP 600 Neurolinguistics** 3 cr.
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. Prepares 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.
- SPLP 604 Diagnostic Methods** 3 cr.
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.
- SPLP 610 Articulation** 3 cr.
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.
- SPLP 616 Stuttering** 3 cr.
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.

SPLP 618 Voice 3 cr.
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.

SPLP 630 Language Disorders of Children 3 cr.
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:** SPLP 600.

SPLP 632 Neurological Communication Disorders 3 cr.
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.

SPLP 635 Seminar in Communication 1-3 cr.
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. **Prerequisite:** Speech-Language Pathology major; admission to degree candidacy, and advisor approval.

SPLP 640 Diagnostic Audiology 3 cr.
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.

SPLP 661 Advanced Clinical Practicum I 2-6 cr.
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.

SPLP 662 Diagnostic Clinic 1 cr.
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.

SPLP 663 Hearing Testing Clinic 1 cr.
Supervised practicum experience in performing diagnostic audiological tests.

SPLP 671 Advanced Clinical Practicum II 1-6 cr.
Similar to SPLP 661; students assume more responsibility, and experience may take place at approved off-campus sites. **Prerequisite:** SPLP 661.

SPLP 681 Special Topics

SPLP 795 Thesis 3 cr.

SPLP 796 Internship in Hospitals 6 cr.
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. **Prerequisite:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SPLP 797 Internship in Community Agencies 6 cr.
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. **Prerequisite:** Methodology and on-campus practicum courses, permission of graduate coordinator.

SPLP 798 Internship in Schools 6 cr.
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. **Prerequisite:** Graduate methodology, on-campus practicum courses, permission of graduate coordinator, and undergraduate Professional Education Sequence.

SPLP 799 Independent Study 3 cr.

THTR: Theater

Department of Theater and Dance
College of Fine Arts

THTR 586 Practicum in Production 1-6 cr.
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.

THTR 693 Internship 1-12 cr.
Supervised working experience in the context of a professional theater environment in a company employing professional actors, directors, and/or designers. **Prerequisite:** Permission.

VOED: Vocational Education

Center for Career and Technical Personnel Preparation
College of Education and Educational Technology

VOED 600 Curriculum Development and Vocational Education 3 cr.
Emphasis is on processes for making curriculum decisions and guiding others in developing and updating curriculum for vocational education. Current occupational standards and societal needs, as well as state and federal regulations governing vocational education, are used as a basis for curriculum decisions.

VOED 601 Curriculum and Instructional Leadership in Vocational Education 3 cr.
Curriculum management skills are developed and utilized to plan and organize vocational curriculum. Focus is on practical curriculum decisions when they involve guiding other staff in curriculum development for vocational education.

VOED 602 Conference Leadership and Communication Methods in Vocational Education 3 cr.
Basic concepts in supervision of vocational programs are reviewed. Human relations, communications, processes, decision making, helping conferences, and leadership strategies are emphasized. Students demonstrate ability to perform supervisory skills in an individualized manner in an actual vocational school situation supplemented by seminars.

VOED 603 Management of Instruction for Vocational Education 3 cr.
Classroom instructional tasks performed by the vocational educator are studied, including procedures, materials, and learning and instructional styles. Emphasis is on leadership strategies and processes to guide and assist other vocational instructors. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

VOED 604 Curriculum Supervision in Vocational Education 3 cr.
Emphasizes skills needed to provide leadership in supervision of faculty and staff. In consultation with his or her advisor, each student identifies areas that need enhancement in vocational settings. Skills are developed in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

VOED 605 Policy Administration 3 cr.
Develops skills to communicate vocational school policies and activities effectively with staff, students, and community. Includes study of student recruitment for vocational programs and maintenance/expansion/utilization of school facilities. In consultation with his or her advisor, each student will identify those areas that need further refinement. The student will develop and perform each requisite skill in an individualized, self-paced manner in an actual vocational school situation supplemented by seminars.

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***Downing, David B.**, Ph.D., State University of New York at Buffalo; Professor

Dube, Reena, Ph.D., University of Pittsburgh; Associate Professor

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***Hurlbert, Claude Mark**, D.A., State University of New York at Albany; Professor

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Department of History

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Wang, Xi, Ph.D., Columbia University; Professor

Whited, Tamara L., Ph.D., University of California-Berkeley; Associate Professor

Department of Journalism

***Loomis, David O.**, Ph.D., University of North Carolina at Chapel Hill; Assistant Professor

Department of Philosophy

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Department of Political Science

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Department of Sociology

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 ***Dougherty, James P.**, Ph.D., State University of New York at Buffalo; Assistant Professor
 ***Gondolf, Edward W.**, Ed.D., Boston University; Professor
 ***Gunter, Valerie J.**, Ph.D., Michigan State University; Associate Professor
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 ***Heckert, Daniel A.**, Ph.D., University of Iowa; Professor
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 ***Holtz, Harvey S.**, Ph.D., City University of New York-Graduate Center; Professor
 ***Hysock, Dana A.**, Ph.D., University of Delaware; Assistant Professor
 ***Mabry, J. Beth**, Ph.D., Virginia Polytechnic Institute and State University; Associate Professor
 ***Nowak, Thomas C.**, Ph.D., Cornell University; Professor

Department of Spanish

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 ***Smith-Sherwood, Dawn M.**, Ph.D., State University of New York-Buffalo; Associate Professor
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College of Natural Sciences and Mathematics*Department of Biology*

- Ayebo, Amadu D.**, Ph.D., University of Nebraska-Lincoln; Professor
Bharathan, Narayanaswamy, Ph.D., University of Maine; Professor
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 ***Bi, Shundong**, Ph.D., Howard University; Assistant Professor
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Kondo, Anne E., Ph.D., University West Ontario/Canada; Associate Professor
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LeBlond, Carl R., Ph.D., Seton Hall University; Assistant Professor

McElroy, Nathan R., Ph.D., Pennsylvania State University; Assistant Professor

See, Ronald F., Ph.D., State University of New York at Buffalo; Associate Professor

Southard, Jonathan N., Ph.D., Utah State University; Assistant Professor

Sowa, Sharon, Ph.D., Colorado State University; Associate Professor

Wood, John T., Ph.D., University of Pittsburgh; Professor

Woolcock, John C., Ph.D., University of California-Riverside; Professor

Department of Computer Science

Ali, Sanwar, Ph.D., Texas Christian University; Professor

***Ezekiel, Soundararajan**, Ph.D., University of Pittsburgh; Associate Professor

Farag, Waleed Ezzat., Ph.D., Old Dominion University; Associate Professor

Oblitey, William W., Ph.D., University of Pittsburgh; Professor

Department of Geoscience

***Farnsworth, Katherine Lee**, Ph.D., College of William and Mary; Assistant Professor

***Hovan, Steven A.**, Ph.D., University of Michigan; Professor

***Lewis, Jonathan C.**, Ph.D., University of Connecticut; Assistant Professor

***Poage, Michael A.**, Ph.D., Dartmouth College; Associate Professor

Taylor, John F., Ph.D., University of Missouri-Columbia; Professor

Department of Mathematics

***Adkins, Frederick A.**, Ph.D., University of Iowa; Professor

Alarcon, Francisco E., Ph.D., University of Iowa; Professor

***Baker, John D.**, Ph.D., Indiana University at Bloomington; Professor

***Burch, Kimberly Jordan**, Ph.D., University of Pittsburgh; Assistant Professor

Burkett, Daniel A., Ph.D., Carnegie Mellon University; Associate Professor

Colen, Yong Suk, D.Ed., Columbia University; Assistant Professor

***Donley, Harold E.**, Ph.D., Carnegie Mellon University; Professor

***Feldman, Lawrence M.**, Ph.D., State University of New York at Buffalo; Professor

Kuo, Yu-Ju, Ph.D., Arizona State University Main; Assistant Professor

Maier, Christoph Emanuel, Ph.D., Oklahoma State University; Assistant Professor

***Metz, Mary Lou**, D.Ed., University of Pittsburgh; Assistant Professor

***Navaratna, Channa Nisantha**, Ph.D., Texas Technical University; Assistant Professor

***Reilly, Edel M.**, Ed.D., Indiana University of Pennsylvania; Assistant Professor

***Sharp, Brian D.**, Ph.D., University of Virginia; Assistant Professor

Stempien, Margaret M., Ph.D., State University of New York at Buffalo; Associate Professor

Stoudt, Gary S., Ph.D., Lehigh University; Professor

***Walker, Janet M.**, Ph.D., Oregon State University; Professor

Zhang, John, Ph.D., Syracuse University Main Campus; Professor

Department of Physics

Karimi, Majid, Ph.D., University of Oklahoma Health Sciences Center; Professor

Kenning, Gregory G., Ph.D., Michigan State University; Associate Professor

Numan, Muhammad Z., Ph.D., College of William and Mary; Professor

Sobolewski, Stanley J., Ph.D., State University of New York at Buffalo; Associate Professor

***Talwar, Devki N.**, Ph.D., University of Allahabad/India; Professor

***Wijekumar, Vythilingam**, Ph.D., Ohio State University; Professor

Zhou, Feng, Ph.D., Chinese Academy of Sciences; Assistant Professor

Department of Psychology

***Berman, Pearl S.**, Ph.D., Bowling Green State University; Professor

***Federoff, Lynda M.**, Ph.D., West Virginia University; Associate Professor

***Goodwin, Beverly J.**, Ph.D., University of Pittsburgh; Professor

***Hatfield, Derek R.**, Ph.D., Ohio University; Assistant Professor

***Husenits, Kimberely J.**, Psy.D., Indiana University of Pennsylvania; Associate Professor

***Johnson, Tara Lynne**, Ph.D., West Virginia University; Assistant Professor

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***LaPorte, David J.**, Ph.D., Temple University; Professor

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***McHugh, Maureen C.**, Ph.D., University of Pittsburgh; Professor

***Meil, William M.**, Ph.D., Washington State University; Associate Professor

***Mills, John A.**, Ph.D., State University of New York at Buffalo; Professor

***Newell, Lisa Christine**, Ph.D., University of Pittsburgh; Assistant Professor

***Palumbo, Mark V.**, M.S., Wright State University; Assistant Professor

***Pavloski, Raymond P.**, Ph.D., McMaster University/Canada; Professor

***Raeff, Catherine**, Ph.D., Clark University; Professor

***Robertson, Donald U.**, Ph.D., Bowling Green State University; Professor

***Roehrich, Laurie**, Ph.D., University of South Florida; Associate Professor

Sherburne, Cora Lou M., Ph.D., University of Kentucky; Assistant Professor

***Zanich, Mary L.**, Ph.D., University of Pittsburgh; Professor

***Zimny, Susan T.**, Ph.D., University of Colorado at Boulder; Professor

Eberly College of Business and Information Technology

Department of Accounting

- Anantharaman, Sekhar**, Ph.D., University of Central Florida; Professor
- Kline, Germain P.**, Ph.D., Walden University; Associate Professor
- Rahman, Monsurur**, D.B.A., Southern Illinois University Carbondale; Professor
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- ***Gart, Alan**, Ph.D., University of Pennsylvania; Professor

Department of Management

- ***Ali, Abbas J.**, Ph.D., West Virginia University; Professor
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- Ashamalla, Maali H.**, Ph.D., City University of New York-Graduate Center; Professor
- ***Bharadwaj, Prashanth Nagendra**, Ph.D., Rutgers University; Professor
- ***Gibbs, Manton C.**, Ph.D., Michigan State University; Professor
- Kosicek, Paul M.**, Ph.D., Indiana University of Pennsylvania; Assistant Professor
- ***Orife, John N.**, Ph.D., Michigan State University; Associate Professor
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- Slack, Frederick J.**, Ph.D., University of Pittsburgh; Associate Professor
- ***Soni, Ramesh G.**, Ph.D., University of Texas at Arlington; Professor
- ***Wisniewski, Joette M.**, Ph.D., University of Georgia; Associate Professor

Department of Management Information Systems and Decision Sciences

- Albohali, Mohamed H.**, Ph.D., Kansas State University; Professor
- Gu, Linwu**, Ph.D., University of Mississippi; Associate Professor
- Hyde, Micki**, Ph.D., Southern Illinois University Carbondale; Associate Professor
- ***Nahouraii, Ataollah**, Ph.D., University of Pittsburgh; Professor
- Pankaj, Pankaj**, Ph.D., Southern Illinois University Carbondale; Associate Professor
- ***Rodger, James A.**, D.B.A., Southern Illinois University Carbondale; Professor
- ***Wang, Jianfeng**, Ph.D., University of Mississippi; Associate Professor
- Wibowo, Kustim**, Ph.D., University of Kentucky; Professor

Department of Marketing

- ***Batra, Madan M.**, Ph.D., University of Wisconsin-Madison; Professor
- ***Bebko, Charlene P.**, Ph.D., University of Pittsburgh; Professor
- Bhagat, Parimal Satish**, Ph.D., Pennsylvania State University; Associate Professor
- Byramjee, Framarz D.**, M.S., Florida Atlantic University; Associate Professor
- ***Garg, Rajendar K.**, Ph.D., University of Massachusetts; Professor
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- ***Sciulli, Lisa M.**, Ph.D., University of Pittsburgh; Professor
- ***Sharma, Varinder M.**, Ph.D., University of North Texas; Professor

Department of Technology Support and Training

- ***Ali, Azad Ismail**, D.Sc., Robert Morris University; Associate Professor
- Gracey, Dorothy M.**, M.Ed., Indiana University of Pennsylvania; Instructor
- McPherson, William C.**, Ph.D., New York University; Professor
- Mensch, Scott Edward**, Ph.D., Capella University; Assistant Professor
- ***Moore, Wayne A.**, Ed.D., Temple University; Professor
- ***Szul, Linda M.**, Ed.D., University of Pittsburgh; Professor
- Wilkie, LeAnn**, Ed.D., Texas Technical University; Associate Professor
- Willis, Lucinda L.**, M.A., Virginia Polytechnic Institute and State University; Associate Professor
- Woodland, Dawn E.**, Ph.D., Southern Illinois University Carbondale; Associate Professor

Student Affairs Division

Center for Counseling and Psychological Services

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- ***Myers, David Michael**, Ph.D., Pennsylvania State University; Assistant Professor
- ***Rosenberger, Eric W.**, Ph.D., Pennsylvania State University; Associate Professor

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