

UNDERGRADUATE PROGRAMS



Bulletin

2004–2006



INDIANA UNIVERSITY-PURDUE UNIVERSITY FORT WAYNE

Student Name _____

Advisor Name _____

Advisor Location and Phone # _____

How can I apply to IPFW?

See Part 7: Regulations, Policies, Rights, and Responsibilities, *pages 273–275*

What degrees are offered at IPFW?

See Part 1: IPFW, *pages 5–7*

How can I register for classes?

See Part 7: Regulations, Policies, Rights, and Responsibilities, *pages 266–267*

How much do I have to pay?

See Part 7: Regulations, Policies, Rights, and Responsibilities, *pages 275–276*

Where can I get financial aid?

See Part 6: IPFW Services, *pages 258–259*

How do I start choosing classes?

See Part 4: Program Descriptions, *pages 29–145*

What are the IPFW General Education requirements?

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What classes do I need for my major?

See Part 4: Program Descriptions, listed alphabetically by major, *pages 29–145*

How do I get access to computers, e-mail, the Web?

See Part 6: IPFW Services, *page 257*

Where is the campus map?

See the page following the index, *page 319*

Chancellor's Message



Welcome to IPFW

Thank you for selecting Indiana University–Purdue University Fort Wayne for your undergraduate studies. From among IPFW's enormous range of academic programs, you're certain to find a course of study that will fulfill your goals.

IPFW faculty are dedicated teachers as well as nationally and internationally known scholars, and you can be certain that the program you select will be of the highest quality. The professional accreditation held by specific degree programs provides further assurance that these degrees adhere to recognized national standards.

IPFW undergraduate programs prepare you to enter the workforce in your chosen field or for studies at the graduate level. Many programs offer unique theoretical and practical learning experiences that draw on community resources. And the small class size gives you and your faculty the opportunity to discuss issues and class assignments, or perhaps even collaborate on a research project.

Your undergraduate experience will be enriched if you choose to get involved in student organizations, ranging from sororities and fraternities to departmental clubs related to your major to intramural sports and other special-interest groups. The Student Handbook and Planner provides further details on how you can participate.

Please remember that university services and support programs are for all students. The recreational facilities of the Gates Sports Center, informational resources of Helmke Library, plays at Williams Theatre, and job-placement support through Academic Counseling and Career Services are just a few of the opportunities available to you.

Best wishes for achieving your personal and career goals through undergraduate studies at IPFW.

Sincerely,

A handwritten signature in black ink that reads "Michael A. Wartell". The signature is written in a cursive, flowing style.

Michael A. Wartell
Chancellor



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About this Bulletin

The *Bulletin* provides information about the undergraduate programs, rules, courses, and faculty of Indiana University–Purdue University Fort Wayne (IPFW). Information about IPFW's graduate programs appears in a separate publication, the *IPFW Graduate Bulletin*.

Information in the *Bulletin* will help students to make important choices about their education, and it will familiarize them with the many important services IPFW provides. Since the *Bulletin* is a primary resource for making decisions about an IPFW education, it is important for students to retain a personal copy throughout their tenure at the university.

Changes occur as needs arise. Changes in rules and procedures generally become effective at the time they are published. Also, new or changed academic program requirements may provide you with additional options. Because of this, you should review statements on IPFW services, policies, programs, and courses in each new edition of the *Bulletin* published while you are a student. When you enter a degree or certificate program, you will be required to fulfill the requirements published in the *Bulletin* (or its supplement or departmental regulation) current at the time of your most recent entry or re-entry into that program at IPFW. Only with the written acknowledgment of your academic advisor can you elect to fulfill the requirements in any subsequent *Bulletin* or supplement. Your academic advisor can assist you with this choice and ensure that such changes are officially recorded.

NOTE: The information in this *Bulletin* is subject to change without notice. Actions by federal and state governments and the boards of trustees, administration, and faculty of the universities may produce such changes.

About the University

Indiana University–Purdue University Fort Wayne (IPFW) offers more academic and extracurricular opportunities than any other higher education institution in northeastern Indiana. A joint campus of two internationally recognized Big Ten schools, IPFW grants both Indiana University and Purdue University degrees.

IPFW reflects the IU and Purdue commitments to excellence in teaching, research, and service. The university takes advantage of the latest technologies in order to enhance information exchange, classroom instruction, research, and communications. Indiana University and Purdue University carry traditions of distinction in humanities, fine arts, health sciences, social sciences, engineering, technology, and computer science.

IPFW provides access to an excellent education through academic diversity, flexibility, and affordability. IPFW students have access to superior research, academic, and extracurricular pursuits. IPFW is committed to the continued educational, economic, and cultural development of its 11-county service area.

Nearly 12,000 students, ranging in age from 14 to 73, are enrolled in more than 180 academic programs. The university offers undergraduate and graduate degrees as well as certificate options. Some 9,000 additional students pursue noncredit continuing education courses. While the diverse student body continues to grow, the average class size remains 24.

The university is accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools. Various schools, divisions and programs have earned additional accreditation through professional societies.

IPFW History The history of IPFW is a history of mergers. IPFW has steadily evolved since the initial merger of the IU and Purdue Fort Wayne regional campuses in 1964. A gift of additional land by

a consortium of local donors has increased the size of the campus to 566 acres, including land on the east and west banks of the St. Joseph River. Physically, the university has grown from a single building into a multicampus community cornerstone offering an unparalleled range of educational and cultural opportunities.

Academic Programs Degree and certificate programs are offered through 10 schools or divisions. Arts and Sciences, Health Sciences, and Visual and Performing Arts contain departments offering both IU and Purdue degree programs. Engineering, Technology, and Computer Science and Organizational Leadership and Supervision offer only Purdue degree programs; Business and Management Sciences, Education, General Studies, Labor Studies, and Public and Environmental Affairs, only Indiana. Academic Counseling and Career Services serves lower-division students who have not chosen a degree program. The Division of Continuing Studies offers credit and noncredit programs throughout northeastern Indiana in cooperation with degree-granting schools and divisions. Other entities, such as the Indiana University School of Medicine, offer programs at IPFW with varying degrees of campus affiliation. Many individual schools and programs are accredited by professional program associations.

IPFW stresses a constructive relationship between teaching and research. Most IPFW faculty members devote 25 percent of their effort to research. Some receive support from internally funded summer fellowships and grants-in-aid. Other support is available through the Purdue and IU systems. External grants and contracts regularly account for more than \$1 million a year. These activities reflect the research missions of Indiana and Purdue universities; however, projects tend to involve individuals or small groups of researchers rather than large staffs and facilities, and special emphasis is placed on studies directly related to regional needs

and interests. Faculty are encouraged to involve undergraduate students in research projects.

Learning Assessment IPFW is committed to providing quality education for our students. Several assessment and evaluation processes have been implemented that help us determine the effectiveness of our academic programs and service units as a whole.

Assessment is important to you because it gives you an opportunity to tell us how well we are doing. For example, you may be asked periodically to give us your feedback about the quality of academic services through a questionnaire. We may also ask you to participate by submitting anonymous examples of your coursework and participating in focus groups. These activities help us determine the extent to which IPFW is contributing to your preparation for a career and life.

Core Mission The core mission of IPFW is to provide quality postsecondary education in northeastern Indiana by focusing on student learning, while fostering intellectual exploration and attainment, and serving the region.

IPFW Goals Long-range goals of the university include continued improvement of academic programs, expanded faculty development programs, enhanced library collections and services, increased university and external support for research, increased academic and fiscal autonomy, attraction and retention of a more heterogeneous student body, expansion of graduate programs that serve regional needs, active support for regional economic development programs, and greater integration with the economic and cultural communities of the region.

The fifth-largest university in Indiana, IPFW has grown without sacrificing its commitment to faculty-student interaction. Quality of teaching will continue to be a major criterion for faculty compensation and promotion-and-tenure decisions and will continue to be recognized through awards for distinguished teaching. To attract and retain outstanding teachers, IPFW will continue its effort to provide competitive levels of faculty compensation.

IPFW will also sustain and enhance support of faculty research and will expand opportunities for students to participate in research projects. The university will promote the use of technology as a feature of university education across the curriculum.

IPFW is committed to preparing students of northeastern Indiana for productive lives in a multicultural, changing world. Special attention is given to bringing university education to nontraditional students. The campus will expand efforts to increase matriculation and retention of minority students, and in a related effort, to hire and retain minority faculty.

The campus will continue to build programs of academic support for all students, including those programs intended for students of outstanding ability. Because diversity of student body and staff is

an essential component of the university experience, IPFW also intends to attract a somewhat larger number of students from outside the region. To this end, and to accommodate verifiable local demand, a student housing complex with apartment-style floor plans opens in August 2004.

IPFW plays an important role in the cultural and economic life of northeastern Indiana. Faculty community service is and will continue to be encouraged. The university maintains and expects to strengthen relationships with community arts organizations and seeks additional opportunities to serve as a vital resource for business, industry, public and private education, and government in northeastern Indiana. Retraining of the workforce and response to changes in the economy will be important priorities in years to come, as will efforts to improve services for an increasingly diverse student body. The campus seeks to organize its efforts and relationships with IU and Purdue in ways that will enhance its ability to anticipate and respond to regional needs. The continued development of the campus, with community support engendered by this development, will allow IPFW to meet the increasing demand for higher education in northeastern Indiana.

IPFW Statements on Diversity In fall 1994, Chancellor Michael Wartell established the following campus statement on diversity:

Indiana University–Purdue University Fort Wayne recognizes, affirms, and celebrates the diversity in its campus, local, state, and national communities. Each member of these communities represents varied and different cultures and attributes simultaneously, yet because of these differences, many have been systematically excluded from full, fair, and respected participation in higher education. Therefore, Indiana University–Purdue University Fort Wayne seeks to demonstrate through its curriculum, support systems, and policies that it values these differences, creating and maintaining a campus environment that welcomes diverse characteristics, backgrounds, and experiences and identifying such diversity as a vital source of the intellectual, social, and personal growth essential to a university education.

To implement the above statement, Chancellor Wartell appointed a campus Diversity Council. In fall 1995, the Diversity Council published the following definition of diversity:

The Diversity Council is committed to creating an environment that enhances learning by recognizing the inherent worth of all individuals at the university. It is our conviction that diversity stimulates creativity, promotes the exchange of ideas, and enriches campus life. Diversity involves the differences among individuals that reflect the cultures from which the university draws strength, including, but not necessarily limited to, differences of race, ethnicity, color, gender, sexual orientation, class, age, and disabilities, as well as political and religious affiliation, and socioeconomic status.

Undergraduate Programs: Degrees, Certificates, Minors, and Transfers

IPFW is accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools. Information about North Central accreditation is available from the vice chancellor for academic affairs (KT 170, 260-481-6805). You may also contact the North Central Association directly by writing to 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504; or by phone at 800-621-7440.

The following is an alphabetical list of all undergraduate degree, certificate, minor, and transfer programs available at IPFW.

- A *degree* is an award earned by satisfactorily completing a specified program of courses and adhering to the applicable academic regulations. Each degree includes one or more major fields of study. Completion of a degree program is acknowledged by receipt of a diploma. The two most common degrees earned by IPFW students are the associate degree (abbreviated A.A. for Associate of Arts and A.S. for Associate of Science) and the bachelor's degree (abbreviated B.A. for Bachelor of Arts and B.S. for Bachelor of Science). Earning an associate degree requires at least two years of full-time study, with a longer period if enrolled only part time. Earning a bachelor's degree takes about twice as long.
- A *certificate* is not a college degree, but is composed of a series of courses that focus on a specialized area of knowledge or specific skills. The university recognizes completion of the required courses and satisfaction of applicable academic regulations by awarding a certificate.
- A *minor* is a less comprehensive program of study which is chosen in conjunction with a major field of study. To earn a minor, the student must complete a degree program in a different subject area.
- A *transfer program* is a series of courses that will apply toward a degree to be awarded by another campus of IU or Purdue. Credits for these courses can be transferred to the other campus, but students are required to satisfy the admission and graduation requirements of the campus to which they transfer.

School and division codes in the following list are as follows:

ANS: Arts and Sciences	HSC: Health Sciences
BMS: Business and Management Sciences	LS: Labor Studies
CS: Continuing Studies	OLS: Organizational Leadership and Supervision
EDUC: Education	PEA: Public and Environmental Affairs
ETCS: Engineering, Technology, and Computer Science	VPA: Visual and Performing Arts

Page #	Program	University	School or Division/Department	Degree/Certificate
29	Accounting	I	BMS/Accounting and Finance	Post-Baccalaureate Certificate
29	Advanced Microprocessors	P	ETCS/Electrical and Computer Engineering Technology	Certificate
29	Agriculture	P	ANS	Transfer Programs
30	American Studies	I	ANS	Certificate
30	Anthropology	I	ANS/Sociology and Anthropology	B.A., Minor, Research Certificate
32	Applied Ethics	P	ANS/Philosophy	Minor
32	Architectural Engineering Technology	P	ETCS/Civil and Architectural Engineering Technology	A.S.
33	Art Education	I	VPA/Visual Arts/Fine Arts	B.A.
34	Art History	I	VPA/Visual Arts/Fine Arts	Minor
14	Arts	I, P	ANS	A.A.
34	Biology	P	ANS/Biology	A.A., B.S., Minor, Research Certificate
36	Biology Teaching	P	ANS/Biology	B.S.
38	Business	I	BMS	A.S.B., B.S.B.
43	Business Studies	I	BMS	Minor
44	Chemical Methods	P	ANS/Chemistry	A.S.
44	Chemistry	P	ANS/Chemistry	B.S., B.S.C., Minor, Research Certificate
46	Chemistry Teaching	P	ANS/Chemistry	B.S.
47	Civil Engineering Technology	P	ETCS/Civil and Architectural Engineering Technology	A.S.
48	Commercial Art	I	VPA/Visual Arts/Visual Communication and Design	A.S.
49	Communication Studies	P	ANS/Communication	Minor

Page #	Program	University	School or Division/Department	Degree/Certificate
49	Computer Controlled Systems	P	ETCS/Electrical and Computer Engineering Technology	Certificate
50	Computer Engineering	P	ETCS/Engineering	B.S.Comp.E.
51	Computer Engineering Technology	P	ETCS/Electrical and Computer Engineering Technology	B.S.
53	Computer Networking	P	ETCS/Electrical and Computer Engineering Technology	Certificate
54	Computer Science	P	ANS/Mathematical Sciences	B.A.
53	Computer Science	P	ETCS/Computer Science	A.S., B.S., Minor
53	Construction Engineering Technology	P	ETCS/Civil and Architectural Engineering Technology	B.S.
56	Consumer and Family Sciences	P	HSC/Consumer and Family Sciences	Transfer Program
56	Creative Writing	I	ANS/English and Linguistics	Minor
126	Criminal Justice	I	PEA	Minor
57	Critical Care Nursing	P	HSC/Nursing	Certificate
57	Cytotechnology	I	HSC	Transfer Program
58	Dance	P	VPA/Theatre	Minor
58	Dental Assisting	I	HSC/Dental Education	Certificate
59	Dental Hygiene	I	HSC/Dental Education	A.S.
60	Dental Laboratory Technology	I	HSC/Dental Education	A.S.
61	Early Childhood Education	I	EDUC/Educational Studies	A.S.Ed.
61	Economics	I	ANS/Political Science	B.A., Minor
62	Electrical Engineering	P	ETCS/Engineering	B.S.E.E.
64	Electrical Engineering Technology	P	ETCS/Electrical and Computer Engineering Technology	A.S., B.S.
66	Electronic Communications	P	ETCS/Electrical and Computer Engineering Technology	Certificate
66	Electronics	P	ETCS/Electrical and Computer Engineering Technology	Minor
66	Elementary Education	I	EDUC/Educational Studies	B.S.Ed.
70	English	I	ANS/English and Linguistics	A.A., B.A., Minor
72	Ethnic and Cultural Studies	I	ANS	Certificate
73	Film and Media Studies	I	ANS/Communication	Minor
73	Fine Arts	I	VPA/Visual Arts/Fine Arts	B.A., B.F.A., Minor
75	Fine Arts	I	VPA/Visual Arts/Visual Communication and Design	B.F.A., Minor
77	Folklore	I	ANS/English and Linguistics	Minor
77	Forestry and Natural Resources	P	ANS	Transfer Program
77	French	I	ANS/Modern Foreign Languages	A.A., B.A., Minor
79	General Studies	I	CS	A.A.G.S., B.G.S.
80	Geology	I	ANS/Geosciences	B.A., B.S.G., Minor
83	German	I	ANS/Modern Foreign Languages	A.A., B.A., Minor
85	Gerontology	I	ANS	Certificate
86	Health Information Administration	I	HSC	Transfer Program
86	History	I	ANS/History	A.A., B.A., Minor
87	Honors Program	I, P	OAA/Honors	Certificate
87	Hospitality Management	P	HSC/Consumer and Family Sciences	B.S.
88	Hotel, Restaurant, and Tourism Management	P	HSC/Consumer and Family Sciences	A.S.
89	Human Services	P	HSC/Human Services	B.S.
90	Industrial Engineering Technology	P	ETCS/Manufacturing Technology	A.S., B.S.
91	Information Systems	P	ETCS/Computer Science	A.S., B.S., Minor
92	Interior Design	P	ETCS/Civil and Architectural Engineering Technology	A.S.
93	International Studies	I	ANS	Certificate
93	Interpersonal and Organizational Communication	P	ANS/Communication	B.A.
94	Journalism	I	ANS/Journalism	Minor, Transfer Program
95	Labor Studies	I	Labor Studies	A.S., B.S., Certificate, Minor
96	Linguistics	I	ANS/English and Linguistics	Minor
97	Mathematics	P	ANS/Mathematical Sciences	A.A., B.S., Minor, Research Certificate
99	Mathematics Teaching	P	ANS/Mathematical Sciences	B.S.

Page #	Program	University	School or Division/Department	Degree/Certificate
100	Mechanical Engineering	P	ETCS/Engineering	B.S.M.E
102	Mechanical Engineering Technology	P	ETCS/Manufacturing Technology	A.S., B.S.
103	Media and Public Communication	P	ANS/Communication	B.A.
104	Media Production	P	ANS/Communication	Minor
105	Medical Imaging Technology	I	HSC	Transfer Program
105	Medical Technology	P	ANS/Biology	B.S.
107	Music and an Outside Field	I	VPA/Music	B.Mus., B.S., Minor
108	Music Education	I	VPA/Music	B.Mus.Ed.
110	Music Therapy	I	VPA/Music	B.S.M.T.
112	Native American Studies	I	ANS	Certificate
113	Nuclear Medicine	I	HSC	Transfer Program
113	Nursing	P	HSC/Nursing	A.S., B.S.
115	Occupational Therapy	I	HSC	Graduate Program
116	Organizational Leadership and Supervision	P	OLS	A.S., B.S., Minor
117	Paramedic Sciences	I	HSC	Transfer Program
118	Peace and Conflict Studies	I	ANS	Certificate
118	Philosophy	P	ANS/Philosophy	B.A., Minor
119	Physical Therapy	I	HSC	Graduate Program
119	Physics	P	ANS/Physics	B.S., Minor, Research Certificate
120	Physics Teaching	P	ANS/Physics	B.S.
121	Piano Pedagogy	I	VPA/Music	Certificate
121	Political Science	I	ANS/Political Science	A.A., B.A., Minor
122	Power Electronic Systems	P	ETCS/Electrical and Computer Engineering Technology	Certificate
123	Prepharmacy	P	ANS	Transfer Program
123	Preveterinary	P	ANS	Transfer Program
123	Professional Writing	I	ANS/English and Linguistics	Minor
124	Psychology	P	ANS/Psychology	A.A., B.A., Minor, Research Certificate
125	Public Affairs	I	PEA	Minor
126	Public Affairs: Criminal Justice	I	PEA	B.S.P.A.
126	Public Affairs: Environmental Policy	I	PEA	B.S.P.A.
126	Public Affairs: Health Services Administration	I	PEA	B.S.P.A.
126	Public Affairs: Legal Studies	I	PEA	B.S.P.A.
126	Public Affairs: Public Management	I	PEA	B.S.P.A.
126	Public Affairs: Specialized Study	I	PEA	B.S.P.A.
127	Quality	P	ETCS/Manufacturing Technology	Certificate
127	Radiation Therapy	I	HSC	Transfer Program
128	Radiography	I	HSC	A.S.
128	Respiratory Therapy	I	HSC	Transfer Program
129	Secondary Education	I	EDUC/Educational Studies	B.S. Ed.
136	Sociology	I	ANS/Sociology and Anthropology	B.A., Minor
138	Spanish	I	ANS/Modern Foreign Languages	A.A., B.A., Minor
140	Speech and Hearing Therapy	P	ANS/Audiology and Speech Sciences	B.S.
141	Supervisory Leadership	P	OLS	Certificate
141	Teaching English As A New Language	I	ANS/English and Linguistics	Certificate
141	Theatre	P	VPA/Theatre	B.A., Minor
143	Theatre Teaching	P	VPA/Theatre	B.A., Minor
144	Women's Studies	I, P	ANS	A.A., B.A., Certificate, Minor

IPFW Office Directory

Campus Emergencies–Police (PP 102)	481-6911
Campus Emergencies–Medical	6911
Weather-related Announcements	481-6050
Campus General	
Information/Switchboard (KT 153A)	481-6100
Academic Counseling and Career Services (KT 109)	481-6814
Academic Support and Advancement, Center for (KT G23)	481-6817
Admissions (KT 111)	481-6812
Affirmative Action/Equal Opportunity (KT 110N)	481-6106
Athletics, Recreation, and Intramural Sports (GC 201)	481-6643
Athletics–Reservation Desk (GC 210)	481-6655
Bookstore (KT G10)	483-6100
Bursar (KT G57)	481-6824
Cafeteria, The Fort (WU G32A)	481-6277
Child Care Center (CCC, 4133 Hobson Road)	485-4187
Continuing Studies (KT 145)	481-6619
Off-Campus Credit Programs (KT 145)	481-6111
Cooperative Education (NF 337)	481-6593
Dean of Students (WU 113)	481-6601
Disabilities, Services for Students with (WU 118)	481-6657
Financial Aid (KT 103)	481-6820

Graduate Studies	481-6795
Honors Program (KT G35)	481-6924
International Student Services (WU 118)	481-6923
Library, Walter E. Helmke (LB 148)	481-6512
Multicultural Services (WU 118)	481-6608
Police and Safety (PP 102)	481-6900
Purdue-Indiana Theatre Box Office (WT 124A)	481-6555
Registrar (KT 107)	481-6815
Student Life (WU 231)	481-6609
Student Government Association (WU 225)	481-6586
Veterans' Benefits Representative (KT 107)	481-6126
Women and Returning Adults, Center for (WU G25)	481-6029
Writing Center (KT 234)	481-5740

Schools and Divisions

Arts and Sciences (CM 153)	481-6160
Business and Management Sciences (NF 360)	481-6461
Continuing Studies (KT 145)	481-6619
Education (NF 250B)	481-6441
Engineering, Technology, and Computer Science (ET 243B)	481-6839
Health Sciences (NF 142)	481-6967
Labor Studies (KT G28)	481-6831
Organizational Leadership and Supervision (NF 288)	481-6420
Public and Environmental Affairs (NF 260B)	481-6351
Visual and Performing Arts (VA 102)	481-6977

IPFW Bookstore Hours (fall/spring)

Monday–Thursday	8:30 a.m.–7:30 p.m.
Friday	8:30 a.m.–3 p.m.
Saturday	10 a.m.–1 p.m.

Helmke Library Hours (fall/spring)

Monday–Thursday	8 a.m.–11 p.m.
Friday	8 a.m.–6 p.m.
Saturday	9 a.m.–6 p.m.
Sunday	noon–11 p.m.



Students who entered IPFW for the first time in fall 1995 or a subsequent term in a bachelor's degree program, or transferred into a new bachelor's degree program, are required to satisfy IPFW's General Education program as part of their degree requirements. The courses listed below may be used to satisfy these requirements. The student's advisor will know of any courses that have been added to this list.

Students should check specific school requirements to determine if any special conditions about general education apply to their major. Under certain circumstances, students may be allowed to substitute courses for those listed below. An academic advisor will explain the procedure for requesting a substitution.

The General Education Web site is www.ipfw.edu/academics/gened/.

See the Subject Area Abbreviation Key at the end of this section to determine the subject area under which the course falls, e.g., ENG W131 falls under English.

Area I: Linguistic and Numerical Foundations (9 credits)

Reading/Writing (3 credits)

ENG W131 *Elementary Composition I*

ENG W140 *Elementary Composition—Honors*

Listening/Speaking (3 credits)

COM 114 *Fundamentals of Speech Communication*

Quantitative Reasoning (3 credits)

MA 101 *Mathematics for Elementary Teachers I*

MA 149 *Basic and College Algebra*

MA 151

MA 153

MA 168

POLS Y395

SPEA K300

STAT 125

Algebra and Trigonometry

Algebra and Trigonometry I

Mathematics for the Liberal Arts Student

Quantitative Political Analysis

Statistical Techniques

Communicating with Statistics

Area II: Natural and Physical Sciences (6 credits)

ANTH B200

AST A100

AST A105

AST L100

AST L105

BIOL 100

BIOL 250

BIOL 327

CHM 111

GEOG G107

GEOG G109

GEOG G100

GEOG S100

GEOG G103

GEOG G104

GEOG G210

GEOG L100

IDIS G102

Bioanthropology

The Solar System

Stellar Astronomy

Solar System Laboratory (1 credit)

Stellar Astronomy Laboratory (1 credit)

Introduction to the Biological World

Women and Biology

Biology of Aging

General Chemistry

Physical Systems of the Environment

Weather and Climate

General Geology

General Geology—Honors

Earth Science: Materials and Processes

Earth Science: Evolution of the Earth

Oceanography

General Geology Laboratory (1 credit)

Freshman Seminar/Physical and Natural World

PHYS 105	<i>Sound and Music</i>
PHYS 115	<i>Introduction to Lasers</i>
PHYS 120	<i>Physics of Sports</i>
PHYS 125	<i>Light and Color</i>
PHYS 131	<i>Concepts in Physics I</i>
PHYS 132	<i>Concepts in Physics II</i>
PHYS 135	<i>The First Three Minutes</i>
PHYS 136	<i>Chaos and Fractals</i>
PHYS 210	<i>The Nature of Physical Science I</i>

Area III: The Individual, Culture, and Society (6 credits)

AFRO A210	<i>The Black Woman in America</i>
ANTH E105	<i>Culture and Society</i>
ANTH L200	<i>Language and Culture</i>
ANTH P200	<i>Introduction to Prehistoric Archaeology</i>
BUS W100	<i>Principles of Business Administration</i>
COM 250	<i>Mass Communication and Society</i>
COM 303	<i>Intercultural Communication</i>
ECON E201	<i>Introduction to Microeconomics</i>
ENG L364	<i>Native American Literature</i>
FOLK F101	<i>Introduction to Folklore</i>
FOLK F111	<i>Introduction to World Folk Music</i>
GERN G231	<i>Introduction to Gerontology</i>
HIST H105	<i>American History I to 1877</i>
HIST H106	<i>American History II Since 1877</i>
HIST H113	<i>History of Western Civilization I to 1500</i>
HIST H114	<i>History of Western Civilization II Since 1500</i>
HIST H232	<i>The World in the 20th Century</i>
HSRV 350	<i>Drugs and Society</i>
IDIS G103	<i>Freshman Seminar/The Individual, Culture, and Society</i>
IET 105	<i>Industrial Management</i>
INTL I200	<i>Introduction to International Studies</i>
JOUR C200	<i>Mass Communications</i>
JOUR J110	<i>Foundations of Journalism and Mass Communication</i>
LING L103	<i>Introduction to the Study of Language</i>
NUR 309	<i>Transcultural Healthcare</i>
OLS 252	<i>Human Relations in Organizations</i>
OLS 268	<i>Elements of Law</i>
PACS P200	<i>Introduction to Peace and Conflict Studies—Humanities Perspectives</i>
POLS Y103	<i>Introduction to American Politics</i>
POLS S103	<i>Introduction to American Politics—Honors</i>
POLS Y105	<i>Introduction to Political Theory</i>
POLS Y107	<i>Introduction to Comparative Politics</i>
POLS Y109	<i>Introduction to International Relations</i>
POLS Y211	<i>Introduction to Law</i>
POLS S211	<i>Introduction to Law—Honors</i>
PSY 120	<i>Elementary Psychology</i>
PSY 120H	<i>Elementary Psychology—Honors</i>

PSY 240	<i>Introduction to Social Psychology</i>
PSY 350	<i>Abnormal Psychology</i>
SOC S161	<i>Principles of Sociology</i>
SOC S163	<i>Social Problems</i>
SPEA E162	<i>Environment and People</i>
SPEA H120	<i>Contemporary Health Issues</i>
SPEA J101	<i>The American Criminal Justice System</i>
SPEA V170	<i>Introduction to Public Affairs</i>

Area IV: Humanistic Thought (6 credits)

CLAS C205	<i>Classical Mythology</i>
CMLT C217	<i>Detective and Mystery Literature</i>
COM 251	<i>Introduction to the Electronic Mass Media</i>
ENG L101	<i>Western World Masterpieces I: Ancient to Renaissance</i>
ENG L102	<i>Western World Masterpieces II: Renaissance to Modern</i>
ENG L108	<i>Introduction to Contemporary Literature</i>
ENG L150	<i>Representative American Writers</i>
ENG L250	<i>American Literature Before 1865</i>
ENG L251	<i>American Literature Since 1865</i>
ENG L301	<i>Critical and Historical Survey of English Literature I</i>
ENG L302	<i>Critical and Historical Survey of English Literature II</i>
FILM K101	<i>Introduction to Film</i>
FINA A170	<i>Women Artists/The Visual Arts</i>
FINA H101	<i>Art Appreciation</i>
FINA H111	<i>Ancient and Medieval Art</i>
FINA H112	<i>Renaissance through Modern Art</i>
FINA H401	<i>Art Theory IV</i>
FINA H415	<i>Art of Pre-Columbian America</i>
FOLK 254	<i>The Social History of Rock and Roll*</i>
FWAS H201	<i>Humanities I: The Ancient World</i>
FWAS H202	<i>Humanities II: Foundations of the Modern Western World</i>
HON H101	<i>Ideas and Human Experience</i>
IDIS G104	<i>Freshman Seminar/Humanistic Thought</i>
INTR 220	<i>Architecture and Urban Form</i>
INTR 320	<i>Architecture and Urban Form in the Modern World</i>
MUS N101	<i>Music for the Listener—Honors</i>
MUS Z101	<i>Music for the Listener I</i>
MUS Z105	<i>Traditions in World Music</i>
MUS Z201	<i>History of Rock and Roll*</i>
MUS Z393	<i>History of Jazz</i>
PHIL 110	<i>Introduction to Philosophy</i>
PHIL 111	<i>Ethics</i>
PHIL 112	<i>Religion and Culture</i>
PHIL 120	<i>Critical Thinking</i>
PHIL 150	<i>Principles of Logic</i>
PHIL 312	<i>Medical Ethics</i>
THTR 201	<i>Theatre Appreciation</i>

*Because of significant overlapping content, students may count either FOLK F254 or MUS Z201 toward the Area IV requirement, but not both.

Area V: Creative and Artistic Expression (3 credits)

ENG W103	<i>Introductory Creative Writing</i>
ENG W203	<i>Creative Writing</i>
ENGR 120	<i>Graphical Communications and Spatial Analysis</i>
FINA N108	<i>Introduction to Drawing for Nonmajors</i>
FINA S165	<i>Ceramics for Nonmajors</i>
JOUR J210	<i>Visual Communication</i>
MUS L153	<i>Introduction to Music Therapy</i>
MUS Z140	<i>Introduction to Musical Expression</i>
THTR 117	<i>Jazz Dance I (2 credits)</i>
THTR 121	<i>Tap I (2 credits)</i>
THTR 125	<i>Ballet I (2 credits)</i>
THTR 134	<i>Fundamentals of Performance</i>
VCD N274	<i>Digital Imaging</i>
VCD S105	<i>Introduction to Design</i>

Area VI: Inquiry and Analysis (6 credits)

All inquiry and analysis courses have a prerequisite of "Completion of foundation skills requirement." Some courses may also have specific prerequisites. Inquiry and Analysis courses are not open to students with freshman status.

ANTH E335	<i>Ancient Civilizations of Mesoamerica</i>
ANTH P370	<i>Ancient Cultures of South America</i>
BIOL 304	<i>Major Ideas in Biology</i>
BIOL 326	<i>Heredity: A Human Perspective</i>
CHM 224	<i>Introductory Quantitative Analysis</i>
CMLT C333	<i>Romanticism—all topics</i>
CMLT C337	<i>The 20th Century: Tradition and Change—all topics</i>
COM 316	<i>Controversy in American Society</i>
CS 306	<i>Computers in Society</i>
ECON E306	<i>Undergraduate Seminar in Economics—with topic "Contemporary Problems and Issues"</i>
EDUC E346	<i>Discipline/Parenting for Young Children</i>
EDUC K410	<i>Trends and Issues in Special Education</i>
ENG L399	<i>Junior Honors Seminar—all topics</i>
ENG W421	<i>Technical Writing Projects</i>
FILM K390	<i>The Film and Society—all topics</i>
FOLK F305	<i>Asian Folklore</i>
GEOL G300	<i>Environmental and Urban Geology</i>
GEOL G305	<i>Geologic Fundamentals in Earth Science</i>
HIST A313	<i>Origins of Modern America</i>
HIST D426	<i>History of Balkans: 1914 to Present</i>
HIST H373	<i>History of Science and Technology I</i>
HON H300	<i>Interdepartmental Colloquium—all topics</i>
HON H302	<i>Interdepartmental Colloquium</i>
LING L303	<i>Introduction to Linguistic Analysis</i>
LING L360	<i>Language in Society</i>
MA 314	<i>Introduction to Mathematical Modeling</i>
MUS L418	<i>Psychology of Music</i>
MUS U410	<i>The Creative Arts, Health, and Wellness</i>

NUR 339	<i>Research in Healthcare</i>
OLS 454	<i>Gender and Diversity in Management</i>
OLS 486	<i>Leadership: Management of Change</i>
PHIL 303	<i>History of Modern Philosophy</i>
PHIL 304	<i>19th-Century Philosophy</i>
PHYS 302	<i>Puzzles, Strategy Games, and Problem Solving in the Physical Sciences</i>
PHYS 315	<i>Lasers in Art and Science</i>
PHYS 325	<i>Scientific Computing</i>
PHYS 342	<i>Modern Physics</i>
POLS S401	<i>Studies in Political Science - Honors</i>
POLS Y306	<i>State Politics in the United States</i>
POLS Y307	<i>Indiana State Government and Politics</i>
POLS Y335	<i>Western European Politics</i>
POLS Y339	<i>Middle Eastern Politics</i>
POLS Y340	<i>East European Politics</i>
POLS Y350	<i>Politics of the European Union</i>
POLS Y376	<i>International Political Economy</i>
POLS Y401	<i>Studies in Political Science</i>
POLS Y490	<i>Senior Seminar in Political Science</i>
PSY 334	<i>Crosscultural Psychology</i>
PSY 345	<i>Psychology of Women</i>
PSY 362	<i>Human Development II: Adolescence</i>
PSY 365	<i>Development of Gender Roles in Children</i>
PSY 367	<i>Adult Development and Aging</i>
PSY 369	<i>Development Across the Life Span</i>
PSY 371	<i>Death and Dying</i>
PSY 381	<i>Psychology and Law*</i>
PSY 444	<i>withdrawn by department April 2003</i>
PSY 460	<i>Human Sexual Behavior</i>
SOC S309	<i>Advanced Abnormal Psychology</i>
SOC S314	<i>The Community</i>
SOC S315	<i>Social Aspects of Health and Medicine</i>
SOC S316	<i>Work and Occupations</i>
SOC S320	<i>The Family</i>
SOC S325	<i>Deviant Behavior and Social Control</i>
SOC S328	<i>Criminology</i>
SOC S360	<i>Juvenile Delinquency</i>
SPEA E400	<i>Topics in Social Policy</i>
SPEA H371	<i>Topics in Environmental Studies—with topic "Democracy and the Environment"</i>
SPEA H422	<i>Human Resource Management in Healthcare Facilities</i>
SPEA V348	<i>The Social Epidemics: AIDS, Violence, and Substance Abuse</i>
SPEA V371	<i>Management Science</i>
SPEA V373	<i>Financing Public Affairs</i>
SPEA V450	<i>Human Resources Management in the Public Sector (formerly Personnel Management in the Public Sector)</i>
STAT 340	<i>Contemporary Issues in Public Affairs—all topics</i>
THTR 470	<i>Elementary Statistical Methods II</i>
THTR 471	<i>Theatre and Society I</i>
WOST W301	<i>Theatre and Society II</i>
	<i>International Perspectives on Women</i>

Subject Area Abbreviation Key

(Includes both undergraduate and graduate areas)

A&AE	<i>Aerodynamics and Aeronautical Engineering</i>	GEOG	<i>Geography</i>
ACE	<i>Adult Continuing Education</i>	GEOL	<i>Geology</i>
ACS	<i>Applied Computer Science</i>	GER	<i>German</i>
AFRO	<i>Afro-American Studies</i>	GERN	<i>Gerontology</i>
AGR	<i>Agriculture</i>	HIST	<i>History</i>
AGRY	<i>Agronomy</i>	HON	<i>Honors</i>
AHLT	<i>Allied Health</i>	HORT	<i>Horticulture</i>
AMST	<i>American Studies</i>	HPER	<i>Health, Physical Education, and Recreation</i>
ANSC	<i>Animal Sciences</i>	HSCI	<i>Health Sciences</i>
ANTH	<i>Anthropology</i>	HSRV	<i>Human Services</i>
ARET	<i>Architectural Engineering Technology</i>	HTM	<i>Hotel, Restaurant, and Tourism Management (formerly RHIT)</i>
AST	<i>Astronomy</i>	HUMA	<i>Humanities</i>
AUS	<i>Audiology and Speech Sciences</i>	IDIS	<i>Interdisciplinary Studies and Honors</i>
BCHM	<i>Biochemistry</i>	IE	<i>Industrial Engineering</i>
BIOL	<i>Biology</i>	IET	<i>Industrial Engineering Technology</i>
BUFW	<i>Business—Fort Wayne</i>	INTL	<i>International Studies</i>
BUS	<i>Business</i>	INTR	<i>Interior Design</i>
CDFS	<i>Child Development and Family Studies</i>	JOUR	<i>Journalism</i>
CE	<i>Civil Engineering</i>	LBST	<i>Liberal Studies</i>
CET	<i>Civil Engineering Technology</i>	LING	<i>Linguistics</i>
CFS	<i>Consumer and Family Sciences</i>	LSTU	<i>Labor Studies</i>
CHE	<i>Chemical Engineering</i>	LTAM	<i>Latin American Studies</i>
CHM	<i>Chemistry</i>	MA	<i>Mathematics</i>
CIMT	<i>Computer-Integrated Manufacturing Technology</i>	ME	<i>Mechanical Engineering</i>
CLAS	<i>Classical Studies</i>	MET	<i>Mechanical Engineering Technology</i>
CMLT	<i>Comparative Literature</i>	MSE	<i>Materials Engineering</i>
CNET	<i>Construction Engineering Technology</i>	MUS	<i>Music</i>
COAS	<i>Arts and Sciences—General</i>	NUR	<i>Nursing</i>
COM	<i>Communication</i>	OLS	<i>Organizational Leadership and Supervision</i>
CPET	<i>Computer Engineering Technology</i>	PACS	<i>Peace and Conflict Studies</i>
CS	<i>Computer Science</i>	PCTX	<i>Pharmacology and Toxicology</i>
CSR	<i>Consumer Sciences and Retailing</i>	PHIL	<i>Philosophy</i>
DAST	<i>Dental Assisting</i>	PHYS	<i>Physics</i>
DHYG	<i>Dental Hygiene</i>	POLS	<i>Political Science</i>
DLTP	<i>Dental Lab Technology</i>	PSY	<i>Psychology</i>
EALC	<i>East Asian Language and Culture (Chinese)</i>	REL	<i>Religion</i>
ECON	<i>Economics</i>	SLAV	<i>Slavic Languages (Russian)</i>
EDUA	<i>Education</i>	SLIS	<i>Library and Information Science</i>
EDUC	<i>Education</i>	SOC	<i>Sociology</i>
ECE	<i>Electrical Engineering</i>	SPAN	<i>Spanish</i>
ECET	<i>Electrical and Computer Engineering Technology</i>	SPEA	<i>Public and Environmental Affairs</i>
ENG	<i>English</i>	STAT	<i>Statistics</i>
ENGR	<i>Engineering</i>	SWK	<i>Social Work</i>
ENTM	<i>Entomology</i>	THTR	<i>Theatre</i>
FILM	<i>Film Studies</i>	VCD	<i>Visual Communication and Design</i>
FINA	<i>Fine Arts</i>	VICT	<i>Victorian Studies</i>
FNN	<i>Foods and Nutrition</i>	VM	<i>Veterinary</i>
FNR	<i>Forestry and Natural Resources</i>	WOST	<i>Women's Studies</i>
FOLK	<i>Folklore</i>		
FREN	<i>French</i>		
FWAS	<i>Fort Wayne Arts and Sciences</i>		



The 11 major academic units of IPFW are described in this section in alphabetical order. In many cases, these units have academic regulations and other requirements that will affect your progress toward a degree, certificate, minor, or transfer program. It is your responsibility to be familiar with these requirements.

Academic Counseling and Career Services

Kettler Hall 109 ▼ 260-481-6595 ▼ www.ipfw.edu/accs/

Professional staff in Academic Counseling and Career Services (ACCS) provide a supportive environment; offer class scheduling and curriculum information; assist with decision making; and furnish information on time management, study skills, tutorial assistance, and career-related matters. See Part 6: Services, for additional information concerning career assistance.

Special Categories of Students Advised in ACCS ACCS provides academic advising for students who are admitted in the following special categories.

Guided Studies/Exploratory The guided studies/exploratory program serves students who do not qualify for regular admission and who would benefit from the extra attention offered by Academic Counseling and Career Services. Professional advisors in ACCS provide information and direction toward special programs, sound academic skills, and tutorial services.

Students admitted to the guided studies/exploratory program work closely with professional academic advisors to ensure that they reach their educational goals. Students in the program must report their academic progress to their advisors, who can help identify any support services that may be needed.

Guided studies/exploratory students who have completed at least 12 credits and earned a cumulative GPA of 2.00 or higher are in most cases eligible to select an academic major.

Prebusiness Beginning students pursuing associate or bachelor's degrees in business are assigned to ACCS until satisfactory completion of preliminary requirements to enter the School of Business and Management Sciences (SBMS).

Prebusiness students seeking an A.S.B. must satisfactorily complete 30 degree-applicable credits to qualify for admission to SBMS.

Prebusiness students seeking a B.S.B. must also satisfactorily complete 30 degree applicable credit hours while in ACCS, to qualify to enter SBMS.

Premajor Students in Other Areas Students interested in a degree in education, organizational leadership and supervision, or general studies but who have grade-point averages below 2.00 are also assigned to Academic Counseling and Career Services. Once these students have earned a cumulative GPA of 2.00 or above and fulfilled any other specific requirements that may be established, they are eligible to select their academic majors. (For pre-education students, the 2.00 cumulative GPA includes grades earned at all institutions they have attended.)

Undeclared Students Students entering IPFW undecided about a major are placed into ACCS. While affiliated with ACCS, these students are given an opportunity to take classes without having to make an early commitment to a major. Undeclared ACCS students are encouraged to enroll in career-exploration courses, meet with career counselors in career services, and visit academic units to investigate potential majors.

Nondegree Students Students who are visiting or waiting for regular admission to IPFW may be assigned nondegree (guest/temporary) student status and assigned to ACCS for course enrollment and related assistance. After earning 24 credits in nondegree status, students may register for additional credits only after applying for and being granted regular admission status through Admissions.

Special Regulation on Readmission If you have been dismissed from IPFW for academic reasons, you are encouraged to discuss readmission procedures with an ACCS advisor. IPFW students who have been dismissed and are seeking readmission through ACCS must attend a readmission workshop and apply for early readmission consideration. Contact ACCS for further details.

School of Arts and Sciences

Classroom-Medical Building 153 ▼ 260-481-6160 ▼
www.ipfw.edu/as/

The School of Arts and Sciences offers programs and courses in the traditional liberal arts disciplines. In addition to providing students with opportunities to develop skills required for the workplace or for advanced study, it seeks to foster well-rounded development of the individual. The school recognizes the role of nontraditional students at IPFW and makes special efforts to meet their needs.

Graduates of the school's baccalaureate programs should have knowledge and awareness enabling them to be effective citizens and lifelong learners. They are expected to have a working understanding of the knowledge and methodology appropriate for their discipline and should be aware of the major issues in their field and able to communicate field content effectively.

The school's Associate of Arts program with 10 concentration areas serves as an intermediate step toward completion of a baccalaureate degree. The chemical methods Associate of Science program, on the other hand, serves students who are preparing for a career as a chemical technician and is not recommended for students who wish to pursue a bachelor's program.

The service and research missions of the school are those appropriate to a comprehensive regional university. The school is responsible for basic-skills courses in mathematics and oral and written communication, as well as the majority of the courses fulfilling school and IPFW general-education requirements. Faculty engage in research or creative endeavor linked to their teaching as well as to IPFW's role as the regional center for higher education. Through research, faculty maintain their qualifications as teachers and, in their contribution to knowledge in their disciplines, enhance the reputation of the campus. Through research and service, the school seeks to make itself a vital resource for business, industry, public and private education, the arts, and government in northeastern Indiana.

Academic Programs The School of Arts and Sciences offers degree programs in the tradition of broad general education combined with specialization in an academic discipline. It also offers a broad range of minors, transfer programs, and interdisciplinary certificate programs.

Each program with its sponsoring unit in the school is listed below for each degree. If you are undecided about a major within the school, you should, with the help of your advisor, choose courses carefully to assure reasonable progress as you narrow your choices and finally decide on a specific plan of study. If you change your major within the school, your degree requirements and your university affiliation may also change.

All bachelor's degrees require a major of at least 24 credits in courses specified by the major department. Minors include (a) a minimum of 12 credits with at least 8 credits at the 200 level or above; (b) at least half the credits taken as resident credits; and (c) a grade of C or better in each course.

Associate of Arts An Associate of Arts (A.A.) is available with a choice of 10 concentrations. You can generally apply all credits earned in the A.A. program toward a bachelor's degree with a major in the A.A. concentration area.

<i>Concentration</i>	<i>Department</i>
Biology	Biology
English	English and Linguistics
French	Modern Foreign Languages
German	Modern Foreign Languages
History	History
Mathematics	Mathematical Sciences
Political Science	Political Science
Psychology	Psychology
Spanish	Modern Foreign Languages
Women's Studies	Women's Studies

Associate of Science

<i>Concentration</i>	<i>Department</i>
Chemical Methods	Chemistry

Bachelor of Arts

<i>Major</i>	<i>Department</i>
Anthropology	Sociology and Anthropology
Computer Science	Mathematical Sciences
Economics	Political Science
English	English and Linguistics
French	Modern Foreign Languages
Geology	Geosciences
German	Modern Foreign Languages
History	History
Interpersonal and Organizational Communication	Communication
Media and Public Communication	Communication
Philosophy	Philosophy
Political Science	Political Science
Psychology	Psychology
Sociology	Sociology and Anthropology
Spanish	Modern Foreign Languages
Women's Studies	Women's Studies

Bachelor of Science

<i>Major</i>	<i>Department</i>
Biology	Biology
Biology Teaching	Biology
Chemistry, B.S.	Chemistry
Chemistry, B.S.C.	Chemistry
Chemistry Teaching	Chemistry
Geology	Geosciences
Mathematics	Mathematical Sciences
Mathematics Teaching	Mathematical Sciences
Medical Technology	Biology
Physics	Physics
Physics Teaching	Physics
Speech and Hearing Therapy	Audiology and Speech Sciences

Minors

<i>Minor</i>	<i>Department</i>
Anthropology	Sociology and Anthropology
Applied Ethics	Philosophy
Biology	Biology
Chemistry	Chemistry
Communication Studies	Communication
Creative Writing	English and Linguistics
Economics	Political Science
English	English and Linguistics
Film and Media Studies	Communication
Folklore	English and Linguistics
French	Modern Foreign Languages
Geology	Geosciences
German	Modern Foreign Languages
History	History
Journalism	Arts and Sciences
Linguistics	English and Linguistics
Mathematics	Mathematical Sciences
Media Production	Communication
Philosophy	Philosophy
Physics	Physics
Political Science	Political Science
Professional Writing	English and Linguistics
Psychology	Psychology
Public Relations	Arts and Sciences
Sociology	Sociology and Anthropology
Spanish	Modern Foreign Languages
Women's Studies	Women's Studies

Certificates

<i>Subject</i>	<i>Department</i>
American Studies	Arts and Sciences
Ethnic and Cultural Studies	Arts and Sciences
Gerontology	Arts and Sciences
International Studies	Arts and Sciences
Native American Studies	Arts and Sciences
Peace and Conflict Studies	Arts and Sciences
Teaching English as a New Language	English and Linguistics
Women's Studies	Arts and Sciences

Research Certificates

Anthropology	Arts and Sciences
Biology	Arts and Sciences
Chemistry	Arts and Sciences
Mathematical Sciences	Arts and Sciences
Physics	Arts and Sciences
Psychology	Arts and Sciences

Transfer Programs The school's transfer programs in agriculture, journalism, forestry and natural resources, prepharmacy, and preveterinary studies are described in Part 4 of the *Bulletin*. You may also complete at IPFW one or two years of work toward many bachelor's degrees offered by the College of Arts and Sciences at Indiana University Bloomington and by the School of Liberal Arts and the School of Science at Purdue University West Lafayette. If you are planning to complete your degree at another campus, make this interest known the first time you see your IPFW academic advisor.

Preprofessional Programs The school provides academic advising and programs for students who wish to prepare to compete for admission to professional schools at one of the public universities in the state or at other institutions. In the list below, the years refer to full-time study, 30 to 32 credits per academic year:

<i>Program</i>	<i>Years</i>	<i>University</i>
Pre dentistry*	3-4	Indiana
Pre-law	4	Indiana
Pre medicine*	3-4	Indiana

<i>Program</i>	<i>Years</i>	<i>University</i>
Pre-optometry*	3-4	Indiana
Prepharmacy	2	Purdue
Preveterinary Medicine	2	Purdue

*Although some schools offer early admission to highly qualified students who have completed 90 credits, most applicants have completed a bachelor's degree. If you think you may qualify for early admission, you should consult your advisor about completing requirements for the bachelor's degree from the School of Arts and Sciences during the first year of professional school.

Academic advising for prepharmacy students is provided in the school office; for pre dental, pre medical, pre optometry, and preveterinary students in the Department of Biology; and for pre law students in the Department of Political Science. If you are not majoring in the department that provides this advising, you should consult the appropriate preprofessional advisor before you see your department advisor to select your courses.

The Science and Engineering Research Semester (SERS)

Students majoring in natural sciences, mathematics, or computer science are encouraged to consider participating in the Science and Engineering Research Semester sponsored by the U.S. Department of Energy. If you are admitted to the program, you spend a fall or spring semester at one of six national laboratories conducting research under the mentorship of a staff scientist or engineer. The laboratories include Argonne in Illinois, Brookhaven in New York, Lawrence Berkeley in California, Los Alamos in New Mexico, Oak Ridge in Tennessee, and Pacific Northwest in Washington state. In addition to being directly involved in research,

you also may enroll in one academic course during this semester. Credit for research and course work is determined in consultation with your academic advisor, the department chair, and the SERS campus advisor. Students accepted into the program receive a stipend, housing, and limited travel reimbursement. Inquiries should be initiated at least seven months prior to the anticipated starting date. You should begin planning in your freshman year to reserve time for this opportunity. Eligibility requirements include U.S. citizenship or permanent resident alien status, completion of the sophomore year, and a GPA of 3.00 or higher. For further information, contact the School of Arts and Sciences or the School of Engineering, Technology and Computer Science.

Cooperative Education (Co-Op) Program Cooperative education provides an opportunity for you to work in an occupation related to your major. In this program, you may alternate between full-time study and full-time employment. Students normally enter the program at the end of their first year or upon completion of the summer session immediately following the first year. Check with your advisor regarding department requirements for eligibility for this program.

Research Certificate The research certificate provides opportunities for you to engage in active learning opportunities integrating original research and the undergraduate curricula by learning research methods and tools appropriate to your discipline and your research interests within the discipline; by learning the foundations of research in the history, philosophy, and theory of the discipline; by learning advanced communications skills; and by applying these learnings by designing and executing a research study or project and communicating the results to others.

You may complete the research certificate in the disciplines listed below.

Research Certificate in Anthropology

Course Number and Title	Credits
Research Writing	
ENG W233 <i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline	
ANTH H445 <i>History and Theory of Anthropology</i>	3
Cognate Research Tools	
Any STAT course or SOC S351, POLS Y395, or PSY 201	3
Research Methods and Supervised Individual Research	
Individualized Research ANTH A495 and/or Research Methods ANTH P382, ANTH P400	6
Each student must present his or her research in a professional forum approved by the anthropology faculty.	
Total	15

Research Certificate in Biology

Course Number and Title	Credits
Research Writing	
ENG W233 <i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline	
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 217 <i>Intermediate Ecology</i>	3
BIOL 218 <i>Genetics and Molecular Biology</i>	4
BIOL 219 <i>Principles of Functional Biology</i>	3

Cognate Research Tools

STAT 340 <i>Elementary Statistical Methods II</i>	3
Research Methods and Supervised Individual Research	
BIOL 295 and/or BIOL 595 <i>Special Assignments*</i>	6
*The BIOL 295/595 must contain the prefix RES: in its title to signify laboratory or fieldwork involving the design of an original project and collection and analysis of data.	
Total	30

Research Certificate in Chemistry

Course Number and Title	Credits
Research Writing	
ENG W233 <i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline	
PHIL 351 <i>Philosophy of Science</i>	3
Cognate Research Tools	
MA 261 <i>Multivariate Calculus</i>	4
Research Methods and Supervised Individual Research	
CHM 424 <i>Analytical Chemistry II</i>	4
CHM 499 <i>Special Assignments</i>	3
Total	17

Research Certificate in Mathematical Sciences

Course Number and Title	Credits
Research Writing	
ENG W233 <i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline	
MA 305 <i>Foundations of Higher Mathematics</i>	3
Cognate Research Tools	
One of the following:	3-4
CS 160 <i>Introduction to Computer Science I</i>	
MA 175 <i>Introductory Discrete Mathematics</i>	
STAT 511 <i>Statistical Methods</i>	
Research Methods and Supervised Individual Research	
MA 351 <i>Elementary Linear Algebra</i>	3
MA 490 <i>Topics in Mathematics for Undergraduates</i>	3
One upper-level undergraduate or dual-level course in mathematics or statistics appropriate to the area of research (e.g., MA 453, MA 441, MA 575, STAT 517)	3
Total	18-19

Research Certificate in Physics

Course Number and Title	Credits
Research Writing	
ENG W233 <i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline	
PHYS 342 <i>Modern Physics</i>	3
Cognate Research Tools	
One of the following:	4
CS 160 <i>Introduction to Computer Science I</i>	
MA 261 <i>Multivariate Calculus</i>	

Research Methods and Supervised Individual Research

PHYS 343	<i>Modern Physics Laboratory</i>	1
One of the following:		3–4
PHYS 322	<i>Optics</i>	
PHYS 325	<i>Computational Physics</i>	
PHYS 361	<i>Electronics for Scientists</i>	
PHYS 405	<i>Atomic and Molecular Physics</i>	
PHYS 520	<i>Mathematical Physics</i>	
Credits in the following:		6
PHYS 270	<i>Special Topics in Physics</i>	
PHYS 470	<i>Special Topics in Physics</i>	
Total		20–21

Research Certificate in Psychology

Course Number and Title	Credits	
Research Writing		
ENG W233	<i>Intermediate Expository Writing</i>	3
History, Philosophy, or Theory of the Discipline		
PSY 540	<i>History of Psychology</i>	3
Cognate Research Tools		
PSY 201	<i>Introduction to Quantitative Topics in Psychology I</i>	3
Research Methods and Supervised Individual Research		
PSY 203	<i>Introduction to Research Methods</i>	3
PSY 496	<i>Readings and Research in Psychology</i> (as a research assistant to a faculty member, with the subtitle RES ASST)	3
PSY 499	<i>Honors Thesis</i>	3
Total		18

Degree Requirements and Academic Regulations for Students in the School of Arts and Sciences

In addition to the academic regulations of IPFW (see Part 7), the following rules apply to you. Where school regulations are stricter than IPFW regulations, the school regulations apply.

For each of the concentrations for the Associate of Arts, the requirements encompass approximately the first half of the bachelor's degree program offered by the sponsoring department. See Part 4 for complete requirements for related bachelor's degrees.

Requirements for the Associate of Arts

Course Number and Title	Credits	
Credits in IPFW General Education Area I		
COM 114	<i>Fundamentals of Speech Communication</i>	9
ENG W131	<i>Elementary Composition I (or equivalent), with a grade of C or higher</i>	
Quantitative Reasoning course (except MA 101), with a grade of C or higher		
Credits in IPFW General Education Area II, including one science course with a scheduled laboratory		
Credits in IPFW General Education Area III		
Credits in IPFW General Education Area IV		
Credits in the first year of a foreign language		
Credits in a concentration with a grade of C or higher in each course (see below)		
Additional credits in approved elective courses		
Total with a graduation GPA of at least 2.00		
60–63		

Concentration in Biology for the A.A.

In addition to the courses listed below, you must complete MA 153 or 229 for your IPFW General Education course in Quantitative Reasoning and BIOL 117 and CHM 115 (4 credits each) from IPFW General Education Area II. Your electives must include CS 107 or STAT 240 and a two-semester, 8-credit sequence in organic chemistry. If you plan to continue for a bachelor's degree, see Part 4 for B.S. requirements in biology, biology teaching, and medical technology.

Course Number and Title	Credits	
BIOL 119	<i>Principles of Structure and Function</i>	4
BIOL 218	<i>Genetics and Molecular Biology</i>	4
CHM 116	<i>General Chemistry</i>	4
One of the following:		3
BIOL 217	<i>Intermediate Ecology</i>	
BIOL 219	<i>Principles of Functional Biology</i>	

Concentration in English for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning, and ENG L202 as a course in General Education Area IV. If you plan to continue for a bachelor's degree with a major in English (see Part 4), you should take the second-year foreign-language courses as electives for the A.A.

Course Number and Title	Credits
Credits in American literature	
Credits in British literature before 1700	
Credits in British literature after 1700	
Credits in language study	
Credits in ENG W203 or a 300-400-level English writing course	

Concentration in French for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning. If you plan to continue for a bachelor's degree with a major in French, see Part 4 for B.A. requirements.

Course Number and Title	Credits	
FREN F203–F204	<i>Second-Year French I–II</i>	6
FREN F317–F318	<i>French Language Skills I–II</i>	6
One of the following:		3
FREN F326	<i>French in the Business World</i>	
FREN F330	<i>Introduction to Translating French and English</i>	

Concentration in German for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning. If you plan to continue for a bachelor's degree with a major in German, see Part 4 for B.A. requirements.

Course Number and Title	Credits	
GER G203–G204	<i>Second-Year German I–II</i>	6
GER G318	<i>German Language Skills I</i>	3

One of the following:	3
GER G315 <i>Business German</i>	
GER G319 <i>German Language Skills II</i>	
One of the following:	3
GER G362 <i>Deutsche Landeskunde</i>	
GER G363 <i>Deutsche Kulturgeschichte</i>	

Concentration in History for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning. If you plan to continue for a bachelor's degree with a major in history, see Part 4 for B.A. requirements.

Course Number and Title	Credits
HIST H105–H106 <i>American History I–II</i>	6
HIST H113–H114 <i>History of Western Civilization I–II</i>	6
Credits in upper-level American history	3
Credits in upper-level European history	3
Credits in upper-level Other World history	3

Concentration in Mathematics for the A.A.

The requirement of a Quantitative Reasoning course in IPFW General Education Area I is satisfied by the courses below. If you plan to continue for a bachelor's degree with a major in mathematics or mathematics teaching, see Part 4 for B.S. requirements.

Course Number and Title	Credits
MA 165–166 <i>Analytic Geometry and Calculus I–II</i>	8
MA 175 <i>Introductory Discrete Mathematics</i>	3
MA 263 <i>Multivariate and Vector Calculus</i>	4
One of the following:	3
MA 305 <i>Foundations of Higher Mathematics</i>	
MA 351 <i>Elementary Linear Algebra</i>	

Concentration in Political Science for the A.A.

In addition to the courses listed below, you must complete MA 153 or MA 168 for your IPFW General Education course in Quantitative Reasoning. If you plan to continue for a bachelor's degree with a major in political science (see Part 4), you should take the second-year foreign-language courses as electives for the A.A.

Course Number and Title	Credits
POLS Y103 <i>Introduction to American Politics</i>	3
POLS Y205 <i>Elements of Political Analysis</i>	3
POLS Y395 <i>Quantitative Political Analysis</i>	3
Additional credits in political science	3
Additional credits in political science, 200 level or above	6

Concentration in Psychology for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 as your IPFW General Education course in Quantitative Reasoning, and PSY 120 as a course in IPFW General Education Area III. If you plan to continue for a bachelor's degree with a major in psychology (see Part 4), you should take the second-year foreign-language courses as electives for the A.A.

Course Number and Title	Credits
PSY 235 <i>Child Psychology</i>	3
PSY 240 <i>Introduction to Social Psychology</i>	3
PSY 350 <i>Abnormal Psychology</i>	3
One of the following:	3
PSY 201 <i>Introduction to Quantitative Topics in Psychology I</i>	
PSY 314 <i>Introduction to Learning</i>	
PSY 329 <i>Psychobiology II: Principles of Psychobiological Psychology</i>	
PSY 416 <i>Cognitive Psychology</i>	
Additional credits in psychology, 200 level or above	3

Concentration in Spanish for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning; ANTH L200 or LING L103 is recommended as a selection from IPFW General Education Area III. If you plan to continue for a bachelor's degree with a major in Spanish, see Part 4 for B.A. requirements.

Course Number and Title	Credits
SPAN S203–S204 <i>Second-Year Spanish I–II</i>	6
SPAN S210 <i>Second-Year Spanish Composition</i>	3
SPAN S317 <i>Spanish Conversation and Diction</i>	3
One of the following:	3
SPAN S301 <i>The Hispanic World I</i>	
SPAN S302 <i>The Hispanic World II</i>	
One of the following:	3
SPAN S311 <i>Spanish Grammar</i>	
SPAN S312 <i>Written Composition in Spanish</i>	

Concentration in Women's Studies for the A.A.

In addition to the courses listed below, you must complete MA 153 or 168 or STAT 125 for your IPFW General Education course in Quantitative Reasoning. If you plan to continue for a bachelor's degree with a major in women's studies (see Part 4), you should take the second-year foreign-language courses as electives for the A.A.

Course Number and Title	Credits
WOST W210 <i>Introduction to Women's Studies</i>	3
Credits in WOST or cross-listed humanities/visual arts	3
Credits in WOST or cross-listed social science/science	3
Additional credits in WOST or cross-listed courses	6

Requirements for Associate of Science

Requirements for the Associate of Science in chemical methods appear in Part 4 of this *Bulletin*.

Requirements for Bachelor of Arts

In addition to Areas I through VI of the IPFW General Education program and the requirements for your major, you must satisfy the following school requirements:

1. Parts A through D listed below
2. At least 30 credits in upper-level courses as defined by the departments offering the courses (excluding military science courses).

3. A grade of C or better for all courses counted in the major. At most, one approved course in the major discipline may also count toward IPFW General Education Area II–V requirements. No course in the major discipline may count in Area VI.

4. The IPFW General Education Area I computer literacy requirement for the School of Arts and Sciences is met by completing COM 114, ENG W131, and one additional course selected from the following: CS 106, CS 107, CS 160, MA 149, MA 151, MA 153, MA 154, MA 163, MA 164, MA 165, MA 166, MA 168, MA 229, MA 230, STAT 125, or an approved departmentally specified course, or completion of STEPS (or successor program).

5. A sufficient number of elective credits to bring the total for graduation to 124.

Part A: English Writing You must complete ENG W233 or an equivalent second writing course approved for this purpose by the school. Approved equivalents are ENG L202, FREN W300, GER W300, HIST H217, POLS Y205, SOC S260, and SPAN W300. You must complete both ENG W131 (or equivalent) and your second writing course with a grade of C or better.

Part B: Foreign Language You must complete the last two courses in one of the sequences listed below (or demonstrate equivalent proficiency). Courses are offered in French, German, and Spanish. You are urged to begin studying a language as soon as possible. For advanced placement and special credit in foreign language, see the additional information for the bachelor's degree.

FREN F111–F112–F203–F204
 GER G111–G112–G203–G204
 SPAN S111–S112–S203–S204

Part C: Distribution In addition to the courses used to satisfy part A and B above, you must complete 3 credits in each of the following areas. No credits in your major discipline or in directed-study courses may be used to satisfy this requirement.

1. Science and Mathematics. You must complete at least one science course with a scheduled laboratory, and you must also complete with a grade of C or better one mathematics course at the MA 153 level or above, or any other course in the Quantitative Reasoning section of the IPFW General Education requirements except MA 101. If the science and mathematics courses you completed for the IPFW General Education requirements satisfy this requirement, you may select the remaining required course from any of the following disciplines:

Agriculture (FNR 103 only)
 Anthropology (ANTH B200 only)
 Astronomy
 Biology (excluding BIOL 105)
 Chemistry
 Entomology
 Geography (physical geography only)
 Geology
 Mathematics (excluding MA 101, 102, and 103)
 Physics
 Political Science (POLS Y395 only)
 Sociology (SOC S351 only)
 Statistics

2. Social and Behavioral Sciences. Courses from the following disciplines satisfy this requirement:

Anthropology (excluding ANTH B200)
 Audiology and Speech Sciences
 Communication (excluding COM 114, 210, 240, 312, and 316)
 Economics
 English (ENG G205, G206, and G301 only)
 Geography (human, cultural, or social geography only)
 Gerontology (GERN G231 only)
 International Studies (INTL I200 only)
 Journalism (JOUR C200, C300, and J300 only)
 Linguistics
 Political Science (excluding POLS Y395)
 Psychology
 Sociology (excluding SOC S351)
 Spanish* (SPAN S425, S426, and S428 only)
 Women's Studies (WOST W210 and W240 only)

3. Humanities. Courses from the following disciplines satisfy this requirement:

Afro-American studies
 American studies
 Architectural Engineering Technology (ARET 210 and 310 only)
 Chinese*
 Classical studies
 Communication (COM 210, 216, 240, 312, and 316 only)
 Comparative literature
 English (except ENG G205, G206, G301, P131, W130, W131, W135, W140, W232, W233, W234, W321, W331, W398, and W421)
 Film studies
 Fine arts (excluding studio courses)
 Folklore
 French*
 German*
 History
 Journalism (excluding JOUR C200, C300, and J300)
 Latin American studies
 Music (excluding performance/skills courses)
 Philosophy
 Russian*
 Spanish* (except SPAN S425, S426, and S428)
 Theatre (excluding performance/production courses)
 Women's studies (excluding WOST W210 and W240)
 *excluding courses used to satisfy the Part B requirement

Part D: Cultural Studies You must complete two approved courses. Courses used to meet the IPFW General Education requirements or the requirements of Part C may also be used to fulfill Part D requirements; however, the credits for those courses count only once toward graduation.

1. Western Tradition. You must complete one of the following 3-credit courses dealing broadly with the Western tradition:

CLAS C205, C405
 COM 312
 ENG L101, L102
 FINA H111, H112
 HIST H113, H114

PHIL 110, 112, 240, 301, 331
POL S Y105, Y381, Y382
SOC S348, S440

2. Non-Western Culture. You must complete one of the following 3-credit courses dealing exclusively or primarily with a non-Western culture or cultures:

ANTH E320, E321, E330, E335, E340, E341, E345, E401, E405,
E420, E445, E455, E462, E470, P360, P370
CMLT C461
ENG L107, L113, L364, L387
FINA H415
FOLK F305, F352
HIST A310–A311, C393, D410, E331, E332, E431, F341, F342,
F346, F432, G451, G452, H202, H203, H204, H232, T335
PHIL 330
POL S Y339
SPAN S246, S412, S471, S472, S477, S479, S480
WOST W301

Requirements for Bachelor of Science

In addition to Areas I through VI of the IPFW General Education program and the requirements for your major, you must satisfy the following school requirements:

1. Parts A and B listed below
2. At least 30 credits in upper-level courses as defined by the departments offering the courses (excluding military science courses)
3. A GPA of 2.00 or higher for all courses in the major department. At most, one approved course in the major discipline may also count toward satisfying IPFW General Education Area II–V requirements.
4. The IPFW General Education Area I computer literacy requirement for the School of Arts and Sciences is met by completing COM 114, ENG W131, and one additional course selected from the following: CS 106, CS 107, CS 160, MA 149, MA 151, MA 153, MA 154, MA 163, MA 164, MA 165, MA 166, MA 168, MA 229, MA 230, STAT 125, or an approved departmentally specified course, or completion of STEPS (or successor program).
5. A sufficient number of elective credits to bring the total for graduation to 124.

Part A: English Writing You must complete ENG W233 or an equivalent second writing course approved for this purpose by the School of Arts and Sciences. Approved equivalents are ENG L202, FREN W300, GER W300, HIST H217, POL S Y205, SOC S260, or SPAN W300. You must complete both ENG W131 (or equivalent) and your second writing course with a grade of C or better.

Part B: Foreign Language You must complete two courses at the first-year level (or demonstrate equivalent proficiency) in one language. Students in a teaching program are exempt from the foreign-language requirement. You are urged to begin studying a language as soon as possible. For advanced placement and special credit in foreign language, see the additional information for bachelor's degrees, below.

Additional Information for Bachelor's Degrees

Along with the IPFW academic regulations (see part 7), the following information applies to all bachelor's degree programs:

1. Special Credit for Foreign Language. When you begin your foreign language study at the second-semester (113) level or higher, you are eligible to apply for special credit after you successfully complete the course into which you placed. You may receive up to 14 credits of special credit for the courses you skipped.

2. Undistributed Transfer Credit. Undistributed transfer credit (for courses not equivalent to IPFW courses) may be used to satisfy General Education requirements, distribution requirements, and may be counted in the major. You should contact the school office to confirm the application to your program of any undistributed transfer credit you are awarded.

3. Credit Restrictions. The following restrictions apply to all Arts and Sciences degrees:

- a. You may count no more than 4 credits in:
HPER activities
- b. You may count no more than 3 credits in:
IDIS courses
ENG W135
MA 149, and only by those departments that allow graduation credit for MA 153
- c. You may count no credit in:
Developmental courses such as CHM 100; EDUC X15x; ENG R15x, W11x, and W130; and MA 109, 111, and 113.

Courses that provide only surveys of career opportunities, such as CNT 101, EDUA F300 (except when offered as Invitation to Teaching) and G250, EDUC X210, ENGR 101, HSRV 100 (1 cr.), HTM 100, IDIS 105, MHT 100 (1 cr.), NUR 101, RHIT 100, and SPEA V352.

Courses designed to provide a skill not required to complete the major, such as AHLT Mxxx, AHSP Mxxx; BUFW C124, C125, C293, and X221; BUS K214; DAST Axxx; DHYG Hxxx; OLS 121; and SPV 379 and 399.

Courses offered by the former Indiana Division of General and Technical Studies (DGTS).

4. Credit for Military Service. Credit for military service in the armed forces of the United States will not be counted toward graduation.

5. Overlapping Content. You may not count toward graduation any courses or sequences considered to have overlapping content. Such courses are listed below; check this list before registering. This list may not be exhaustive. Please consult with your advisor. If you enroll in a course that appears in the left column, and you have completed any of the courses that are listed to its right, only the most recently completed course will apply toward graduation.

Courses with Overlapping Content

AHSP M195.....BIOL 105
BIOL 100.....BIOL 108–109 or 117–119 or
121/122–133/134 or 250
BIOL 105.....AHSP M195

BIOL 108-109	BIOL 100 or 117-119 or 121/122-133/134 or 250	IDIS G104	IDIS 110 or G102 or G103
BIOL 117-119	BIOL 100 or 108-109 or 121/122-133/134 or 250	JOUR C200	COM 250
BIOL 121/122-133/134	BIOL 100 or 108-109 or 117-119 or 250	JOUR J300	COM 352
BIOL 203-204	BIOL 215-216	MA 149	MA 153
BIOL 215-216	BIOL 203-204	MA 150	MA 151 or 153-154
BIOL 218	BIOL 241-242	MA 151	MA 150 or 153-154
BIOL 220	BIOL 221 or 438-439 or 437	MA 153	MA 149
BIOL 221	BIOL 220 or 438-439 or 437	MA 153-154	MA 150 or 151
BIOL 233-234	BIOL 381-382	MA 163-164	MA 165-166 or 227-228 or 229-230
BIOL 241-242	BIOL 218	MA 165-166	MA 163-164 or 227-228 or 229-230
BIOL 250	BIOL 100 or 108/109 or 117-119 or 121/122-133/134	MA 175	MA 213-215
BIOL 381-382	BIOL 233-234	MA 213	MA 175 or 215
BIOL 437	BIOL 220 or 221	MA 213-215	MA 175
BUS K200-K211-K212	CS 106	MA 227-228	MA 163-164 or 165-166 or 229-230
CHM 101-102	CHM 104 or 111-112 or 115-116 or 129 or 151	MA 229-230	MA 163-164 or 165-166 or 227-228
CHM 104	CHM 101-102 or 111-112 or 115-116 or 129 or 151	MA 261	MA 263
CHM 111-112	CHM 104 or 101-102 or 115-116 or 129 or 151	MA 262	MA 321 or 363
CHM 115-116	CHM 104 or 101-102 or 111-112 or 129 or 151	MA 263	MA 261
CHM 129	CHM 104 or 101-102 or 111-112 or 115-116 or 151	MA 321	MA 262 or 363
CHM 151	CHM 104 or 101-102 or 111-112 or 115-116 or 129	MA 363	MA 262 or 321
CHM 224	CHM 321	MUS Z201	FOLK F254
CHM 251	CHM 255-256 or 261-262	PHYS 131-132	PHYS 152-251 or 201-202 or 218-219 or 220-221
CHM 252	CHM 254-258 or 263-264 or 265-266	PHYS 152-251	PHYS 131-132 or 201-202 or 218-219 or 220-221
CHM 254-258	CHM 252 or 263-264 or 265-266	PHYS 201-202	PHYS 131-132 or 152-251 or 218-219 or 220-221
CHM 255-256	CHM 251 or 261-262	PHYS 218-219	PHYS 131-132 or 152-251 or 201-202 or 220-221
CHM 261-262	CHM 251 or 255-256	PHYS 220-221	PHYS 131-132 or 152-251 or 201-202 or 218-219
CHM 263-264	CHM 252 or 254-258 or 265-266	PHYS 241	PHYS 251 or 261
CHM 265-266	CHM 252 or 254-258 or 263-264	PHYS 251	PHYS 241 or 261
CHM 321	CHM 224	PHYS 261	PHYS 241 or 251
CHM 371	CHM 373-374 or 383-384	POLS Y395	ECON E270 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 307 or 511
CHM 383-384	CHM 371 or 373-374	PSY 200	PSY 416
COM 250	JOUR C200	PSY 201	ECON E270 or POLS Y395 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 307 or 511
COM 352	JOUR J300	PSY 416	PSY 200
CS 106	BUS K200-K211-K212	SOC S351	ECON E270 or POLS Y395 or PSY 201 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 307 or 511
ECON E200	ECON E201	SPEA K300	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or STAT 240 or 260 or 301 or 303 or 307 or 511
ECON E201	ECON E200	STAT 240	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 260 or 301 or 303 or 307 or 511
ECON E270	POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 307 or 511	STAT 260	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 301 or 303 or 307 or 511
EE 302	STAT 311 or 516	STAT 301	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 303 or 307 or 511
ENG L220	ENG L315	STAT 303	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 307 or 511
ENG L315	ENG L220	STAT 307	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 511
ENG L374	ENG L379	STAT 311	EE 302 or STAT 516
ENG L379	ENG L374	STAT 340	STAT 512
ENG W131	ENG W135	STAT 511	ECON E270 or POLS Y395 or PSY 201 or SOC S351 or SPEA K300 or STAT 240 or 260 or 301 or 303 or 307
ENG W135	ENG W131		
ENG W140	ENG W233		
ENG W233	ENG W140		
FOLK F254	MUS Z201		
GEOL G100	GEOL G103 or S100		
GEOL G103	GEOL G100 or S100		
GEOL S100	GEOL G100 or G103		
HIST A316	HIST A345-A346		
HIST A345-A346	HIST A316		
HIST E331	HIST E431		
HIST E332	HIST E432		
IDIS 110	IDIS G102 or G103 or G104		
IDIS G102	IDIS 110 or G103 or G104		
IDIS G103	IDIS 110 or G102 or G104		

STAT 512STAT 340
 STAT 516EE 302 or STAT 311
 WOST W200.....WOST W210
 WOST W210.....WOST W200

Upper-Level Courses All courses numbered 300 or above are considered upper-level courses. In addition, the following 200-numbered courses, defined as upper level by the departments offering them, may be included in the 30 credits in upper-level courses required for graduation.

BIOL 215
 CHM 218, 224, 254, 255, 256, 258, 261, 262, 265, 266, 275, and 290
 GEOL G213, G221, and G222
 MA 261, 263, and 275
 PHYS 270
 PSY 201, 202, and 203

Correspondence Study Departments may approve enrollment in correspondence-study courses by students pursuing their majors. After you obtain a signature indicating departmental approval, you must bring the enrollment form to the School of Arts and Sciences for authorization to enroll.

Academic Load You may register for more than 18 credits per semester or 7 credits in a six-week summer session only if: (1) your most recent semester GPA is 3.00 or higher, (2) you have no incomplete grades at the time of registration, and (3) you obtain approval of a dean of the school.

Pass/Not-Pass Option The following restrictions are in addition to those in the IPFW academic regulations in Part 7 of this *Bulletin*:

1. You must be classified as a sophomore or higher and must have a GPA of 2.50 or better.
2. You may take no more than two courses per year under the Pass/Not-Pass Option. Summer-session enrollments are counted as part of the preceding academic year for the purpose of this restriction.

Academic Renewal Option The School of Arts and Sciences participates in the Academic Renewal option for eligible students returning to IPFW after an absence of five or more years. See your advisor for additional details.

Changing Major Within the School If you change your major within the school, your school requirements will be those specified in the *Bulletin* in effect at the time the change becomes effective.

School of Business and Management Sciences

Neff Hall 366 ▼ 260-481-6472 ▼ www.ipfw.edu/bms/

Note: The School of Business and Management Sciences is in the process of continual curriculum assessment and revision. Specific courses, programs, and degree requirements may change substantially during the life of a printed medium such as this *Bulletin*. You should consult your advisor about possible changes and opportunities.

General Information The mission of the School of Business and Management Sciences is to prepare students, primarily from northeastern Indiana, for professional business careers of increasing responsibility and leadership in a global society.

To accomplish this mission, the role of the school's faculty, as a scholarly community, is

- to develop and deliver high-quality instruction
- to maintain a strong commitment to applied scholarship, with a secondary emphasis on instructional development and basic scholarship, all appearing in media of quality, and
- to share its scholarly expertise with the business community, the profession, and other constituents.

The mission reflects a continuing commitment to the importance of learning in a changing environment, supported through the interdependence of teaching, intellectual contributions, and service.

Academic Programs The academic programs in the school are listed below. Requirements for these programs appear in Part 4 of this *Bulletin*.

<i>Subject</i>	<i>Program</i>
Accounting	Post-Baccalaureate Certificate
Business	Bachelor of Science (B.S.B.)
Business	Associate of Science (A.S.B.)
Business Studies	Minor

Division of Continuing Studies

Kettler Hall 145 ▼ 260-481-6828 ▼ www.ipfw.edu/dcs

The mission of the Division of Continuing Studies is to provide high-quality lifelong learning opportunities for the residents of northeastern Indiana.

Course work from this division is offered for academic credit, corporate training, and personal and professional development. For the convenience of students and employers, programs are organized on- and off-campus and include distance learning via Internet, television, and videotape/DVD.

The academic programs in the Division of Continuing Studies are listed below. Requirements for these programs appear in Part 4 of this *Bulletin*.

<i>Subject</i>	<i>Program</i>
General Studies	Associate of Arts in General Studies (A.A.G.S.)
General Studies	Bachelor of General Studies (B.G.S.)

School of Education

Neff Hall 250 ▼ 260-481-4146 ▼ www.ipfw.edu/educ/

The mission of the School of Education is to prepare professionals in teaching, counseling, and leadership who demonstrate the capacity and willingness to continuously improve schools and related entities so that they become more effective with their clients by:

1. Becoming more caring, humane, and functional citizens in a global, multicultural, democratic society

2. Improving the human condition by creating positive learning environments
3. Becoming change agents by demonstrating reflective professional practice
4. Solving client problems through clear, creative analyses
5. Assessing client performance, creating and executing effective teaching, counseling, and educational leadership by utilizing a variety of methodologies reflecting current related research
6. Utilizing interdisciplinary scholarship, demonstrating technological and critical literacies, and effectively communicating with all stakeholders.

The academic programs in the School of Education are listed below. Requirements for these programs appear in Part 4 of this *Bulletin*.

The School of Education at IPFW offers B.S.Ed. degrees in elementary education and secondary education, and an A.S. in early childhood education. B.S.Ed. degrees are divided into four concentrations based on developmental levels. They are divided under the following:

	<i>Concentration</i>	<i>School Setting</i>
<i>Elementary:</i>	Early Childhood (EC)	Pre-school and Elementary: Primary
	Middle Childhood (MC)	Elementary: Intermediate
<i>Secondary:</i>	Early Adolescence (EA)	Middle School/Junior High
	<i>Select two content area minors: language arts, mathematics, science, social studies</i>	
	Adolescence/ Young Adulthood (AYA)	High School
	<i>Select one content area major: earth/space sciences, French, German, language arts, social studies, Spanish</i>	

The School of Education also offers minors in each of the content areas listed above (except AYA social studies) and the following:

Chemistry
 Computer Education (endorsement for elementary or secondary)
 Life Sciences
 Mild Intervention (all school settings)
 Physical Sciences
 Physics
 Theatre

In addition the following teaching majors are available at IPFW through the following schools:

<i>Major</i>	<i>School</i>
Art Education (all school settings)	Visual and Performing Arts
Chemistry Teaching	Arts and Sciences
Life Sciences Teaching	Arts and Sciences
Mathematics Teaching	Arts and Sciences
Music Education	Visual and Performing Arts
Physics	Arts and Sciences
Theatre Teaching	Visual and Performing Arts

Teaching majors can also be completed as a part of the following B.A./B.S. programs:

<i>Major</i>	<i>School</i>
English	Arts and Sciences
French	Arts and Sciences
German	Arts and Sciences
Spanish	Arts and Sciences

Transition to Teaching The School of Education also has an alternative route to teacher certification called Transition to Teaching for students who have already earned a baccalaureate degree. This one-year intense program offers teacher certification for elementary and secondary licensure at the graduate level. For a list of qualifications, prerequisites, course requirements, and general information, please contact the School of Education's Licensing and Advising Center (Neff 243).

Note: the programs listed above are for obtaining a Rules 2002 license. If you are completing course requirements under a previous IPFW *Bulletin* you must complete ALL requirements and apply for your license by June 30, 2006, to be eligible for a Rules 46/47 license.

School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 243 ▼ 260-481-6839 ▼ www.etc.ipfw.edu

The objective of the School of Engineering, Technology, and Computer Science (ETCS) is to be an increasingly valuable technological resource for its students, and to serve society as an integral component of a unique and comprehensive university with vigorous regional ties and a growing national reputation. Within the broader mission of the university, the school's goal is to prepare technicians, technologists, computer professionals, and engineers, and to provide its students with opportunities to develop fundamental skills, knowledge, and a professional attitude.

ETCS offers degree programs in computer science, engineering technologies, and engineering. Courses for these programs range from the study of fundamentals to practical, real-world, industrial methods.

Academic Programs Full descriptions of the school's certificate and degree programs appear in alphabetical order in Part 4 of this *Bulletin*.

Associate of Science

<i>Subject</i>	<i>Department</i>
Architectural Engineering Technology	Civil and Architectural Engineering Technology
Civil Engineering Technology	Civil and Architectural Engineering Technology
Computer Science	Computer Science
Electrical Engineering Technology	Electrical and Computer Engineering Technology
Industrial Engineering Technology	Manufacturing Technology
Information Systems	Computer Science
Interior Design	Civil and Architectural Engineering Technology
Mechanical Engineering Technology	Manufacturing Technology

Bachelor of Science

<i>Subject</i>	<i>Department</i>
Computer Engineering (B.S.Cp.E.)	Engineering
Computer Engineering Technology (B.S.)	Electrical and Computer Engineering Technology
Computer Science (B.S.)	Computer Science
Construction Engineering Technology (B.S.)	Civil and Architectural Engineering Technology
Electrical Engineering (B.S.E.E.)	Engineering
Electrical Engineering Technology (B.S.)	Electrical and Computer Engineering Technology
Industrial Engineering Technology (B.S.)	Manufacturing Technology
Information Systems (B.S.)	Computer Science
Mechanical Engineering (B.S.M.E.)	Engineering
Mechanical Engineering Technology (B.S.)	Manufacturing Technology

Certificate

<i>Subject</i>	<i>Department</i>
Advanced Microprocessors	Electrical and Computer Engineering Technology
Computer Controlled Systems	Electrical and Computer Engineering Technology
Computer Networking	Electrical and Computer Engineering Technology
Electronic Communications	Electrical and Computer Engineering Technology
Power Electronic Systems	Electrical and Computer Engineering Technology
Quality	Manufacturing Technology

Minor

<i>Subject</i>	<i>Department</i>
Computer Science	Computer Science
Electronics	Electrical and Computer Engineering Technology
Information Systems	Computer Science

Transfer Program

<i>Subject</i>	<i>Department</i>
Engineering	Engineering

General Degree and Certificate Requirements In addition to the academic regulations of IPFW (see Part 7), the following rules apply to students in the school. Where the school regulations are stricter than IPFW regulations, the school regulations apply.

Certificates and Associate Degrees Requirements for certificates and Associate of Science degrees offered by the school are specified in the school's departmental listings.

Bachelor's Degrees In addition to the requirements of IPFW (see Part 7) and those of your elected major, you must satisfy the following requirements of the School of Engineering, Technology, and Computer Science:

1. Earn a minimum of 124 credits.
2. Earn a graduation GPA of 2.00 or better in courses required for the major that are offered by the major department.
3. Satisfactorily complete ENG W131 or an equivalent English composition course with a grade of C or better.
4. Satisfactorily complete any additional degree requirements defined by individual departments based upon respective accrediting body criteria.

No credit toward graduation will be given for (a) courses or sequences considered to have overlapping content (see listings, School of Arts and Sciences) and (b) developmental courses such as CHM 100; EDUC X15x; ENG R15x, W11x, W130; and MA 109, 111, 113.

Graduation Survey All ETCS students need to complete an online survey prior to graduation. Contact your department for more information.

Cooperative Education (Co-Op) and Related Programs The school's departments offer many options for Cooperative Education experiences. Regular co-op positions, work-study internships, and practicum positions are available and many departments offer laboratory or teaching assistantships. You should check with your department for these opportunities.

School of Health Sciences

Neff Hall 142 ▼ 260-481-6967 ▼ www.ipfw.edu/hsc/

The mission of the School of Health Sciences is to educate students for health professions and the consumer and family sciences within the scope of national and state laws and accreditation guidelines. The school identifies and addresses the ever-changing needs of the communities served by IPFW through development and enhancement of appropriate programs in the health professions and consumer and family sciences.

IPFW is the leading resource for intellectual endeavors across the community. The School of Health Sciences specifically enriches the health professions, the consumer and family sciences, and the community through provision of services and expansion of knowledge. These enrichments include, but are not limited to, (1) promotion of research and scholarly endeavor; (2) leadership contribution within IPFW and the community it serves; (3) participation in professional organizations and activities; and (4) provision of opportunities for lifelong learning.

Available degrees and certificates are listed below.

Associate of Science

<i>Subject</i>	<i>Department</i>
Dental Hygiene	Dental Education
Dental Laboratory Technology	Dental Education
Hotel, Restaurant, and Tourism Management	Consumer and Family Sciences
Nursing	Nursing
Radiography	School of Health Sciences

Bachelor of Science

<i>Subject</i>	<i>Department</i>
Hospitality Management	Consumer and Family Sciences
Human Services	Human Services
Nursing	Nursing

Certificate

<i>Subject</i>	<i>Department</i>
Critical Care Nursing	Nursing
Dental Assisting	Dental Education

Transfer Program

<i>Subject</i>	<i>Transfer to</i>
Child Development and Family Studies	Purdue
Cytotechnology	Indiana
Dietetics	Purdue
Health Information Administration	Indiana
Medical Imaging Technology	Indiana
Nuclear Medicine	Indiana
Occupational Therapy	Indiana
Paramedic Sciences	Indiana
Physical Therapy	Indiana
Radiation Therapy	Indiana
Respiratory Therapy	Indiana
Retail Management	Purdue

To complete any of the above programs, you must fulfill the requirements of IPFW (see Part 7), the School of Health Sciences, and the specific program. Where school or department regulations are stricter than IPFW regulations, the stricter regulations apply.

Academic Renewal Option Many of the degree programs offered by the school provide the Academic Renewal Option for eligible students returning to IPFW after an absence of five or more years. See your advisor before or during the first semester you return for additional details.

Special Academic Regulations for Students in Health Sciences

The school reserves the right to require withdrawal of any student whose presence is detrimental to patients, faculty, or clinic personnel. Clinical sites reserve the right to require withdrawal of any student whose presence is detrimental to patients or clinical personnel.

Applicants with criminal records are advised that many agencies perform criminal-record screens on students who may be placed with them. These agencies may not accept a student who has a criminal record. In addition, students who have a record of a sex crime against a child may not be placed into a clinical in which there is an actual or potential possibility that they will come into contact with children (IC 5-2-12-12). Students who cannot be placed into clinicals due to their criminal records may be unable to graduate from the program and are advised to pursue a nonclinical degree.

Division of Labor Studies

Kettler Hall G28 ▼ 260-481-6615

Through the Division of Labor Studies, Indiana University offers a Certificate in Labor Studies, a minor in labor studies, an Associate of Science in Labor Studies, and a Bachelor of Science in Labor Studies. Each combines work in a core of labor studies subjects with courses in other disciplines.

As a discipline, labor studies deals with work, the workplace, and workers and their organizations. It advances a body of knowledge that reflects the concerns of modern labor organizations.

As a program, labor studies enables participants to serve more effectively as members and leaders in their organizations. Participants can also gain a sense of the past and present contexts of work and unionism. Because union leaders need to be familiar with economics, communications, and other subjects, labor studies can assist them in mastering a broad range of learning.

The program encourages participants to make socially useful choices in carrying out the many responsibilities of union membership, union leadership, and community citizenship.

The Division of Labor Studies reports to IUPUI administration under the direction of Vice President for Long-Range Planning and Chancellor Charles R. Bantz.

Division of Organizational Leadership and Supervision

Neff Hall 288 ▼ 260-481-6420

The mission of the Division of Organizational Leadership and Supervision (OLS) is to integrate theory and practical application in developing leaders for roles in the dynamic organizational environment of the 21st century. This goal is accomplished through an interdisciplinary curriculum that emphasizes an understanding of people, groups, and the global community within an organizational framework.

OLS combines the study of leadership with a career concentration. OLS provides a focus on understanding and working with people within organizations and the practical application of leadership concepts and theories. Students' creativity and competence in the administration of human resource systems, team design and facilitation, and the influencing processes that define leadership are developed through this program.

The division offers the following academic programs, which are described in Part 4 of this *Bulletin*.

<i>Subject</i>	<i>Program</i>
Organizational Leadership and Supervision	A.S., B.S., and Minor
Supervisory Leadership	Certificate

Division of Public and Environmental Affairs

Neff Hall 260 ▼ 260-481-6351 ▼ www.ipfw.edu/spea/

The Division of Public and Environmental Affairs (DPEA) is a multidisciplinary division of the Indiana University School of Public and Environmental Affairs (SPEA). SPEA is organized as a professional school, committed to teaching, research, and service. DPEA at IPFW offers a Bachelor of Science program that provides a sound general education combined with specialized study. Additionally, DPEA offers minors in criminal justice and public affairs. DPEA's multidisciplinary faculty and curriculum address environmental, health, public policy, and management issues from a variety of perspectives.

The academic programs in the division are listed below. Requirements for these programs appear in Part 4 of this *Bulletin*.

<i>Subject</i>	<i>Program</i>
Criminal Justice	Minor
Public Affairs	Minor
Public Affairs: Criminal Justice	B.S.P.A.
Public Affairs: Environmental Policy	B.S.P.A.
Public Affairs: Health Services Administration	B.S.P.A.
Public Affairs: Legal Studies	B.S.P.A.
Public Affairs: Public Management	B.S.P.A.
Public Affairs: Specialized Study	B.S.P.A.

Admission Admission to DPEA requires sophomore standing and a minimum cumulative grade-point average of 2.30, and completion of ENG W131, the required mathematics or computer science courses, and specific DPEA core and prerequisite courses. However, you may enter into the school as a pre-DPEA student as early as your freshman year. You must be in good academic standing (cumulative GPA of 2.00 or higher, core/concentration/major GPA of 2.30 or higher) to qualify for an internship and to graduate.

Special Academic Regulation for Students in Public and Environmental Affairs Requirements for the undergraduate degree should be completed within 10 years of admission to DPEA. You may transfer no more than 88 credit hours (60 credits from a junior college) toward a Bachelor of Science or 28 credit hours toward an Associate of Science. A maximum of 10 credits will be awarded on the basis of military training toward any degree from DPEA. With prior approval, you may take three courses totaling no more than 10 credit hours by correspondence through the IU Division of Extended Studies, Independent Study Program. However, you cannot satisfy a core, concentration, or major requirement by correspondence.

Good Standing in DPEA requires that you maintain a minimum semester and cumulative GPA of 2.00 and a minimum core/concentration GPA of 2.30. Therefore, you will be placed on academic probation if your semester or cumulative GPA at the end of any

regular semester is lower than these minimum standards. Once on probation, you may be dismissed from DPEA if you fail to make significant progress toward good standing, or if you fail to meet the minimum IPFW standards listed in Part 7 of this *Bulletin*.

DPEA Internships As a DPEA major, you may earn a maximum of 12 hours of elective credit during your junior and senior years through the DPEA internship program, if you are in good standing and have obtained prior DPEA faculty approval. Internships are strongly encouraged because they give you the opportunity to apply classroom theory and techniques to the real world and to network with professionals in your career field. The program is designed for maximum flexibility so that many valid learning experiences can qualify as internships. Work can be full or part time, paid or unpaid, credit or noncredit. Interested students should contact their academic advisor at the DPEA office for further information about internships.

Special Opportunities for Students in Public and Environmental Affairs The School of Public and Environmental Affairs offers opportunities to study in Washington, D.C., through the Washington Leadership Program, as well as opportunities to study abroad through programs in The Netherlands and England. You should contact the DPEA office for current information about these programs.

The Accelerated Master's Program (AMP) is a competitive program for outstanding DPEA students. If you have a GPA of 3.50 or higher, you may apply to the Master of Public Affairs (M.P.A.) program early in your junior year. This program allows you to fulfill up to 24 credit hours toward the M.P.A. by taking graduate-level DPEA courses during your senior year that count toward both your undergraduate and graduate degree programs.

School of Visual and Performing Arts

Visual Arts Building 102 ▼ 260-481-6977 ▼ www.ipfw.edu/vpa/

The mission of the IPFW School of Visual and Performing Arts is to (1) provide exceptional professional and liberal arts degree programs that combine development in an artistic discipline and career preparation in the arts to students through individualized instruction within a broadly based curriculum, (2) offer culturally enriching opportunities to all students and members of the university community and (3) be recognized as the center for arts education, outreach, collaborations, and professional leadership in northeastern Indiana as well as a major regional arts resource through excellence in artistic performances, productions, exhibitions, library holdings and technology. To support this mission, the faculty of the School of Visual and Performing Arts subscribe to the highest academic, artistic, and ethical standards for themselves and their students.

The school is composed of the departments and program areas of fine arts, visual communication and design, music, and theatre and includes faculty associated with both Indiana University and Purdue University. Approximately 500 students majoring and minoring in the visual and performing arts receive instruction from professional and academic staff that include 32 full-time faculty and more than 50 associate faculty and visiting artists.

The school offers the following academic programs:

Associate of Science

<i>Subject</i>	<i>Department/Program</i>
Commercial Art	Visual Communication and Design

Bachelor's Degrees

<i>Subject</i>	<i>Department/Program</i>
Art Education (B.A.)	Fine Arts
Fine Arts (B.A. and B.F.A.)	Fine Arts
Fine Arts (B.F.A.)	Visual Communication and Design
Music (B.Mus. and B.S.)	Music
Music Education (B.Mus.Ed.)	Music
Music Therapy (B.S.M.T.)	Music
Theatre (B.A.)	Theatre
Theatre Teaching (B.A.)	Theatre

Certificate

<i>Subject</i>	<i>Department/Program</i>
Piano Pedagogy	Music

Minor

<i>Subject</i>	<i>Department/Program</i>
Art History	Fine Arts
Dance	Theatre
Music	Music
Studio Art	Fine Arts
Theatre	Theatre
Theatre Teaching	Theatre

The above programs are described in Part 4 of this *Bulletin*.

As a regularly admitted student, you must follow the degree requirements and the school and program academic regulations specified in the *Bulletin* in effect at the time you first enrolled in the school. If you wish to follow the degree requirements specified in a later edition of the *Bulletin*, you must consult with your departmental advisor.

Departments and program areas reserve the right to publish new academic requirements and regulations at the beginning of an academic year. If such changes occur, newly admitted students will be subject to the revised requirements.

Academic Renewal Option The School of Visual and Performing Arts participates in the Academic Renewal Option for eligible students returning to IPFW after an absence of five or more years. See your advisor for additional information.



Listed below, in alphabetical order, are the academic programs available. These programs come in four types:

- A *degree* is an award you earn by satisfactorily completing a specified program of courses and adhering to the applicable academic regulations. Each degree includes one or more major fields of study. Completion of a degree program is acknowledged by receipt of a diploma. The two most common degrees earned by IPFW students are the associate degree (abbreviated A.A. for Associate of Arts and A.S. for Associate of Science) and the bachelor's degree (abbreviated B.A. for Bachelor of Arts and B.S. for Bachelor of Science). Earning an associate degree requires at least two years of full-time study, with a longer period if you study part time. Earning a bachelor's degree takes about twice as long.
- A *transfer program* is a series of courses that you can take toward a degree to be awarded by another campus of IU or Purdue. You can transfer credits for these courses to the other campus and must then satisfy the admission and graduation requirements of the campus to which you transfer.
- A *certificate* is not a college degree, but is composed of a series of courses that focus on a specialized area of knowledge or specific skills. The university recognizes your completion of the required courses and satisfaction of applicable academic regulations by awarding you a certificate.
- A *minor* is a less-comprehensive program of study you may choose in conjunction with your major field of study. To earn a minor, you must complete a degree program in a different subject.

Accounting

**Program: Post-Baccalaureate Certificate
SBMS Undergraduate Student Affairs Center
School of Business and Management Sciences**

Neff Hall 366 ▼ 260-481-6472

Note: The Post-Baccalaureate Certificate in Accounting (P.B.A.) is offered by the Department of Accounting and Finance. Typically, students who pursue the P.B.A. are seeking an academic program of recognized quality that will help them prepare for careers in accounting. In combination with a bachelor's degree earned at an appropriately accredited institution, the P.B.A. meets the current minimum accounting educational requirements to sit for the Uniform Certified Public Accounting Examination in Indiana. Additional nonaccounting business credits may be required.

Admission Admission to the P.B.A. program is limited to holders of bachelor's degrees awarded by institutions that were accredited at the baccalaureate level by the North Central Association of Colleges and Schools (or comparable regional association) at the time the degree was granted.

To enroll in the program, you must first be formally admitted to IPFW. You must provide the IPFW admissions office with official transcripts documenting completion of your bachelor's degree.

Certificate Requirements Individuals interested in the P.B.A. program should check with either the department (Neff 350) or the school's Student Affairs Center (Neff 366) for specific program requirements and further information.

SPECIAL ACADEMIC REGULATIONS FOR P.B.A. STUDENTS

Performance Standards With the exception of the minimum GPA for retention, P.B.A. students are held to the performance standards specified for students in undergraduate business programs. See Business later in this part of the *Bulletin*.

Course Waivers You may be eligible for waivers of course requirements based upon academic courses taken as part of your bachelor's program if those courses were completed within the past five calendar years.

Accounting and Finance

See *Accounting, Business, Business Studies*

Advanced Microprocessors

Program: Certificate

Department of Electrical and Computer

Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

The certificate program in advanced microprocessors provides the theoretical and practical knowledge necessary to enable you to use microprocessors in industrial applications. Some highlights of the course sequence include introduction to and use of Visual Basic in electronic simulations and calculations; theoretical and laboratory applications of digital logic circuits, operational amplifiers, D/A and A/D converters, computer memory circuits; microprocessor assembly language programming; EEPROM and EPROM programming; 16/32-bit microprocessor theory and applications; I/O using both 8- and 16/32-bit microprocessors; experimental applications; and applied, practical projects.

Upon satisfactory completion of the program, you will understand the operation of microprocessors; be able to design and construct a microprocessor-based circuit; be able to program a microprocessor in assembly language, Visual Basic, or C; and be able to use your designed circuit to control or monitor the operation of an industrial process.

The ECET department also offers the Bachelor of Science and Associate of Science with a major in electrical engineering technology, and a Bachelor of Science with a major in computer engineering technology (CPET). In addition to the degrees, the department offers a minor in electronics and certificate programs in computer-controlled systems, electronic communications, power electronics systems, and computer networking.

To earn the certificate in advanced microprocessors, you must satisfy the requirements of IPFW (see Part 7), fulfill all course prerequisites, and satisfactorily complete the following courses. This certificate is not available to any student with a major in EET (A.S. and/or B.S.) or CPET (B.S.).

Course Number and Title	Credits
ECET 111 <i>Digital Circuits</i>	4
One of the following:	
ECET 114 <i>Introduction to Microcomputers</i>	3
CS 114 <i>Introduction to Visual Basic</i>	3

ECET 264	<i>C Programming Language Applications</i>	3
ECET 205	<i>Introduction to Microprocessors</i>	4
ECET 305	<i>Advanced Microprocessors</i>	4
Total		18

Agriculture

Programs: Transfer Programs
School of Arts and Sciences

Science Building G54 ▼ 260-481-6316

At IPFW, you can complete the first two years of most of the 47 Bachelor of Science programs in agriculture and forestry, the two-year preveterinary program, up to two semesters of the forestry and natural resources programs, two semesters of the preagricultural and biological engineering program, and three semesters of an associate degree program in agriculture. All agriculture degrees must be completed at the West Lafayette campus of Purdue University. The forestry and natural resources and preveterinary programs are listed alphabetically later in this part of the *Bulletin*.

All degree programs in agriculture provide balanced curricula in computer science, mathematics, physical sciences, biological sciences, communication, social sciences, humanities, international understanding or emphasis, and business, plus technical preparation in the selected area of specialization. These programs recognize the need for graduates who are prepared to function effectively in the highly technical world of modern agriculture.

The Purdue University School of Agriculture is one of the nation's highest-ranked and most-prestigious institutions of agricultural teaching, research, extension, and international programs. The West Lafayette faculty annually prepares more than 2,000 undergraduate and 500 graduate students for careers in the world's food production and distribution systems.

The IPFW agriculture dean's deputy will assist you with processing intercampus transfer forms and with arranging affiliation with the appropriate West Lafayette counseling coordinator for the degree program selected. For a listing of degree programs available and additional details about all programs, you should obtain a current Bulletin of the School of Agriculture from the IPFW agriculture dean's deputy.

The partial requirements stated below can be completed at IPFW and apply in most B.S. programs in agriculture. Because of professional objectives and accreditation requirements, significant variations exist in some programs such as agricultural and biological engineering, biochemistry, forestry and natural resources, and landscape architecture. Students selecting these options may be able to complete only one or two semesters at IPFW.

It is highly recommended that you keep in contact with the agriculture dean's deputy to remain up to date on any changes in the course requirements and to make sure that the requirements of your particular major are being met.

A.S. WITH A MAJOR IN AGRICULTURE

The associate degree with a major in agriculture, which requires at least one semester of full-time study at the West Lafayette campus,

helps students who must withdraw before they can finish a Bachelor of Science. You may take, at most, three semesters at IPFW. You may begin with the general course work for agriculture, preforestry, or preveterinary medicine. Within the program, you must complete a specialization in one of the following areas: agricultural economics, agricultural systems management, agronomy, animal sciences, general agriculture, or horticulture. You work out the details of your career (final) semester with the West Lafayette advisor for the specialization you select; it is desirable to establish contact with this advisor before your final semester at IPFW.

To receive the associate degree, you must:

1. Complete at least half the credits for the Bachelor of Science for your declared option (64–65 credits).
2. Earn a minimum graduation GPA of 2.00 or higher.
3. Limit the number of elective credits taken under the pass/not-pass option to 12.
4. Meet the minimum requirements listed below. For course selection at IPFW and assistance with transferring to the West Lafayette campus, you should see the agriculture dean's deputy at IPFW.

The assumption is that you will begin with courses that apply to the requirements for general agriculture, preforestry, or preveterinary medicine described in this *Bulletin*, but if you later choose the A.S. alternative, you must meet the following minimum requirements:

Course Number and Title	Credits
Mathematics and Basic Sciences	
Credits in calculus or statistics	3
Credits in other mathematics and basic sciences	12
Written and Oral Communication	
Credits in written communication	6
Credits in oral communication	3
Broadening Electives	
Credits in economics	3
Credits in humanities or social sciences	3
Departmental Requirements and Electives	
Credits in departmental requirements and electives, at least 18 of which must be earned in School of Agriculture courses	35
Total	65

B.S. DEGREES IN AGRICULTURE

You may complete the following courses at IPFW:

Course Number and Title	Credits
Mathematics and Basic Sciences	
BIOL 108 <i>Biology of Plants</i>	4
BIOL 109 <i>Biology of Animals</i>	4
CHM 111–112 <i>General Chemistry</i>	6
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	3
STAT 301 <i>Elementary Statistical Methods I</i>	3
Credits in computer science	3
Additional credits in mathematics and basic science	5
Written and Speech Communication	
COM 114 <i>Fundamentals of Speech Communication</i>	3

Credits in an additional oral or written communication course	3
Credits in English composition	6
ENG W131 <i>Elementary Composition I</i>	
ENG W233 <i>Intermediate Expository Writing</i>	

Broadening Electives

ECON E201 <i>Introduction to Microeconomics</i>	3
Credits from an approved list of international emphasis electives	0–3
Credits from the following social sciences: anthropology, economics, education (limited courses), political science, psychology, and sociology	3–12
Credits from the following humanities: education (limited courses), English literature (limited courses), foreign language and literatures, history, philosophy, and fine arts	6–15

Agriculture Courses Offered at IPFW

(See your advisor about appropriate selections.)

ANSC 101 <i>Animal Agriculture</i>	
ANSC 221 <i>Principles of Animal Nutrition</i>	
ENTM 306–307 <i>General Applied Entomology and Laboratory</i>	
FNR 103 <i>Introduction to Environmental Conservation</i>	
HORT 101 <i>Fundamentals of Horticulture</i>	

American Studies

Program: Certificate

School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6746

Available to students pursuing majors in English or history, this program encourages a broad, interdisciplinary understanding of American history, culture, and society and can be appropriate preparation for graduate specialization in literature, history, American studies, and law.

To earn the certificate, you must (1) complete all courses for the B.A. with courses emphasizing American history or American literature, and (2) complete the following 30 credits with a grade of C or higher in each course:

Course Number and Title	Credits
AMST A301 <i>The Question of American Identity</i>	3
AMST A440 <i>Senior Seminar in American Studies</i>	3
Credits in American offerings in the social sciences	9
Credits outside your major in American history or American literature	15
Total	30

Anthropology

Programs: B.A, Minor, and Research Certificate

Department of Sociology and Anthropology

School of Arts and Sciences

Kettler Hall G11A ▼ 260-481-6272 ▼

www.ipfw.edu/soca/anthome.htm

Courses in anthropology provide an understanding of the nature of cultures and help you assess various explanations of human behavior; they also assist in the development of analytical and

critical abilities. The curriculum is structured to include studies in the history and theory of anthropology, in four anthropological fields (ethnology, archaeology, bioanthropology, and linguistics), in at least two different world ethnographic areas, and in topical specializations. The program helps you prepare for graduate study, for teaching, and for careers in which the understanding of various cultures is an asset.

Although a minor is not required for the B.A. with a major in anthropology, an outside concentration is recommended. Fifteen credits in history, political science, psychology, or sociology support the concentration.

B.A. WITH A MAJOR IN ANTHROPOLOGY

To earn the B.A. with a major in anthropology, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), and satisfactorily complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
ANTH B200 <i>Bioanthropology</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area II	3
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in ANTH)	
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies (not in ANTH)</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
ANTH B200 <i>Bioanthropology</i>	3
ANTH E105 <i>Culture and Society</i>	3
ANTH H445 <i>History and Theory of Anthropology</i>	3
ANTH L200 <i>Language and Culture</i>	3
ANTH P200 <i>Introduction to Prehistoric Archaeology</i>	3

Additional credits in anthropology courses, including two courses selected from Group A courses and two courses selected from Group B courses, below

15

General Elective Courses

Sufficient additional credits to bring the total to 124.

Total	124
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Group A Regional Ethnography

ANTH E301	<i>Plain People of Indiana</i>
ANTH E320	<i>Indians of North America</i>
ANTH E321	<i>Peoples of Mexico</i>
ANTH E330	<i>Indians of South America</i>
ANTH E335	<i>Ancient Civilizations of Mesoamerica</i>
ANTH E341	<i>Culture of China</i>
ANTH E350	<i>European Ethnography</i>
ANTH E479	<i>Indian Cultures of Peru</i>

Group B Topics in Anthropology

ANTH A495	<i>Individual Readings in Anthropology</i>
ANTH A496	<i>Field Study in Anthropology</i>
ANTH E102	<i>Anthropology of America</i>
ANTH E400	<i>Undergraduate Seminar</i>
ANTH E401	<i>Ecology and Culture</i>
ANTH E402	<i>Gender in Cross-Cultural Perspective</i>
ANTH E405	<i>Principles of Social Organization</i>
ANTH E406	<i>Anthropological and Documentary Films</i>
ANTH E420	<i>Economic Anthropology</i>
ANTH E445	<i>Medical Anthropology</i>
ANTH E455	<i>Anthropology of Religion</i>
ANTH E462	<i>Anthropological Folklore</i>
ANTH E470	<i>Psychological Anthropology</i>
ANTH P220	<i>Rise and Fall of Ancient Civilizations</i>
ANTH P300	<i>Topics in Prehistory</i>
ANTH P360	<i>Archaeology of North America</i>
ANTH P361	<i>Prehistory of Eastern North America</i>
ANTH P370	<i>Ancient Cultures of South America</i>
ANTH P376	<i>Archaeology of Death</i>
ANTH P382	<i>Archaeological Research Design</i>
ANTH P399	<i>Undergraduate Seminar</i>
ANTH P400	<i>Archaeological Methods and Techniques</i>
ANTH P405	<i>Fieldwork in Archaeology</i>
LING L103	<i>Introduction to the Study of Language</i>
LING L360	<i>Language in Society</i>

MINOR IN ANTHROPOLOGY

If you are pursuing a major other than anthropology, you may earn a minor in anthropology by completing the following credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW:

Course Number and Title	Credits
Two of the following:	6
ANTH B200 <i>Bioanthropology</i>	
ANTH E105 <i>Culture and Society</i>	
ANTH L200 <i>Language and Culture</i>	
ANTH P200 <i>Introduction to Prehistoric Archaeology</i>	
Additional anthropology credits	9
Total	15

The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

Applied Ethics

Program: Minor

Department of Philosophy

School of Arts and Sciences

Neff Hall 130 ▼ 260-481-6366

A minor in applied ethics; including human rights issues, complements a major in such fields as anthropology, biology, business, communication, English, health sciences, history, psychology, or sociology. The minor also enhances your preparation for graduate study in any of these fields or in law, medicine, natural science, philosophy, religion and theology, or social work.

To earn a minor in applied ethics, you must complete the following credits with a grade of C or better in each course; at least 8 of the credits must be earned as resident credit at IPFW:

Course Number and Title	Credits
PHIL 111 <i>Ethics</i>	3
PHIL 150 <i>Principles of Logic</i>	3
PHIL 480 <i>Practicum in Applied Ethics</i>	3
Credits in an applied ethics course (e.g., PHIL 312, 326, 327, or 328)	3
Credits in another PHIL course at the 300 level or above	3
Total	15

Architectural Engineering Technology

Program: A.S.

Department of Civil and Architectural

Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 229 ▼
260-481-6797 ▼ www.caet.ipfw.edu*

Mission To provide employers and the public of northeastern Indiana with educated, technologically equipped graduates, able to serve the varied construction industries (represented by architectural, civil, and construction engineering technologies, and interior design) in advancing the solutions to problems facing the public and private sector.

Goals

- To provide education of the traditional and returning adult student for career success in the construction industry
- To develop a respect for diversity and a knowledge of contemporary professional, societal, and global issues with an understanding of professional and ethical responsibilities.
- To be responsive to the ever-changing technologies of the construction industries.
- To instill in students the desire for and ability to engage in lifelong learning.

The breadth of the curriculum will provide leadership potential in addressing problems of the region, its people, and its industries.

This program helps you prepare for technical employment with architects, engineers, builders, materials suppliers, and related government agencies. You may work in drafting, architectural

detailing, construction expediting, estimating, or sales. Graduates with experience hold jobs as senior drafting personnel, architectural job captains, construction supervisors, and contractors. This program also prepares you to work toward a bachelor's degree in construction engineering technology. The architectural engineering technology program is not a professional architecture program and will not lead to licensure as a registered architect.

The department offers related majors in civil engineering technology and construction engineering technology. All three programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-770. The programs provide problem-solving skills, hands-on competency, and required state-of-the-art technical knowledge. Alumni of the department are employed in all areas of the building industry, including construction; architecture; interior design; civil engineering; land surveying; and state, county, and city governments.

To earn the A.S. with a major in architectural engineering technology, you must fulfill the requirements of IPFW (see Part 7); the School of Engineering, Technology, and Computer Science (see Part 3); and those described below:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	11
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 159 <i>Precalculus</i>	5
Area IV—Humanistic Thought	3
INTR 220 <i>Architecture and Urban Form</i>	3
ETCS General Distribution Requirements	
PHYS 218 <i>General Physics</i>	4
PHYS 219 <i>General Physics II</i>	4
STAT 301 <i>Elementary Statistical Methods</i>	3
Core and Concentration (Major) Courses	
ARET 123 <i>Construction Graphic Communication</i>	4
ARET 124 <i>Architectural Engineering Construction I</i>	3
ARET 167 <i>Construction Systems and Materials</i>	3
ARET 222 <i>Architectural Engineering Construction II</i>	3
CNET 276 <i>Construction Specifications, Contracts, and Codes</i>	3
ARET 281 <i>Environmental Equipment for Buildings I</i>	3
ARET 282 <i>Environmental Equipment for Buildings II</i>	3
CET 104 <i>Elementary Surveying</i>	3
CET 181 <i>Applied Structures I</i>	3
CET 266 <i>Materials Testing</i>	3
CET 283 <i>Applied Structures II</i>	3
CNET 280 <i>Quantity Estimating</i>	3
INTR 121 <i>Freehand Sketching</i>	3
Total	68

Art Education

Program: B.A. (All-Grade Education Program)

Department of Visual Arts/Fine Arts Program

School of Visual and Performing Arts

Visual Arts Building 117 ▼ 260-481-6705 ▼ www.ipfw.edu/vpa/

The mission of the Department of Visual Arts is to educate its students and the community in fine art. Degrees offered by the Fine Arts Program are a Bachelor of Arts, a Bachelor of Fine Arts, a Bachelor of Arts in art education, and a fine arts minor. A minor in art history is described elsewhere in this part of the *Bulletin*.

BACHELOR OF ARTS IN ART EDUCATION

This degree area enables you to teach elementary, middle school/junior high or high school. A 2.5 GPA in the content field and overall are required. This program is designed to give you a solid foundation in the arts as you come to understand the role of artist/educator. The program consists of three components.

Components:	Credits
I. General Education	39
II. Content Field	51
III. Professional Education	38
Total	128

If you already hold a degree in the fine arts, it is possible to obtain certification to teach through the addition of the appropriate education courses providing you meet general university requirements. See your advisor.

Course Number and Title	Credits
IPFW General Education Requirements	39
Area I—Linguistic and Numerical Foundations	12
ENG W131 <i>Elementary Composition</i> (grade of B or higher)	3
COM 114 <i>Fundamentals of Speech Communication</i> (grade of B or higher)	3
ENG W233 <i>Intermediate Expository Writing</i>	3
One of the following:	
MA 168/STAT 125/MA 153 (grade of C or higher)	3
Area II—Natural and Physical Sciences	6
BIOL 100/250 <i>Biological Sciences</i>	3
One of the following:	3
astronomy, chemistry, geology, physics, bioanthropology	
Area III—The Individual, Culture, and Society	6
One of the following	3
PSY 120 <i>Elementary Psychology</i>	
SOC 161 <i>Principles of Sociology</i>	
One of the following cultural diversity classes:	3
AFRO A210/ANTH E105/ANTH L200/ENG L364/COM 303	
Area IV—Humanistic Thought	9
See Part 2 General Education Requirements for approved courses	
H111 may be double-counted as third course in this area.	
Area V—Creative and Artistic Expression	3
See Part 2 General Education Requirements for approved courses (No VCD or FINA courses)	
Area VI—Inquiry and Analysis	3
See Part 2 General Education Requirements for approved courses	

School of Visual and Performing Arts Requirements

II. Content Field:

Art History	6
FINA H111 <i>Ancient through Medieval Art</i>	3
FINA H112 <i>Renaissance through Contemporary Art</i>	3
Foundation Courses	12
FINA P121 <i>Drawing Fundamentals I</i>	3
FINA P122 <i>Drawing Fundamentals II</i>	3
FINA P151 <i>Design Fundamentals I</i>	3
FINA P152 <i>Design Fundamentals II</i>	3
2D Studio Elective	12
VCD P273 <i>Computer Art/Design (required)</i>	3
Choose three courses from:	9
FINA P223 <i>Figure Drawing</i>	
FINA P225 <i>Painting Fundamentals</i>	
FINA P241 <i>Printmaking Fundamentals</i>	
VCD 243 <i>Photography</i>	
FINA 321 <i>Advance Drawing</i>	
3D Studio Elective	6
Choose two courses from the following:	
FINA P231 <i>Sculpture Fundamentals</i>	
FINA P233 <i>Metalsmithing Fundamentals</i>	
FINA P235 <i>Ceramics Fundamentals</i>	
Studio Area of Concentration (300–400 level FINA or VCD)	15
Professional Education	38
(*indicates field experience required)	
EDUA F300 <i>Invitation to Teaching</i>	2
Portfolio Checkpoint	
EDUC K201 <i>Schools, Soc, Exceptionality</i>	1
EDUC W200/M101 <i>Microcomputers*</i>	1
PPST (Pre-Professional Skills Test)	
<i>Admission to the TEP is required for remaining courses.</i>	
<i>Block 1: Teacher Education</i>	9
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3
EDUC P250 <i>Gen Educational Psychology</i>	3
Portfolio Checkpoint	
<i>Block 2: Professional Education</i>	12
EDUC P254 <i>Educational Psychology for Teachers of All Grades*</i>	3
EDUC X401 <i>Reading in the Content Area</i>	3
EDUC M320 <i>Art Education and Methods I*</i>	3
Portfolio Checkpoint	
EDUC M430 <i>Art Education and Methods II*</i>	3
<i>Complete a limited criminal history check</i>	
<i>Student Teaching</i>	3
10 week+6 week combination	
(Complete an application for student teaching one year before intended student teaching semester)	
EDUC M482 <i>Supervised Teaching</i>	
EDUC M501 <i>Lab/field Experience</i>	
Final Portfolio Checkpoint	
<i>Take state subject area exam and meet requirement levels.</i>	
<i>Courses that must be taken in prescribed blocks.</i>	
Semester I	
EDUC M330 <i>Foundations of Art Methods I (fall)</i>	3
Semester II	
EDUC M430 <i>Foundations of Art Methods II (spring)</i>	3
Semester III	
EDUC M482 <i>Student Teaching</i>	
EDUC M501 <i>Lab/field Experience</i>	

Transfer Credit All studio art and art history courses transferred from another institution or campus must be evaluated by an appropriated faculty member in the fine arts program before they may be applied to the B.A.

Residence Requirements: At least 33 credit hours including art methods courses must be completed on the IPFW campus.

Admission to Teacher Education Program:

- 1) 2.5 GPA overall; 2.5 GPA in major
- 2) Submission of art portfolio for admission to art education after the first two years have been completed
- 3) Completion of/or enrollment in prerequisites; B or higher required in these education classes

ENG W131 *Elementary Composition*
EDUC W200 *Microcomputers*
COM 114 *Fundamentals of Speech*

- 4) Minimum of C or higher in one of the following

MA 168/STAT 125/MA 153

- 5) Meet current PPST Test Qualification Scores

SPECIAL ACADEMIC REGULATIONS

Enrollment Policy To ensure that degree-seeking students are guaranteed priority registration in their classes, the following policies will be observed:

1. Students who are not progressing toward completion of degree requirements, including students who have graduated but wish to continue a program of study, will be reclassified as non-degree-seeking. These students' registrations will not be processed until the final week before the beginning of each semester. This policy will allow these students an opportunity to avail themselves of classroom opportunities when space is available.
2. All 400-level studio courses may be repeated up to a maximum of 18 credits. This long-standing policy is based upon the rationale that six semesters of study at that level in one discipline is sufficient for undergraduate training.
3. Independent-study courses are available for students with at least junior standing to pursue studio interests not served in other course offerings. Independent-study courses may be arranged with the appropriate faculty member on the basis of a viable course of study, a reasonable load for the instructor, and space availability. Priority will be given to degree-seeking students and to classes with regularly scheduled meetings.
4. Prerequisites for 200-level studio courses may be waived by the appropriate instructor during the week before classes begin, contingent upon space availability. Completion of all prerequisites is required to continue with classes beyond 6 credits in that discipline.

Credit Transfer If you transfer art credits from another college or university, you may be admitted to the B.F.A. or foundation program upon a successful portfolio presentation. To earn the B.F.A. at IPFW, you must fulfill all remaining requirements and complete a minimum of 24 credits of upper-division studio work at IPFW.

Time Limit If you do not complete degree requirements within seven years of matriculation, you may be required to meet the degree requirements specified in the current *Bulletin*.

Student Handbook A departmental student handbook, consisting of policies and regulations of the Department of Visual Arts, has been prepared as a guide for students. This handbook, available in the department office, provides detailed information about responsibilities and a sample curriculum for each degree. All fine arts majors are expected to be familiar with the contents of this handbook.

Art History

Program: Minor
Department of Visual Arts/Fine Arts Program
School of Visual and Performing Arts

Visual Arts 117 ▼ 260-481-6705 ▼ www.ipfw.edu/vpa

You may earn a minor in art history by completing 18 credits selected from the following courses and earning a grade of C or better in each:

Course Number and Title	Credits	
Credits in art history selected from the following:		
FINA H111 <i>Ancient and Medieval Art</i>	18	
FINA H112 <i>Renaissance through Modern Art</i>		
FINA H311 <i>Art of the Ancient World</i>		
FINA H312 <i>Art of the Medieval World</i>		
FINA H313 <i>Art of the Renaissance and Baroque</i>		
FINA H314 <i>Art of the Modern World</i>		
FINA H411 <i>19th Century Art I</i>		
FINA H412 <i>19th Century Art II</i>		
FINA H413 <i>20th Century Art: 1900–1924</i>		
FINA H414 <i>20th Century Art: 1925–present</i>		
FINA H415 <i>Art of Pre-Columbian America</i>		
FINA H495 <i>Readings and Research in Art History</i>		
Total		18

Arts

See Arts and Sciences in Part 3 for information on the Associate of Arts.

Audiology and Speech Sciences

See Speech and Hearing Therapy

Biology

Programs: A.A., B.S., Minor, and Research Certificate
Department of Biology
School of Arts and Sciences

Science Building 330 ▼ 260-481-6305 ▼ www.ipfw.edu/bio

The study of biology helps you prepare for careers in research, teaching, industry, government, medicine, medical technology, and several other health-related fields. More than half of all graduates earning a B.S. in biology from IPFW go on to graduate studies, either for advanced degrees or for professional certification.

Biology is among the most interdisciplinary of all sciences and requires a broad background in chemistry, physics, and mathematics, as well as biology. This background enables biologists to study the evolution of life; the manifestations of life from the level of viruses, bacteria, and individual cells to the structure and function of organisms; and the interactions of living organisms with each other and with their environments.

The Department of Biology has new facilities for its teaching and research programs, and its faculty represent many different fields within biology. Interested students can participate in research projects or in other forms of scholarly activity with individual faculty members (see Special Assignments in Biology under Options in Biology, below).

An Associate of Arts with a concentration in biology is described under Arts and Sciences in Part 3 of this *Bulletin*. Two related programs leading to a B.S. are available: life science teaching certification and medical technology. These are described later in this part of the *Bulletin*. A minor in biology is also available.

B.S. WITH A MAJOR IN BIOLOGY

To earn a B.S. with a major in biology, you must fulfill the requirements of IPFW and of the School of Arts and Sciences (see Parts 3 and 7); earn a GPA of 2.30 or higher in BIOL 117, 119, 217, 218, 219, and 491 and in A/B-elective courses in biology (listed below); and complete the following courses:

Course Number and Title	Credits
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
MA Mathematics course approved for IPFW General Education Area I	3
Area II—Natural and Physical Sciences	
BIOL 117 <i>Principles of Ecology and Evolution</i> (credits included in Biology Core, below)	0
CHM 115 <i>General Chemistry</i> (credits included in Supporting Courses, below)	0
Area III—The Individual, Culture, and Society 6	
See Part 2 General Education Requirements for approved courses	
Area IV—Humanistic Thought 6	
See Part 2 General Education Requirements for approved courses	
Area V—Creative and Artistic Expression 3	
See Part 2 General Education Requirements for approved courses	
Area VI—Inquiry and Analysis	
One of the following (credits included in Supporting Courses, below):	0
CHM 224 <i>Introductory Quantitative Analysis</i>	
CHM 321 <i>Analytical Chemistry I</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i> (or other approved writing course)	3
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	8
Core and Concentration (Major) Courses	
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4

BIOL 217	<i>Intermediate Ecology</i>	3
BIOL 218	<i>Genetics and Molecular Biology</i>	4
BIOL 219	<i>Principles of Functional Biology</i>	3
BIOL 491	<i>Senior Biology Seminar</i>	1

Supporting Courses

CHM 115–116	<i>General Chemistry</i>	8
One of the following:		4
CHM 224	<i>Introductory Quantitative Analysis</i>	
CHM 321	<i>Analytical Chemistry I</i>	
One of the following sequences:		8
CHM 254–255–256–258	<i>Organic Chemistry and Lab</i>	
CHM 254–258–261–262	<i>Organic Chemistry and Lab</i>	
One of the following:		3
CS 106	<i>Introduction to Computers</i>	
CS 107	<i>Introduction to Computers for Science Majors</i>	
One of the following sequences:		9–16
MA 229	<i>Calculus for the Managerial, Social, and Biological Sciences I; Statistical Methods for Biology; and Elementary Statistical Methods II (9 credits)</i>	
STAT 240		
STAT 340		
MA 229–230*	<i>Calculus for the Managerial, Social, and Biological Sciences I–II; Statistical Methods for Biology</i>	
STAT 240		
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (12 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits)</i>	
STAT 340		
MA 165–166*	<i>Analytic Geometry and Calculus I–II</i> (this sequence required for students pursuing a double major in chemistry);	
STAT 240	<i>Statistical Methods for Biology</i>	
or		
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STAT 240	<i>Statistical Methods for Biology</i>	
or		
STAT 511	<i>Statistical Methods; and Elementary Statistical Methods II (16 credits</i>	

BIOL 580	<i>Evolution</i>	3
BIOL 582	<i>Ecotoxicology</i>	3
BIOL 586	<i>Topics in Behavior and Ecology</i>	3
BIOL 592	<i>The Evolution of Behavior</i>	3
BIOL 598	<i>Biology of Fish*</i>	4
ENTM 306–307	<i>General Applied Entomology and Laboratory*</i>	3

B-Electives (molecular, cellular, and organ-system)

BIOL 215	<i>Basic Human Anatomy*</i>	4
BIOL 315	<i>Developmental Anatomy*</i>	4
BIOL 350	<i>Plant Physiology*</i>	4
BIOL 381–382	<i>Cell Biology and Laboratory*</i>	3–4
BIOL 437	<i>General Microbiology*</i>	4
BIOL 455–456	<i>Animal Physiology and Laboratory*</i>	4
BIOL 506	<i>Human Molecular Genetics</i>	
BIOL 509–584	<i>Molecular Biology and Applications and Laboratory*</i>	3–4
BIOL 515	<i>Molecular Genetics</i>	3
BIOL 516	<i>Molecular Biology of Cancer</i>	3
BIOL 533	<i>Medical Microbiology</i>	3
BIOL 537–565	<i>Immunobiology and Laboratory*</i>	3–4
BIOL 540	<i>Biotechnology</i>	3
BIOL 544–546	<i>Principles of Virology and Laboratory*</i>	3–4
BIOL 559	<i>Endocrinology</i>	3
BIOL 566–567	<i>Developmental Biology and Laboratory*</i>	4
BIOL 569	<i>Cellular Neurobiology</i>	3

Free Electives

Sufficient additional credits to bring the total to 124.

Total 124

SPECIAL REGULATION FOR BIOLOGY MAJORS

Time Limit All biology courses applied toward graduation must be completed within 10 years from the time the first biology course was completed.

BIOLOGY MINOR

If you are pursuing a major other than biology, you may earn a minor in biology by completing each of the following courses with a grade of C or better and earning at least 10 credits as resident credit at IPFW:

Course Number and Title	Credits
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 217 <i>Intermediate Ecology</i>	3
BIOL 218 <i>Genetics and Molecular Biology</i>	4
BIOL 219 <i>Principles of Functional Biology</i>	3
Total	18

The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

OPTIONS IN BIOLOGY

Preprofessional Study Preprofessional students — those seeking careers in chiropractic, dentistry, medicine, optometry, osteopathy, physical therapy, podiatry, or veterinary medicine — should consult with their preprofessional advisor before deciding what specific elective courses in biology to take. Under exceptional

circumstances, it may be possible for a biology major to begin professional school after completing three years of undergraduate work at IPFW and to receive credit for the final year after completing the first year of professional school. The B.S. is then awarded after the first year of professional school is completed. Detailed and early planning is necessary.

Special Assignments in Biology Students who qualify may elect to do an independent project supervised by a faculty member. With the permission of the faculty member and the department chair, the student can enroll in either BIOL 295 or BIOL 595. The student must work closely with the faculty member to design and complete the project. Credits earned in these courses cannot be used to satisfy A/B-elective requirements, and a maximum of 6 such credits can be used toward graduation as general elective credits.

Cooperative Education (Co-op) Program Co-op is designed to provide employment experience in an area of your academic interest while you are still enrolled in school. A co-op experience may be repeated. You may earn up to 2 elective credits toward your degree.

Honors Degree in Biology You may earn an honors degree in biology by achieving an overall GPA of 3.00 or higher and a biology GPA of 3.50 or higher, conducting a two-semester (6-credit) research project, preparing a senior thesis based on the research project, and giving an oral presentation of the thesis research. The senior thesis committee must be established one semester before graduation.

B.S. WITH A MAJOR IN BIOLOGY WITH LIFE SCIENCE TEACHING CERTIFICATION

The study of biology is an excellent way to prepare for a career in teaching because it provides the student with a solid foundation in science as well as in teaching. Students who plan to earn a B.S. with a major in biology with life science teaching certification should consult regularly with the coordinator of advising of the School of Education.

To earn a B.S. with a major in biology with life science teaching certification, you must fulfill the requirements specified by the IPFW School of Education and fulfill the requirements of IPFW and of the School of Arts and Sciences with the exception of the foreign language requirement (see Parts 3 and 7).

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

To be eligible to apply for teacher licensure, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements for teacher licensing. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

Students who qualify may elect to do an independent project supervised by a faculty member. Credits earned in these courses (BIOL 295 or BIOL 595) cannot be used to satisfy A/B-elective requirements.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
MA Mathematics course approved for IPFW General Education Area I	3
Area II—Natural and Physical Sciences	
BIOL 117 <i>Principles of Ecology and Evolution</i> (credits included in Biology Core, below)	0
CHM 115 <i>General Chemistry</i> (credits included in Supporting Courses, below)	0
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	
One of the following (credits included in Supporting Courses, below):	0
CHM 224 <i>Introductory Quantitative Analysis</i>	
CHM 321 <i>Analytical Chemistry I</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
Core and Concentration (Major) Courses	
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 217 <i>Intermediate Ecology</i>	3
BIOL 218 <i>Genetics and Molecular Biology</i>	4
BIOL 219 <i>Principles of Functional Biology</i>	3
BIOL 491 <i>Senior Biology Seminar</i>	1
Supporting Courses (40–42 credits)	
CHM 115–116 <i>General Chemistry</i>	8
CHM 254-255-256-258 <i>Organic Chemistry and Laboratory</i>	8
One of the following:	4
CHM 224 <i>Introductory Quantitative Analysis</i>	
CHM 321 <i>Analytical Chemistry I</i>	
One of the following:	3
CS 106 <i>Introduction to Computers</i>	
CS 107 <i>Introduction to Computers for Science Majors</i>	
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	3
STAT 240 <i>Statistical Methods for Biology</i>	3
STAT 340 <i>Elementary Statistical Methods II</i>	3
One of the following sequences	8–10
PHYS 201–202 <i>General Physics I–II</i> (10 credits)	
PHYS 220–221 <i>General Physics</i> (8 credits)	

General Elective Courses (10–12 credits)

Those courses with a laboratory are indicated by an asterisk (*). You must complete at least one course with a laboratory in each group.

A-Electives (organismal, population, community, and ecosystem)

BIOL 335–336 <i>Animal Behavior and Laboratory*</i>	3–4
BIOL 345 <i>Vertebrate Biology*</i>	4
BIOL 434 <i>Marine Community Ecology*</i>	3
BIOL 445 <i>Aquatic Biology*</i>	3
BIOL 502 <i>Conservation Biology</i>	3
BIOL 505 <i>Biology of Invertebrate Animals*</i>	3
BIOL 543 <i>Population Ecology*</i>	4
BIOL 556–558 <i>Physiology I and Laboratory*</i>	3–5
BIOL 579 <i>Fate of Chemicals in the Environment*</i>	3
BIOL 580 <i>Evolution</i>	3
BIOL 582 <i>Ecotoxicology</i>	3
BIOL 586 <i>Topics in Behavior and Ecology</i>	3
BIOL 592 <i>The Evolution of Behavior</i>	3
BIOL 598 <i>Biology of Fish*</i>	4
ENTM 306–307 <i>General Applied Entomology and Laboratory*</i>	3

B-Electives (molecular, cellular, and organ-system)

BIOL 215 <i>Basic Human Anatomy*</i>	4
BIOL 315 <i>Developmental Anatomy*</i>	4
BIOL 350 <i>Plant Physiology*</i>	4
BIOL 381–382 <i>Cell Biology and Laboratory*</i>	3–4
BIOL 437 <i>General Microbiology* (required)</i>	4
BIOL 455–456 <i>Animal Physiology and Laboratory*</i>	4
BIOL 506 <i>Human Molecular Genetics</i>	3
BIOL 509–584 <i>Molecular Biology and Applications and Laboratory*</i>	3–4
BIOL 515 <i>Molecular Genetics</i>	3
BIOL 516 <i>Molecular Biology of Cancer</i>	3
BIOL 533 <i>Medical Microbiology</i>	3
BIOL 537–565 <i>Immunobiology and Laboratory*</i>	3
BIOL 540 <i>Biotechnology</i>	3
BIOL 544–546 <i>Principles of Virology and Laboratory</i>	3
BIOL 559 <i>Endocrinology</i>	3
BIOL 566–567 <i>Developmental Biology and Laboratory*</i>	3–4
BIOL 569 <i>Cellular Neurobiology</i>	3

School of Education Requirements (35 credits)

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1

GROUP II

EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3
EDUC P250/M201 <i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301 <i>Educational Psychology Secondary Teachers and Lab/Field Experience</i>	3

EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
EDUC X401	<i>Critical Reading in the Content Area</i>	3
EDUC M449/M401	<i>Methods of Teaching Science in the Secondary Schools and Lab/Field Experience</i>	3
EDUC M480	<i>Student Teaching in the Secondary School</i>	10
Total		131-135

LIFE SCIENCE TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a life science teaching minor by completing the following 29 credits with a grade of C or better in each course.

Course Number and Title	Credits	
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	3	
BIOL 117 <i>Principles of Ecology</i>	4	
BIOL 119 <i>Principles of Structure</i>	4	
BIOL 217 <i>Intermediate Ecology</i>	3	
BIOL 218 <i>Genetics and Molecular Biology</i>	4	
BIOL 219 <i>Principles of Functional Biology</i>	3	
CHM 115-116 <i>General Chemistry</i>	8	
Total		29

Business

Programs: A.S.B. and B.S.B.

SBMS Undergraduate Student Affairs Center School of Business and Management Sciences

Neff Hall 366 ▼ 260-481-6472 ▼ www.ipfw.edu/bms

Academic programs leading to degrees in business address the growing need for broadly educated people who have demonstrated high levels of competence in the theories, concepts, and skills of commerce. The Associate of Science and Bachelor of Science business programs are founded on the principle that a university education for business provides the best preparation for successful careers in today's and tomorrow's dynamic, rapidly changing economic environment.

ASSOCIATE OF SCIENCE IN BUSINESS

Business Administration The A.S.B. option in business administration is a preprofessional degree. The academic program leading toward the degree helps you prepare for careers at the operational level of business.

Admission Freshman students are not eligible for direct admission to this program. If you satisfy IPFW admission requirements (see Part 7), you will be assigned to Academic Counseling and Career Services (Kettler 110E, 481-6814) until you have satisfactorily completed the first 30 credits toward this degree with a cumulative GPA of 2.00 or higher. Developmental courses (e.g., ENG R150 and W130; MA 109, 111, and 113) do not count toward these 30 credits.

All credits earned in the business administration option can be applied toward the Bachelor of Science in Business if you qualify for admission to that program.

Degree Requirements You must satisfy the requirements of IPFW (see Part 7) and the School of Business and Management Sciences (listed in this section) and earn a minimum of 63 credits in courses in (1) general education and (2) general business and economics. The final 15 consecutive credits required for this degree must be completed after you have been admitted to the A.S. program.

To remain in the program and graduate, you must earn a grade of C or better in all ENG writing courses and all business and economics courses, and maintain a cumulative GPA of 2.00 or better. Business and economics courses completed by correspondence are not applicable. Courses marked with an * are specifically required for admission to the business administration option program.

Course Number and Title	Credits	
IPFW General Education Requirements (41 credits)		
Area I—Linguistic and Numerical Foundations 9		
COM 114* <i>Fundamentals of Speech Communication</i>	3	
ENG W131* <i>Elementary Composition I</i>	3	
MA 153* <i>Algebra and Trigonometry I</i>	3	
(or an approved substitute with placement beyond MA 153)		
Area II—Natural and Physical Sciences 6		
<i>See Part 2 General Education Requirements for approved courses</i>		
Area III—The Individual, Culture, and Society 6		
PSY 120* <i>Elementary Psychology</i>	3	
SOC 161* <i>Principles of Sociology</i>	3	
Area IV—Humanistic Thought 6		
PHIL 111 <i>Ethics</i>	3	
Additional credits in Area IV		
3		
Area V—Creative and Artistic Expression 3		
<i>See Part 2 General Education Requirements for approved courses</i>		
Additional General Education Credits 11		
Business and Economics Requirements (22 credits)		
BUS W100* <i>Principles of Business Administration</i>	3	
BUS A201 <i>Principles of Financial Accounting</i>	3	
BUS A202 <i>Principles of Managerial Accounting</i>	3	
BUS K211 <i>Spreadsheets for Business</i>	1	
BUS K212 <i>Introduction to Database Management</i>	1	
BUS K213 <i>Internet Access and Data Analysis for Business</i>	1	
BUS L200 <i>Elements of Business Law</i>	1	
BUS W204 <i>Social, Legal, and Ethical Implications of Business Decisions</i>	3	
ECON E201 <i>Introduction to Microeconomics</i>	3	
ECON E202 <i>Introduction to Macroeconomics</i>	3	
Total		63

Note: As the requirements for the Bachelor of Science in Business change, the requirements for the A.S.B. option in business administration are also likely to change in order to ensure that the credits in this option can be applied toward the B.S.B.

BACHELOR OF SCIENCE IN BUSINESS

The faculty of the School of Business and Management Sciences believe that quality in product and services, competitiveness in the global marketplace, and professionalism are critical to business success. As a result, the undergraduate business curriculum is designed around the principles of competitiveness, quality, and professionalism. Faculty members are dedicated to the

development of business professionals who have the knowledge and skills to contribute effectively to their organizations and community.

A significant portion of the B.S.B. curriculum is composed of courses that provide a basic understanding of principles and practices involved in the management of business firms. Another large component, slightly more than half of your credits, is the general education core. These courses provide a well-rounded background necessary for success in a diverse business environment. Further, in order to ensure a balanced educational program, the business curriculum offers ample opportunities to take courses in a specific concentration area of interest to you.

The B.S.B. program is accredited by the International Association for Management Education (AACSB), which provides a voluntary mechanism of quality control. AACSB is the most prestigious business accrediting body in the nation. Only about one-quarter of all business schools in the nation possess this distinction.

Your initial courses are selected from introductory-level general education, business, and economics subjects. When you have qualified for admission to the B.S.B. program, additional opportunities are provided for in-depth studies in a variety of advanced business, management, and analytical subjects. These advanced studies help you prepare for positions of increasing executive responsibility in the business community.

Upon completion of the B.S.B. curriculum, you should:

- understand and be able to integrate fundamental principles of business theory and practice in a dynamic environment.
- have the analytical skills necessary for sound business decisions.
- understand the global, ethical, and cultural implications of business decisions.
- be able to understand the relationship between the macro environment and business.
- be able to demonstrate effective communication and appreciate the role and importance of teamwork.
- be prepared for lifelong learning.

At the time you are admitted to the B.S.B. program, you must declare a specialization in one of five concentrations: accounting, business economics, finance, management and administration, or marketing.

Admission Beginning students who qualify for regular admission to IPFW are assigned to Academic Counseling and Career Services (ACCS, Kettler 110E, 481-6814) as prebusiness majors to complete the freshman degree requirements, consisting of 30 credits that apply to the degree, including BUS W100, ENG W131, COM 114, PSY 120, SOC S161, and, if required, MA 153. Upon completion of these 30 credits with a minimum cumulative GPA of 2.00, you may then request a transfer to the School of Business and Management Sciences to complete the requirements for admission to the degree program. High-school applicants who rank in the top half of their class and receive a score of 950 or higher on the SAT I are granted admission directly into the School of Business and Management Sciences as prebusiness majors, to complete the freshman degree requirements.

To be admitted to the B.S.B. program, a formal application for admission is required; applications are available in Neff 366. Successful applicants will have a cumulative GPA of 2.00 or higher and will have completed at least 60 credits that apply toward the degree, including the courses listed below. Within this course listing, successful applicants will have (1) a grade of C or better in each course marked with an * and (2) a GPA of 2.30 or better (the grade for ENG W131 is not included in this GPA calculation).

COURSES SPECIFICALLY REQUIRED FOR ADMISSION TO THE B.S.B. PROGRAM

Course Number and Title	Credits
BUS W100* <i>Principles of Business Administration (must be taken prior to A201, E201, and W204)</i>	3
BUS A201* <i>Principles of Financial Accounting</i>	3
BUS A202* <i>Principles of Managerial Accounting</i>	3
BUS K211* <i>Spreadsheets for Business</i>	1
BUS K212* <i>Introduction to Database Management</i>	1
BUS K213* <i>Internet Access and Data Analysis for Business</i>	1
BUS L200* <i>Elements of Business Law</i>	1
BUS W204* <i>Social, Legal, and Ethical Implications of Business Decisions</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
ECON E201* <i>Introduction to Microeconomics</i>	3
ECON E202* <i>Introduction to Macroeconomics</i>	3
ECON E270* <i>Introduction to Statistical Theory in Economics and Business I</i>	3
ENG W131* <i>Elementary Composition I (or equivalent)</i>	3
ENG W233* <i>Intermediate Expository Writing</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3

Two additional rules apply to applicants' progress through the above courses:

1. No more than 6 credits of these courses may be repeated, and no course may be repeated more than once.
2. Both the original and the repeat grades earned in the above courses will be used to compute the admission GPA. This includes courses that you have taken or repeated at IPFW and other institutions.

Note: Bachelor's degree programs in business are offered at other Indiana University and IU-Purdue campuses. Since admission and graduation requirements vary among these campuses, you must meet the admission and graduation requirements of the campus from which you intend to graduate.

Enrollment in Business Courses Numbered 300 and Above

Unless you have attained junior class standing and met at least one of the following conditions, you are not permitted to enroll in a business course numbered 300 or above:

1. You have been admitted to the B.S.B. program at IPFW.

2. The course is a specified requirement for another bachelor's degree program or minor in which you are enrolled and you have completed all course prerequisites.

3. You have obtained written permission from the department through which the course is offered.

If you have enrolled and are not eligible, you will be withdrawn from the course.

B.S.B. REQUIREMENTS

Many of the courses required for this degree are sequenced, and many are offered only in alternate semesters. Therefore, regardless of the number of credits you may have earned prior to admission to the B.S.B. program, the school cannot guarantee that you will be able to complete all degree requirements in fewer than four regular semesters after admission.

To earn the B.S.B., you must complete a minimum of 123 credits as specified below. You must satisfy the requirements of IPFW (see Part 7) and the School of Business and Management Sciences, earn a grade of C or better in those courses marked with an * above, earn a grade of C or better in each BUS and ECON course, and complete the four categories of requirements described below. Developmental courses (e.g., ENG R150, R151, and W130; MA 109, 111, and 113) do not apply to degree requirements.

Your final consecutive 30 credits must be taken at IPFW after you have been formally admitted to the B.S.B. program. No more than 50 percent of the 123 credits may be in business or economics courses.

Course Number and Title	Credits
IPFW General Education Requirements (53 credits)	
Area I—Linguistic and Numerical Foundations 9	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i> (grade of C or better required)	3
One of the following (grade of C or better required):	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society 6	
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
Area IV—Humanistic Thought 6	
PHIL 111 <i>Ethics</i>	3
Additional credits in approved Area IV courses	3
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
SBMS Requirements	
ENG W233 <i>Intermediate Expository Writing</i> (grade of C or better required)	3
COM 323 <i>Business and Professional Speaking</i>	3
ENG W331 <i>Business and Administrative Writing</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i> (if not used in Area I)	3

Additional credits in general education courses excluding business, economics, and OLS courses 8

Core and Concentration (Major) Courses (46 credits)

Business Principles (16 credits)		
BUS A201	<i>Principles of Financial Accounting</i>	3
BUS A202	<i>Principles of Managerial Accounting</i>	3
BUS K211	<i>Microcomputer Application</i>	3
K212, K213	Series	
BUS L200	<i>Elements of Business Law</i>	1
BUS W100	<i>Principles of Business Administration</i>	3
BUS W204	<i>Social, Legal, and Ethical Implications of Business Decisions</i>	3

Economics Principles (9 credits)		
ECON E201	<i>Introduction to Microeconomics</i>	3
ECON E202	<i>Introduction to Macroeconomics</i>	3
ECON E270	<i>Introduction to Statistical Theory in Economics and Business I</i>	3

Management Processes (15 credits)		
BUS F301	<i>Financial Management</i>	3
BUS J300	<i>Business Forum</i>	0
BUS K321	<i>Information Systems and Technology for Management</i>	3
BUS M301	<i>Marketing Management in a Competitive Environment</i>	3
BUS P301	<i>Managing Operations in a Competitive Environment</i>	3
BUS Z302	<i>Management of Organizations and People</i>	3

Management Policy and Strategy (6 credits)		
BUS J401	<i>Policy and Strategy</i>	3
BUS W430	<i>Leadership, Teamwork, and Group Dynamics in Organizations</i>	3

Area Concentration 12–24
12–24 credits in an Area Concentration: Upon admission to the B.S.B. program, you will select one of the following five concentrations. While you may change your concentration at any time during your degree program, changes made after your junior year may result in exceeding the 123 credits required to complete your degree. Specific concentration requirements are listed below.

General Elective Courses 0–12
0–12 sufficient credits from either business or nonbusiness courses, excluding organizational leadership and supervision courses, to complement your professional and education objective and bring your degree total to at least 123 credits.

Total 123

ACCOUNTING AREA CONCENTRATION

The accounting concentration provides you with academic preparation for careers in auditing, corporate accounting and management services, governmental and nonprofit organizations, public accounting, and taxation. In addition, it equips you with a management tool for intelligent analysis, prediction, decision making, and control.

Upon successfully completing the B.S.B. and accounting concentration requirements, you may be eligible to sit for various professional certification examinations. Students interested in

sitting for these examinations should check with the Department of Accounting and Finance (Neff 350) for further information.

You are encouraged to inquire about accounting internships (BUS A336) and co-op programs that may be available to you.

To earn the accounting area concentration, you must earn a grade of C or better in each of the following courses:

Course Number and Title	Credits
BUS A311 <i>Intermediate Accounting I</i>	3
BUS A317 <i>Computer Based Accounting Systems</i>	3
BUS A325 <i>Cost Accounting</i>	3
BUS A331 <i>Taxation of Business Entities</i>	3
Credits in four of the following:	12
BUS A312 <i>Intermediate Accounting II</i>	
BUS A314 <i>Financial Statement Analysis</i>	
BUS A332 <i>Taxation of Individuals</i>	
BUS A422 <i>Advanced Financial Accounting</i>	
BUS A424 <i>Auditing</i>	
BUS A425 <i>Contemporary Accounting Theory</i>	
BUS A437 <i>Intermediate Managerial Accounting</i>	
BUS A441 <i>Special Topics In Assurance Services</i>	
BUS L303 <i>Commercial Law II</i>	

Note: 1) The department offers a certificate program in accounting for individuals who have completed a nonaccounting baccalaureate degree. See Accounting under Program Descriptions in the *Bulletin*. 2) The department is in the process of developing and transitioning to a new program to accommodate Indiana's new requirement of 150 hours of education to obtain the CPA certificate. You may contact the department chair for further information.

FINANCE AREA CONCENTRATION

The finance concentration is composed of courses that have been selected to familiarize you with the theory, instruments, and institutions of finance, and with a financial approach for structuring and analyzing management decisions. The study of finance provides a basis for careers in corporate financial management, as well as executive positions in commercial banking, savings and credit institutions, and the investment field.

To earn the finance area concentration, you must earn a grade of C or better in each of the following courses:

Course Number and Title	Credits
ECON E321 <i>Intermediate Microeconomic Theory</i>	3
BUS F303 <i>Intermediate Finance</i>	3
BUS F310 <i>Finance Statement Analysis- Finance Perspective</i>	3
BUS F345 <i>Money, Banking and Capital Markets</i>	3
Credits in four of the following:	12
ECON E322 <i>Intermediate Macroeconomic Theory</i>	
BUS A325 <i>Cost Accounting</i>	
BUS F420 <i>Investments</i>	
BUS F446 <i>Management of Commercial Banks and Other Financial Institutions</i>	
BUS F494 <i>International Finance</i>	
Total	24

BUSINESS ECONOMICS AND PUBLIC POLICY AREA CONCENTRATION

The business economics and public policy concentration explores the economic environments in which businesses must operate, as well as the interrelationships among micro- and macroeconomic conditions, private-sector decision making, and governmental programs. You have opportunities to study economic problems and their alternative solutions. You may also study aspects of employment, inflation, international trade, and other economics subject areas.

If you wish to become a professional economist, you should prepare for graduate study by taking additional courses in mathematics, statistics, computer science, and/or research methods.

To earn the business economics and public policy area concentration, you must earn a grade of C or better in each of the following courses:

Course Number and Title	Credits
ECON E306 <i>Undergraduate Seminar in Economics</i>	3
ECON E321 <i>Intermediate Microeconomic Theory</i>	3
ECON E322 <i>Intermediate Macroeconomic Theory</i>	3
Credits in an approved 300/400 level economics course	3
Total	12

MANAGEMENT AND ADMINISTRATION AREA CONCENTRATION

The management and administration concentration provides you with an opportunity to study a broad scope of business and economics subjects, as well as concepts and theories of managing complex business operations. The courses stress goal setting, planning, controlling, and problem solving in the context of major business firms in domestic and international environments.

To earn the management and administration area concentration, you must earn a grade of C or better in each of the following courses:

Course Number and Title	Credits
BUS D300 <i>International Business Administration</i>	3
BUS K327 <i>Deterministic Models in Operations Research</i>	3
BUS Z440 <i>Personnel Human Resources Management</i>	3
Credits in two additional 400-level management courses (These may include BUS M426 Sales Management)	6
Total	15

MARKETING AREA CONCENTRATION

The marketing area concentration is concerned with the movement of goods and services from the producer to the customer. It encompasses such topics as consumer behavior, product development, pricing, channels of distribution, promotion, marketing research, and effective management of corporate marketing operations.

To earn this area concentration, you must earn a grade of C or better in each of the following courses:

Course Number and Title	Credits
BUS D300 <i>International Business Administration</i>	3
BUS M303 <i>Marketing Research</i>	3
BUS M450 <i>Marketing Strategy and Policy</i>	3
Credits in two additional 400-level marketing courses	6
Total	15

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN UNDERGRADUATE BUSINESS PROGRAMS

Following are the general policies and procedures for students enrolled in business undergraduate programs. In addition to the policies of IPFW (see Part 7), these are intended to maintain the historically high academic standards of undergraduate business programs at IPFW.

Regulations Applying to All Business Undergraduates

The Student's Responsibility. You are responsible for satisfying the graduation requirements specified for your selected program. Thus, it is essential that you develop a thorough understanding of the required courses, academic policies, and procedures governing your academic career. All requests for exceptions to specific requirements must be made in writing and may be granted only by written approval from the appropriate chair or dean.

Academic Renewal Option. The school participates in the Academic Renewal Option for eligible students returning to IPFW after an absence of five or more years. Information about this option appears in Part 7 of this *Bulletin*.

Maximum Enrollment. The maximum number of credits for which you may enroll during a regular semester is 21. If you wish to enroll for more than 17 credits during a regular semester or more than 6 during a summer session, you must (1) have attained at least sophomore standing and (b) have earned a cumulative GPA of 3.00 or higher. If you qualify and desire to enroll for more than 17 credits during a semester, you must have your status verified and your request approved by your advisor.

Overlapping Courses. You may not count toward graduation any courses or sequences considered to have overlapping content. A list of overlapping courses appears in Part 3 of this *Bulletin* under the School of Arts and Sciences.

Pass/Not-Pass Grades. This option is available only for courses considered to be elective. You may take up to two courses each semester for a grade of P/NP with a maximum of two such courses each academic year (fall, spring, and summer). You may apply a maximum of 12 credits of pass/not-pass grades toward a bachelor's degree or a maximum of 6 credits toward an associate degree.

Credit by Self-Acquired Competency. IPFW business programs do not award credit for self-acquired competency (experiential credit). Credit awarded on this basis, regardless of its sources, will not apply toward IPFW business degrees.

Academic Probation. You are on academic probation upon completion of a semester or summer session in which you fail to earn a semester GPA of 2.00 or higher. Your university grade report will serve as notification of your probationary status.

Academic Dismissal. You are dismissed from the degree program immediately upon completion of a semester or summer session that results in your cumulative GPA falling below 2.00. Dismissal will not necessarily be preceded by a formal warning, especially if your prior academic work does not indicate a critical situation. Upon verification of your ineligible status, you will be formally notified and given an adequate amount of time to withdraw from any classes for which you are ineligible. Following that, you will be administratively dropped from the specified class(es).

Application for the Degree. At least two weeks before you register for the semester or summer session during which you will complete all requirements for your program, you must inform the school of your intention to graduate. Degree application forms and related instructions are available at the school's Undergraduate Student Affairs Center, Neff 366. Unless you have submitted a degree application by this deadline, your records will not be audited for graduation and you cannot register as a degree candidate.

Additional Regulation Applying to Undergraduates in the A.S.B. Program

Time Limit for Completion of A.S.B. It is the school's intention that you possess the most current knowledge and skills when you complete the A.S.B. Because of this, you are allowed a maximum of eight regular semesters (four calendar years) to complete this degree. This begins with the semester you are regularly admitted to IPFW. If more than eight regular semesters have elapsed since your admission, you will be required to meet the degree requirements specified in the most current IPFW *Bulletin*.

Additional Regulations Applying to Undergraduates in the B.S.B. Program

Transfer Credit. If you transfer from another school to IPFW, you will be granted credit toward a business degree only for courses considered to be equivalent to IPFW courses required in the business programs.

Generally, courses in basic business and economics subjects (freshman- and sophomore-level courses) will be accepted as equivalent only if they are being transferred from regionally accredited institutions.

Courses in advanced business and economics subjects that you have taken at another school during your freshman or sophomore years generally will not be accepted as equivalent to business or economics courses that are available to only juniors and seniors at IPFW. These may be used only as elective credit.

Courses in advanced business and economics subjects that you have taken as a junior or senior within the last four calendar years will be considered equivalent only if the business degree program from which they transfer is accredited by the International Association for Management Education (AACSB).

Requests for equivalency validation of 300/400-level business and economics courses will be considered only after you have been formally admitted to the B.S.B. program and you have provided the SBMS Student Affairs Center (Neff 366) with an official copy of your Indiana University credit-transfer report. Forms for requesting transfer-course equivalency are available at this location.

At least 50 percent of required business and economics credits must be completed at IPFW.

Correspondence Study. No more than 6 credits earned through correspondence study will be counted toward your undergraduate degree. Business or economics courses taken by correspondence will not apply to undergraduate business degrees. You will not be permitted to enroll for credit in a correspondence-study course during any semester in which you are enrolled for 15 or more credits.

Credit by Examination. Under very limited circumstances and subject to the following policies, you may be permitted to earn credit by means of a special examination:

1. Credit examinations are not provided for business or economics courses numbered 300 and above.
2. In all cases, your eligibility for a credit examination (for business courses numbered below 300); the type of examination; testing procedures, date, time, and location; and evaluation of your performance are the decision of the appropriate IPFW business or economics department. The decision of the department is final.
3. Credits earned by examination cannot exceed 10 percent of your total degree requirements.
4. You may attempt an authorized credit examination only once.
5. Only those examination scores that equate to a C grade or better will be considered. Only the grade S will be reported for credit earned by examination.

Use of Physical Education Credits. You may use a maximum of 4 credits of physical education (HPER) courses as elective credits. Grades earned are included in your cumulative GPA.

Time Limit. To ensure that you will be professionally competitive with other members of your graduating class, you may complete the degree requirements specified in the *Bulletin* in effect at the time you were formally admitted to the degree program only if

1. Progress toward your degree objective has been continuous. If you have not registered for degree-applicable courses as an IPFW business major for a period of one calendar year, you will be considered as not progressing toward your original degree objective. Subsequently, if you qualify for re-entry to an undergraduate business program at IPFW, you must satisfy the admission and degree requirements specified in the IPFW *Bulletin* that includes your year of re-entry.
2. No more than four years have elapsed since your admission to the business degree program. If more than four years have elapsed, your cumulative academic record will be reviewed by the appropriate business or economics department, and you will be required to meet the degree criteria specified in the current IPFW *Bulletin*. This may result in your having to repeat those courses in which the original content is determined to be outdated.
3. The necessary courses or degree programs are available. If the courses that were required at the time of your formal admission to the business degree program are no longer available, you must complete the current replacements for those courses.

Should these newer courses require prerequisites you have not taken, you must also enroll for these prerequisites in the appropriate sequence.

Arts and Science Minors. B.S.B. candidates are encouraged to complete the requirements for minors available through the IPFW School of Arts and Sciences (see Part 3). Completion of your minor will be documented on your official transcript. No more than two minors will be shown.

Business Studies

Program: Minor

**SBMS Undergraduate Student Affairs Center
School of Business and Management Sciences**

Neff Hall 366 ▼ 260-481-6472 ▼ www.ipfw.edu/bms

The minor in business studies provides a fundamental background in the principles of business and economics. The minor is available to any IPFW student majoring in a nonbusiness bachelor's degree program. Your eligibility for this program is governed by the policies of the division/department in which you are enrolled. Please see your academic advisor for additional information.

To earn this minor, you must be regularly admitted to an IPFW bachelor's degree program that permits this option. All courses that compose this option have specific prerequisites. You must meet the prerequisites for each course and earn a grade of C or better in each course marked with an *. Some of these courses may be applicable to other requirements of your degree program. See your academic advisor for details.

Course Number and Title	Credits
BUS A201* <i>Principles of Financial Accounting</i>	3
BUS A202* <i>Principles of Managerial Accounting</i>	3
BUS K211* <i>Microcomputer Application</i>	3
K212, K213 <i>Series</i>	
BUS L200* <i>Elements of Business Law</i>	1
BUS W204* <i>Social, Legal, and Ethical Implications of Business Decisions</i>	3
ECON E201* <i>Introduction to Microeconomics</i>	3
ECON E202* <i>Introduction to Macroeconomics</i>	3
ECON E270* <i>Introduction to Statistical Theory in Economics and Business I</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences</i> (or MA 165 or 223)	3
Upon completion of all above courses and after attaining junior class standing, you may select a maximum of two from the following:	6
BUS D300* <i>International Business Administration</i>	
BUS F301* <i>Financial Management</i>	
BUS M301* <i>Marketing Management in a Competitive Environment</i>	
BUS P301* <i>Managing Operations in a Competitive Environment</i>	
BUS Z302* <i>Management of Organizations and People</i>	
Total	31

As a major in another bachelor's degree program, you are not eligible to enroll in any additional business or economics courses. No more than 25 percent of a nonbusiness student's baccalaureate curriculum may be in subjects available in the School of Business and Management Sciences.

Chemical Methods

Program: A.S.
Department of Chemistry
School of Arts and Sciences

Science Building 496 ▼ 260-481-6289 ▼ www.ipfw.edu/chem

The Associate of Science with a major in chemical methods program helps you prepare for a career as a chemical technician. Many industries have found it desirable to employ persons with a basic knowledge of chemistry. Such industries may be concerned with implementing or monitoring safe waste-disposal procedures, conducting standardized testing that uses routine chemical procedures, observing and measuring properties of materials following some type of compounding procedure, or recording data and making calculations that require some knowledge of chemistry. The A.S. with the major in chemical methods is a technical degree designed to meet such needs and is not recommended for students who wish to pursue a bachelor's program.

To earn the A.S. with a major in chemical methods, you must fulfill the requirements of IPFW (see Part 7) and the following requirements:

Course Number and Title	Credits
Chemistry Core	
CHM 115–116 General Chemistry	8
CHM 224 Introductory Quantitative Analysis	4
CHM 254–255 Organic Chemistry and Lab	4
CHM 256–258 Organic Chemistry and Lab	4
Supporting Courses	
COM 114 Fundamentals of Speech Communication	3
ENG W131 Elementary Composition I	3
ENG W233 Intermediate Expository Writing	3
MA 151 Algebra and Trigonometry	5
MA 227 Calculus for Technology I	4
PHYS 218–219 General Physics I and II	8
Credits in computer science	3–4
Electives	12–13
Total	61–63

Chemistry

Programs: B.S., B.S.C., Minor, and Research Certificate
Department of Chemistry
School of Arts and Sciences

Science Building 496 ▼ 260-481-6289 ▼ www.ipfw.edu/chem

The Department of Chemistry offers an associate and two bachelor's degree programs: the Associate of Science (A.S.) with a major in chemical methods (listed earlier in this *Bulletin*), the Bachelor of Science (B.S.) with a major in chemistry, and the Bachelor of Science in Chemistry (B.S.C.). Students pursuing one of

these bachelor's programs may also be interested in the physical science teaching certification (listed separately in this *Bulletin*).

B.S. WITH A MAJOR IN CHEMISTRY

The Bachelor of Science with a major in chemistry program is appropriate for premedical and pre dental students and as preparation for other careers. With appropriate electives and further education, this program allows you to combine chemistry with other fields of study that support careers such as geochemist, computer scientist, biologist, science librarian, science writer, chemical salesperson, patent attorney, industrial chemist, or environmental chemist.

To earn the B.S. with a major in chemistry, in addition to satisfying the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), you must complete the following courses with a cumulative GPA of 2.00 or higher in all CHM courses numbered 300 and above:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 Fundamentals of Speech Communication	3
One of the following:	3
ENG W131 Elementary Composition I	
ENG W140 Elementary Composition—Honors	
MA 165 Analytic Geometry and Calculus I	0
(credits included in Supporting Courses, below)	
Area II—Natural and Physical Sciences	
CHM 115 General Chemistry	0
(credits included in Major Courses, below)	
PHYS 152 Mechanics	0
(credits included in Supporting Courses, below)	
Area III—The Individual, Culture, and Society	
	6
See Part 2 General Education Requirements for approved courses	
Area IV—Humanistic Thought	
	6
See Part 2 General Education Requirements for approved courses	
Area V—Creative and Artistic Expression	
	3
See Part 2 General Education Requirements for approved courses	
Area VI—Inquiry and Analysis (not in CHM)	
	3
See Part 2 General Education Requirements for approved courses	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 Intermediate Expository Writing	3
(or other approved writing course)	
<i>Foreign Language</i>	
Credits in a modern foreign language	8
Core and Concentration (Major) Courses	
CHM 115–116 General Chemistry	8
CHM 213 Chemical Literature	1
CHM 218 Introduction to Inorganic Chemistry	3
CHM 261–262 Organic Chemistry	6
CHM 265–266 Organic Chemistry Lab	4
CHM 321 Analytical Chemistry I	4
CHM 342 Inorganic Chemistry	3
CHM 376 Physical Chemistry Lab	2
CHM 383–384 Physical Chemistry	6
CHM 424 Analytical Chemistry II*	4

*Not required for premedicine, pre dental, physical science teaching or chemistry teaching certification options.

One of the following: 1

- CHM 495** *Seminar in Chemistry*
CHM 496–497 *Advances in Chemistry I–II*

Supporting Courses

MA 165–166 <i>Analytic Geometry and Calculus I–II</i>	8
MA 261 <i>Multivariate Calculus</i>	4
PHYS 152 <i>Mechanics</i>	5
PHYS 251 <i>Heat, Electricity, and Optics</i>	5
Credits in CS 106, 160, or 210, or equivalent	3

Free Electives

Sufficient additional credits to bring the total to 124.

Total 124

PREMEDICINE OPTION

In addition to the requirements for the B.S. with a major in chemistry, students pursuing the premedicine option must take the following courses:

Course Number and Title	Credits
-------------------------	---------

CHM 533 <i>Introductory Biochemistry</i>	3
CHM 534 <i>Introductory Biochemistry</i>	3

One of the following sequences: 8

- BIOL 108–109** *Biology of Plants and Biology of Animals*
BIOL 117–119 *Principles of Ecology and Evolution and Principles of Structure and Function*

Additional Credits 14

PREDENTAL OPTION

In addition to the requirements for the B.S. with a major in chemistry, students pursuing the predental option must take the following courses:

Course Number and Title	Credits
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CHM 533 <i>Introductory Biochemistry</i>	3
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One of the following sequences: 8

- BIOL 108–109** *Biology of Plants and Biology of Animals*
BIOL 117–119 *Principles of Ecology and Evolution and Principles of Structure and Function*

One of the following: 4

- BIOL 215** *Basic Human Anatomy*
BIOL 315 *Developmental Anatomy*

One of the following: 4

- BIOL 216** *Basic Mammalian Physiology*
BIOL 455–456 *Animal Physiology and Laboratory*

PSY 120 *Elementary Psychology* 0
(credits counted in AREA III: The Individual, Culture, and Society)

Additional Credits 19

B.S. IN CHEMISTRY

The Bachelor of Science in Chemistry (B.S.C.) program helps you prepare for graduate study in chemistry and chemistry-related careers in industry or government. Providing the best preparation for any career involving chemical research, this program fulfills recommendations of the Committee on Professional Training of the American Chemical Society, and graduates are certified to the ACS as having fulfilled its requirements.

To earn the B.S.C., you must fulfill all requirements for the B.S. with a major in chemistry (listed above) and complete the additional courses listed below.

Course Number and Title	Credits
-------------------------	---------

CHM 343 <i>Inorganic Chemistry Laboratory</i>	1
CHM 533 <i>Introductory Biochemistry</i>	3
MA 351 <i>Elementary Linear Algebra</i>	3
MA 363 <i>Differential Equations</i>	3
PHYS 342–343 <i>Modern Physics and Laboratory</i>	4

Additional credits from the following: 3

- CHM** courses numbered 300 and above
PHYS 550 *Introduction to Quantum Mechanics*
CS 384 *Numerical Analysis*

or other departmentally approved advanced courses in chemical engineering, computer science; geochemistry, surface chemistry, mathematics, molecular biology, physics, and other allied fields

Additional Credits 17

BIOCHEMISTRY OPTION

The Bachelor of Science in Chemistry (B.S.C.) with biochemistry option helps you prepare for graduate study in biochemistry, and for biochemically oriented careers, particularly in the pharmaceutical and health industries. This program fulfills recommendations of the Committee on Professional Training of the American Chemical Society, and graduates are certified to the ACS as having fulfilled the requirements.

To earn the B.S.C. biochemistry option you must fulfill all requirements for the B.S. with a major in chemistry (listed above) and complete the additional courses listed below.

Course Number and Title	Credits
-------------------------	---------

BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 218 <i>Genetics and Molecular Biology</i>	4
CHM 533 <i>Introductory Biochemistry</i>	3
CHM 534 <i>Introductory Biochemistry</i>	3
CHM 535 <i>Biochemistry Laboratory</i>	1

The following is highly recommended:

- CHM 499** *Special Assignments Lab* 1–5

Additional Credits 16–20

MINOR IN CHEMISTRY

If you are pursuing a major other than chemistry, you may earn a minor in chemistry by completing the following courses with a grade of C or better and earning at least 13–15 credits as resident credits at IPFW:

Course Number and Title	Credits
-------------------------	---------

CHM 115–116 <i>General Chemistry</i>	8
CHM 218 <i>Introduction to Inorganic Chemistry</i>	3

Credits in one of the following: 3–4

- CHM 371** *Physical Chemistry*
CHM 383 *Physical Chemistry*

Credits in one of the following courses in analytical chemistry: 4

- CHM 224** *Introductory Quantitative Analysis*
CHM 321 *Analytical Chemistry I*

One of the following sequences:

8–10

CHM 254-255-256-258

CHM 261-262-265-266

Total 26–29

The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

B.S. WITH A MAJOR IN CHEMISTRY WITH CHEMISTRY TEACHING CERTIFICATION

To earn the B.S. with a major in chemistry teaching certification, you must fulfill all requirements (listed earlier) for the B.S. with a major in chemistry (except for foreign language, and you must complete ENG W233 as your writing requirement) and satisfactorily complete the courses listed below.

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

To be eligible to apply for teacher licensure, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements for teacher licensing. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

Course Number and Title	Credits
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School of Education Requirements

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300 *Invitation to Teaching* 2

EDUC W200/M101 *Microcomputers for Education: An Introduction and Lab/Field Experience* 1

EDUC K201 *Schools, Society, and Exceptionality* 1

GROUP II

EDUC K206 *Teaching Methods for Students with Special Needs* 3

EDUC H340 *Education and American Culture* 3

EDUC P250/M201 *General Educational Psychology and Lab/Field Experience* 3

EDUC P253/M301 *Educational Psychology Secondary Teachers and Lab/Field Experience* 3

EDUC Q400 *Man and Environment: Instructional Methods* 3

EDUC X401 *Critical Reading in the Content Area* 3

EDUC M449/M401 *Methods of Teaching Science in the Secondary Schools and Lab/Field Experience* 3

EDUC M480 *Student Teaching in the Secondary School* 12

Additional Credits 37

CHEMISTRY TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a chemistry teaching minor by completing the following 32 credits with a grade of C or better in each course.

Course Number and Title	Credits
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	3
CHM 115–116 <i>General Chemistry</i>	8
CHM 218 <i>Introduction to Inorganic Chemistry</i>	3
CHM 254–255 <i>Organic Chemistry and Lab</i>	4
CHM 256–258 <i>Organic Chemistry and Lab</i>	4
CHM 224 <i>Introductory Quantitative Analysis</i>	4
CHM 371 <i>Physical Chemistry</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences</i>	3
Total	32

PHYSICAL SCIENCE TEACHING CERTIFICATION

To earn the physical science teaching certification, you must fulfill all requirements for the B.S. with a major in chemistry or physics, and you must complete ENG W233 as your writing requirement and satisfactorily complete the courses listed below.

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

To be eligible to apply for teacher licensure, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements for teacher licensing. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

School of Education Requirements

Course Number and Title	Credits
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Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300 *Invitation to Teaching* 2

EDUC W200/M101 *Microcomputers for Education: An Introduction and Lab/Field Experience* 1

EDUC K201 *Schools, Society, and Exceptionality* 1

GROUP II

CHM 115–116 *General Chemistry* 8

CHM 254–255 *Organic Chemistry and Lab* 4

CHM 256–258 *Organic Chemistry and Lab* 4

CHM 224 *Introductory Quantitative Analysis* 4

MA 165–166 *Analytic Geometry and Calculus I–II* 8

MA 261 *Multivariate Calculus* 4

PHYS 152 *Mechanics* 5

PHYS 251 *Heat, Electricity, and Optics* 5

PHYS 310	<i>Intermediate Mechanics</i>	4
PHYS 322	<i>Optics</i>	3
PHYS 342–343	<i>Modern Physics and Lab</i>	4
EDUC K206	<i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340	<i>Education and American Culture</i>	3
EDUC P250/M201	<i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301	<i>Educational Psychology Secondary Teachers and Lab/Field Experience</i>	3
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
EDUC X401	<i>Critical Reading in the Content Area</i>	3
EDUC M449/M401	<i>Methods of Teaching Science in the Secondary Schools and Lab/Field Experience</i>	3
EDUC M480	<i>Student Teaching in the Secondary School</i>	12
Additional Credits		87

PHYSICAL SCIENCE TEACHING CERTIFICATION MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a physical science teaching minor by completing the following 56 credits with a grade of C or better in each course.

Course Number and Title		Credits
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
CHM 115–116	<i>General Chemistry</i>	8
CHM 254–255	<i>Organic Chemistry and Lab</i>	4
CHM 256–258	<i>Organic Chemistry and Lab</i>	4
CHM 224	<i>Introductory Quantitative Analysis</i>	4
MA 165–166	<i>Analytic Geometry and Calculus I–II</i>	8
MA 261	<i>Multivariate Calculus</i>	4
PHYS 152	<i>Mechanics</i>	5
PHYS 251	<i>Heat, Electricity, and Optics</i>	5
PHYS 310	<i>Intermediate Mechanics</i>	4
PHYS 322	<i>Optics</i>	3
PHYS 342–343	<i>Modern Physics and Lab</i>	4
Total		56

Child Development and Family Studies

See Consumer and Family Sciences

Civil and Architectural Engineering Technology

See Architectural Engineering Technology, Civil Engineering Technology, Construction Engineering Technology, Interior Design

Civil Engineering Technology

Program: A.S.

Department of Civil and Architectural Engineering Technology

School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 229 ▼ 260-481-6797 ▼ www.caet.ipfw.edu

Mission To provide employers and the public of northeastern Indiana with educated, technologically equipped graduates, able to serve the varied construction industries (represented by architectural, civil, and construction engineering technologies, and interior design) in advancing the solutions to problems facing the public and private sector.

Goals

- To provide education of the traditional and returning adult student for career success in the construction industry
- To develop a respect for diversity and a knowledge of contemporary professional, societal, and global issues with an understanding of professional and ethical responsibilities.
- To be responsive to the ever-changing technologies of the construction industries.
- To instill in students the desire for and ability to engage in lifelong learning.

The breadth of the curriculum will provide leadership potential in addressing problems of the region, its people, and its industries.

This program helps you prepare for employment with land surveying offices, highway departments, government engineering offices, railroads, utilities, general construction contracting firms, material supply organizations, and engineering consulting firms. You may work in estimating, drafting, structural detailing, construction expediting, sales, and surveying. Graduates with experience have become construction supervisors, chief drafting personnel, chiefs of survey parties, contractors, project superintendents, designers, and estimators. This program also prepares you to work toward the bachelor's degree in construction engineering technology. The civil engineering technology program does not lead to licensure as a professional engineer.

The department offers related majors in architectural engineering technology and construction engineering technology. All three programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700, and provide problem-solving skills, hands-on competency, and state-of-the-art technical knowledge. Alumni of the department are employed in all areas of the building industry, including construction, architecture, interior design, civil engineering, land surveying, and state, county, and city governments.

To earn the A.S. with a major in civil engineering technology, you must fulfill the requirements of IPFW (see Part 7); the School of Engineering, Technology, and Computer Science (see Part 3); and those described below:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	11
ENG W131 <i>Elementary Composition I</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
MA 159 <i>Precalculus</i>	5
Area IV—Humanistic Thought	3
<i>See Part 2 General Education Requirements for approved courses</i>	
ETCS General Distribution Requirements (11 credits)	
PHYS 218 <i>General Physics</i>	4
PHYS 219 <i>General Physics II</i>	4
STAT 301 <i>Elementary Statistical Methods</i>	3
Core and Concentration (Major) Courses (36 credits)	
CET 104 <i>Elementary Surveying</i>	3
CET 108 <i>Route Surveying and Design</i>	3
CET 181 <i>Applied Structures I</i>	3
CET 206 <i>Construction Surveying</i>	3
CET 209 <i>Land Surveying and Subdivision</i>	3
CET 253 <i>Hydraulics and Drainage</i>	3
CET 266 <i>Materials Testing</i>	3
CET 283 <i>Applied Structures II</i>	3
ARET 123 <i>Construction Graphic Communication</i>	4
ARET 124 <i>Architectural Engineering Construction I</i>	3
ARET 167 <i>Construction Systems and Materials</i>	3
CNET 276 <i>Construction Specifications, Contracts, and Codes</i>	3
CNET 280 <i>Quantity Estimating</i>	3
Total	68

Clinical Laboratory Sciences

(Formerly known as Medical Technology)

School of Health Sciences

See Medical Technology

Commercial Art

Program: A.S.

Department of Visual Arts/VCD Program

School of Visual and Performing Arts

Visual Arts Building 213 ▼ 260-481-6709 ▼ www.ipfw.edu/vpa

The mission of the Department of Visual Arts is to educate its students and the community in art, design, and appropriate technologies. Students may pursue the Bachelor of Fine Arts with concentrations in computer art, graphic design, and photography. A two-year program of study, an Associate of Science in commercial art, is also offered.

Both the B.F.A. and A.S. programs include general education, art/design history, and visual communication and design courses.

ASSOCIATE OF SCIENCE IN COMMERCIAL ART

This two-year program helps an individual prepare for entry-level employment opportunities in the applied arts, including illustration, layout, package design, display/exhibit design, and computer imaging. An exit portfolio review is required of all A.S. degree-seeking students. Upon completion of the A.S. program and a

successful portfolio presentation, a student may choose to enter the B.F.A. program in computer art, graphic design, or photography.

To earn the A.S. in commercial art, students must fulfill the requirements of IPFW and the School of Visual and Performing Arts, complete curriculum requirements, and earn a grade of C or better in each required VCD course.

SPECIAL ACADEMIC REGULATIONS

To ensure that degree-seeking students are guaranteed priority registration in their classes, the following policies will be observed:

1. Students who are not progressing toward completion of degree requirements, including students who have graduated but wish to continue a program of study, will be reclassified as nondegree-seeking. These students' registrations will not be processed until the final week before the beginning of each semester. This policy will allow these students an opportunity to avail themselves of classroom opportunities when space is available.
2. All 400-level studio courses may be repeated up to a maximum of 18 credits. This long-standing policy is based upon the rationale that six semesters of study at that level in one discipline is sufficient for undergraduate training.
3. Independent-study courses are available for students with at least junior standing to pursue studio interests not served in other course offerings. Independent-study courses may be arranged with the appropriate faculty member on the basis of a viable course of study, a reasonable load for the instructor, and space availability. Priority will be given to degree-seeking students and to classes with regularly scheduled meetings.
4. Prerequisites for 200-level and above studio courses may be waived by the appropriate instructor during the week before classes begin, contingent upon space availability.
5. Internships are available for students with at least junior standing to pursue learning opportunities in professional situations. Students may receive up to 6 credit hours for such experiential learning. Documentation concerning internship requirements can be found in the Department of Visual Arts office.

Credit Transfer If a student transfers studio credits from another college or university, he/she may be admitted to the B.F.A. program upon successful portfolio presentation. To earn the B.F.A. at IPFW, the student must fulfill all remaining requirements and complete a minimum of 24 credits of upper-division studio work at IPFW.

COURSE REQUIREMENTS (ASSOCIATE OF SCIENCE)

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
<i>See Part 2 General Education Requirements for approved courses</i>	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
Quantitative reasoning course	3
Areas II–IV	9
<i>See Part 2 General Education Requirements for approved courses</i>	
Foundations	
FINA P121 <i>Drawing Fundamentals I</i>	3
FINA P122 <i>Drawing Fundamentals II</i>	3

FINA P151	<i>Design Fundamentals I</i>	3
FINA P152	<i>Design Fundamentals II</i>	3
Art History		6
FINA H111	<i>Ancient and Medieval Art</i>	3
FINA H112	<i>Renaissance - Modern Art</i>	3
Studio		27
FINA P226	<i>Painting Fundamentals II</i>	3
VCD P253	<i>Principles of Graphic Design I</i>	3
VCD P254	<i>Principles of Graphic Design II</i>	3
VCD P261	<i>Layout and Finished Art</i>	3
VCD P271	<i>Illustration I</i>	3
VCD P272	<i>Illustration II</i>	3
VCD P273	<i>Computer Art and Design I</i>	3
Studio electives in VCD or FINA		6
Total		63

Time Limit If a student does not complete degree requirements within seven years of matriculation, he/she may be required to meet the degree requirements specified in the current *Bulletin*.

Student Handbook A departmental student handbook, consisting of policies and regulations of the Department of Visual Arts, has been prepared as a guide for students. This handbook, available in the department office, provides detailed information about responsibilities and a sample curriculum for each degree. All VCD majors are expected to be familiar with the contents of this handbook.

Communication

See *Communication Studies, Film and Media Studies, Interpersonal and Organizational Communication, Media and Public Communication, Media Production*

Communication Studies

Program: Minor

Department of Communication
School of Arts and Sciences

Neff Hall 230 ▼ 260-481-6825 ▼ www.ipfw.edu/comm/

If you are pursuing a major other than interpersonal and organizational communication or media and public communication, you may earn this minor by completing the following requirements with a grade of C or better and earning at least 9 credits as resident credit at IPFW:

Course Number and Title	Credits
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	3
COM 250 <i>Mass Communication and Society</i>	3
COM 300 <i>Introduction to Communication Research Methods</i>	3
COM 318 <i>Principles of Persuasion</i>	3
Credits in communication courses approved for communication B.A. majors	6
Total	18

Computer-Controlled Systems

Program: Certificate

Department of Electrical and Computer Engineering Technology

School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu

This certificate program provides theory and experiments on computer-controlled system design and implementation. Three methods of computer control — programmable logic controller (PLC), General Purpose Interface Bus system (GPIB, HPIB, or IEEE 488), and microcontroller-based systems — are studied. Highlights of the course sequence include data acquisition using low- and high-level languages, control-variable measurement using sensors, D/A and A/D conversions, ladder diagrams, design of pneumatic- and hydraulic-controlled systems, sampling and reconstruction, z transform, stability-analysis techniques, comparisons of continuous and discrete time-controlled systems, and open- and closed-loop controlled systems.

Upon satisfactory completion of this certificate program, you will be able to build your own computer-controlled system using a PLC, a GPIB, or a microcontroller.

The ECET department also offers the Bachelor of Science and Associate of Science with a major in electrical engineering technology, and Bachelor of Science with a major in computer engineering technology. In addition to the degrees, the department offers a minor in electronics and certificate programs in advanced microprocessors, electronics communications, power electronics systems. and computer networking.

To earn the certificate in computer-controlled systems, you must satisfy the requirements of IPFW (see Part 7), fulfill all course prerequisites, and satisfactorily complete the following courses with a grade of C or better. This certificate is not available to any student with a major in EET (A.S. and/or B.S.).

Course Number and Title	Credits
One of the following:	3
ECET 114 <i>Introduction to Microcomputers</i>	3
CS 114 <i>Introduction to Visual Basic</i>	3
ECET 205 <i>Microprocessor Fundamentals</i>	4
ECET 302 <i>Introduction to Control Systems</i>	4
One of the following:	4
ECET/CPET 355 <i>Data Communication and Networking</i>	4
ECET 375 <i>Computer Controlled System Design</i>	4
One of the following:	4
ECET/CPET 472 <i>Automatic Control Systems</i>	4
ECET 365 <i>Electrical Measurements</i>	4
Total	19

Computer Engineering

Program: B.S.Comp.E.

Department of Engineering

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 327 ▼
260-481-6362 ▼ www.engr.ipfw.edu*

IPFW offers bachelor's programs in electrical engineering, mechanical engineering, and computer engineering. The electrical and mechanical programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The computer engineering program is new and being reviewed for accreditation.

Studies in engineering emphasize the practical and analytical aspects of engineering by combining laboratory and lecture courses in the sciences, humanities, and engineering sciences.

Mission The mission of the Department of Engineering is to offer engineering programs that prepare students for successful careers in professional engineering positions. The engineering programs will be accessible to traditional and nontraditional students and will support evolving career objectives through an emphasis on the value of lifelong learning.

Educational Objectives The faculty of the engineering department at IPFW is committed to continuous improvements in its engineering programs. As such, the faculty continues to work with the alumni, their employers, and the industrial advisory committee to develop the following educational objectives:

- To prepare students for successful engineering careers related to industry, especially in northeastern Indiana, and to prepare students technically for possible graduate study.
- To develop students' skills in the design process and in product design.
- To provide students with experience in team work and multidisciplinary projects.
- To provide students with a sound foundation in the mathematical, scientific, and engineering fundamentals required to solve engineering problems.
- To give students opportunities for participation in student professional societies as well as professional experience through the Cooperative Education program.
- To help students to recognize the need for professional registration and life-long learning, and to understand their professional and ethical responsibilities.

Admission To gain admission to the B.S.Comp.E. program, in addition to satisfying IPFW admission requirements (see Part 7), you should rank in the upper half of your high-school class and have the following courses on your record:

<i>Subject</i>	<i>Semesters</i>
Algebra	4
Biology or physics	2
Chemistry	2
English	8
Plane geometry	2
Trigonometry	1

Additionally, you must have a minimum SAT I verbal score of 480 and an SAT I mathematics score of 520 for admission to freshman engineering. If you only partially meet the above requirements, you may be admitted to IPFW in a pre-engineering status while taking courses that will prepare you for admission to an engineering program.

Admission deadlines for the Department of Engineering are:

- Aug. 1 for the fall semester.
- Dec. 15 for the spring semester.
- May 1 for Summer Session I.
- June 15 for Summer Session II.

DEGREE REQUIREMENTS

To earn the B.S.Comp.E. at IPFW, you must satisfy the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3); follow the special academic regulations that appear at the end of this section; and satisfactorily complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	36
Area I—Linguistic and Numerical Foundations	10
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition</i>	3
MA 165 <i>Analytic Geometry and Calculus I</i>	4
Area II—Natural and Physical Sciences	9
CHM 115 <i>General Chemistry</i>	5
PHYS 152 <i>Mechanics</i>	4
Area III—The Individual, Culture, and Society	6
ECON E201 <i>Introduction to Microeconomics</i>	3
One of the following:	3
<i>ANTH E105, L200, P200; BUS W100; COM 250, 303; ENG L364; FOLK F101, F111; GERN G231; AFRO A210; HIST H105, H106, H113, H114, H232; INTL I200; JOUR C200, J110; LING L103; PACS P200; POLS Y103, S103*, Y105, Y107, Y109, Y221, S211*; PSY 120, 120H, 240, 350; SOC S161, S163; SPEA E162, H120, J101, V170</i>	
Area IV—Humanistic Thought	6
Two of the following:	
<i>ARET 310; COM 216, 251; ENG L101, L102, L108, L150, L250, L251, L301, L302; FILM K101; FINA A170, H101, H111, H112, H401, H415; FWAS H201, H202; HON H101*; MUS Z101, Z105, Z393; PHIL 110, 111, 112, 120, 150, 312, 351; THTR 201</i>	
Area V—Creative and Artistic Expression	2
ENGR 120 <i>Graphical Communications and Spatial Analysis</i>	2
Area VI—Inquiry and Analysis	3
One of the following:	
<i>ANTH E335, P340; CMLT C333, C337; COM 316, ECON E306; FILM K390; FOLK F305; HIST A313, D426, H373; LING L303, L360; MUS L418, U410; PHIL 303, 304; POLS Y306, Y307, Y335, Y339, Y376, Y490; PSY 345, 362, 365</i>	
*Grade of C or better required.	
School of ETCS Requirements	
Freshman Engineering	8
ENGR 101 <i>Introduction to Engineering</i>	1
ENGR 121 <i>Computer Tools for Engineers</i>	2
ENGR 122 <i>C and C++ Programming for Engineers</i>	2
ENGR 199 <i>Introduction to Engineering Design</i>	3

Mathematics and Science Requirements		22
MA 166	<i>Analytic Geometry and Calculus II</i>	4
MA 261	<i>Multivariate Calculus</i>	4
MA 275	<i>Discrete Mathematics</i>	3
MA 351	<i>Elementary Linear Algebra</i>	3
MA 363	<i>Differential Equations</i>	3
PHYS 251	<i>Heat, Electricity, and Optics</i>	5
Core and Concentration (Major) Courses		44
ECE 201	<i>Linear Circuit Analysis</i>	3
ECE 202	<i>Linear Circuit Analysis II</i>	3
ECE 207	<i>Electronic Measurements Techniques</i>	1
ECE 270	<i>Introduction to Digital System Design</i>	4
ECE 280	<i>Electronics and System Engineering through Robotics</i>	3
ECE 281	<i>Electronics and System Engineering through Robotics Lab</i>	1
ECE 301	<i>Signals and Systems</i>	3
ECE 302	<i>Probability Methods in Electrical Engineering</i>	3
ECE 362	<i>Microprocessor Systems and Interfacing</i>	4
ECE 357	<i>VLSI Chip Design Lab</i>	1
ECE 364	<i>Software Engineering Tools Lab</i>	1
ECE 368	<i>Data Structures</i>	3
ECE 405	<i>Senior Engineering Design I</i>	3
ECE 406	<i>Senior Engineering Design II</i>	3
ECE 469	<i>Operating Systems Engineering</i>	4
ECE 495	<i>Computer Design and Prototyping</i>	4
Required Mechanical Engineering Courses		3
One of the following:		
ME 200	<i>Thermodynamics I</i>	3
ME 250	<i>Statics</i>	3
Technical Elective Courses		12
<i>Electrical and Computer Engineering Electives</i>		
ECE 373	<i>Numerical Methods in Engineering</i>	3
ECE 418	<i>Introduction to Computer Graphics</i>	3
ECE 436	<i>Digital Signal Processing</i>	3
ECE 462	<i>Object Oriented Programming Using C++ and Java</i>	3
ECE 465	<i>Embedded Microprocessors</i>	3
ECE 466	<i>Introduction to VHDL Programming</i>	3
ECE 495	<i>Selected Topics in Electrical Engineering</i>	1-4
<i>Mechanical Engineering</i>		
ME 301	<i>Thermodynamics II</i>	3
Mathematics and Science Technical Electives		
MA 417	<i>Mathematical Programming</i>	3
MA 418	<i>Computations Laboratory for MA 417</i>	1
PHYS 322	<i>Optics</i>	3
PHYS 342	<i>Modern Physics</i>	3
PHYS 345	<i>Optics Laboratory I</i>	1
Total		125

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN THE DEPARTMENT OF ENGINEERING

Plan of Study A plan of study must be approved by your advisor before you complete 90 credits of degree-applicable courses. COM 114 and ENG W131 must be completed with grades of C or better before seeking approval of your plan.

Concentration Course Grades You must have a combined GPA of at least 2.00 in all ECE, ENGR, and ME courses and in any other courses used to fulfill technical-elective requirements. It is your responsibility to see that this requirement is met. Even though the grade of D is accepted as a passing grade (except in COM 114, ENG W131, and all mathematics courses where a grade of C or better is required), it is highly recommended that the course be repeated if it serves as a prerequisite to another required course.

Computer Engineering Technology

Program: B.S.
Department of Electrical and Computer Engineering Technology
School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 221 ▼
 260-481-6338 ▼ www.ecet.ipfw.edu

The Department of Electrical and Computer Engineering Technology (ECET) offers the Bachelor of Science with a major in computer engineering technology (CPET) and the Associate of Science and Bachelor of Science with a major in electrical engineering technology (EET). The CPET B.S. program prepares students for careers as professionals in many areas involving computer systems and electronics. Some of these are hardware and software support and design for industrial networking, Internet and networking control, computer systems, instrumentation, and other emerging technical areas. Program graduates have titles such as embedded software technologist, computer support specialist, networking support specialist, automation engineer, applications engineer, telecommunications engineer, network support technical/engineer, and network administrator. The ECET department has more than 1,000 alumni with A.S. and/or B.S. EET degrees and hold technical and managerial positions nationwide.

This new CPET program was approved by the Indiana Commission of Higher Education in October 2003 and will be ready for accreditation in 2006 by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. In addition to the degree programs, the department also offers a minor in electronics and certificate programs in advanced microprocessors, computer controlled systems, electronics communications, power electronics systems, and computer networking.

Mission The mission of the department is to offer high-quality undergraduate EET, CPET, and continuing education programs. These programs meet regional needs and include credit and non-credit training in electrical, electronics, computer applications, and computer networking. The department seeks to advance and share technical knowledge through teaching and creative endeavors, and to work with regional industries to develop and increase technically knowledgeable human resources.

B.S. WITH A MAJOR IN COMPUTER ENGINEERING TECHNOLOGY

The main objective of the B.S. CPET program is to provide training for individuals that are seeking careers in designing, developing,

programming, and implementing computer based electronic systems, with an emphasis on computer networking. These computer-based electronic systems include local and wide-area networking; use of the Internet for communications and control; telecommunications systems; industrial personal computer based and programmable logic controller (PLC) based control and automation systems; embedded-controller based systems; PC network based instrumentation; communications; and data acquisition, storage and application.

The curriculum described below provides a technical education in the area of industrial and enterprise computer networking. The core provides the student with basic instruction in analog and digital circuit analysis with hands-on laboratory work. It also introduces the fundamentals of computer systems, programming, and applications using word processors, spreadsheets, and high- and low-level computer languages. The specialization area provides in-depth knowledge about networking and the requisite hardware and software. Other required courses provide mathematical and communication skills, and sufficient knowledge of the industrial environment to perform effectively in the workplace. The B.S. also enables you to pursue advanced degrees in management, engineering, technology, or computer science.

To earn the degree, you must fulfill the requirements of IPFW (see Part 7) and of the School of Engineering, Technology, and Computer Science (see Part 3); and complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
The course listed below will meet the IPFW general education requirements required in the Bachelor of Science in computer engineering technology.	
Area I—Linguistic and Numerical Foundations 9	
ENG W131* <i>Elementary Composition I</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
Area II—Natural and Physical Sciences 8	
PHYS 218 <i>General Physics</i>	4
PHYS 219 <i>General Physics II</i>	4
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
IET 105 <i>Industrial Management</i>	3
Area IV—Humanistic Thought 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis 6	
CPET 490 <i>Senior Design Project, Phase I</i>	1
CPET 491 <i>Senior Design Project, Phase II</i>	2
ENG W421 <i>Technical Writing Projects</i>	3
Core and Concentration (Major) Courses	
ECET 107 <i>Introduction to Circuit Analysis</i>	4
ECET 111 <i>Digital Circuits</i>	4
ECET 114 <i>Introduction to Microcomputers</i>	3
ECET 146 <i>Digital Circuits II</i>	3
ECET 157 <i>Electronics Circuits Analysis</i>	4
ECET 207 <i>AC Electronics Circuit Analysis</i>	4
ECET 205 <i>Introduction to Microprocessors</i>	4
ECET 264 <i>C Programming Language Applications</i>	3

ECET 296 <i>Electronic System Fabrication</i>	2
CPET 181 <i>Computer Operating Systems Basics</i>	3
<i>or</i>	
ECET 234 <i>PC Systems I</i>	4
CPET 281 <i>Local Area Networks</i>	3
<i>or</i>	
CPET 213 <i>Web Based Analysis and Design</i>	3
CPET 355 <i>Data Communication and Networking</i>	4
CPET 364 <i>Networking Security</i>	3
CPET 490 <i>Senior Design Project, Phase I</i>	1
CPET 491 <i>Senior Design Project, Phase II</i>	2
CPET 497 <i>Technology Project Management</i>	3
Required CPET/ECET/CS Elective Courses	11
Selected from the following:	
CPET 384 <i>Wide Area Network Design</i>	
CPET 493 <i>Wireless Networking</i>	
CPET 494 <i>Java Programming Applications</i>	
CPET 495 <i>Web Engineering and Design</i>	
ECET 302 <i>Introduction to Control Systems</i>	
ECET 305 <i>Advanced Microprocessors</i>	
ECET 307 <i>Analog Network Signal Processing</i>	
ECET 346 <i>Advanced Digital Circuits</i>	
ECET 361 <i>Introduction to PLC & Pneumatic Systems</i>	
ECET 365 <i>Electrical Measurements</i>	
ECET 377 <i>Introduction to Fiber Optics</i>	
ECET 382 <i>C++ Object Oriented Programming for Industrial Applications</i>	
ECET 393 <i>Industrial Practice III</i>	
ECET 394 <i>Industrial Practice IV</i>	
ECET 395 <i>Industrial Practice V</i>	
ECET 403 <i>Communications II</i>	
ECET 411 <i>Microcomputer Interfacing</i>	
ECET 434 <i>PC Systems II</i>	
ECET 466 <i>Windows Programming for Industrial Applications</i>	
ECET 473 <i>Microwaves</i>	
ECET 483 <i>Industrial Local Area Networks</i>	
Required Computer Sciences Courses	8
CS 160 <i>Introduction to Computer Science I</i>	4
CS 161 <i>Introduction to Computer Science II</i>	4
Non-CPET Technical Elective Courses	8
MA 301 <i>Elementary Statistical Method I (preferred)</i>	
Required Math Courses	13
MA 154 <i>Algebra and Trigonometry II</i>	3
MA 175 <i>Introductory Discrete Mathematics</i>	3
MA 227 <i>Calculus for Technology I</i>	4
MA 228 <i>Calculus for Technology II</i>	3
Required English Technical Writing Courses	3
ENG W234 <i>Technical Report Writing</i>	
Total	125-127

*ENG W131 Grade C or above required.

CPET 490 and CPET 491 also counted as a CPET core courses.

Minor in Computer Science (B.S. CPET)	20
(Only computer science courses in which you have earned a grade C or better can be applied to the degree or used to satisfy prerequisites)	
CS 160 <i>Introduction to Computer Science I</i>	4
CS 161 <i>Introduction to Computer Science II</i>	4

CS 260	<i>Data Structures</i>	3
MA 175	<i>Introductory Discrete Mathematics</i>	3
Approved computer science courses at the 200 level or above		6

CPET 493	<i>Wireless Networking</i>
CPET 495	<i>Web Engineering and Design</i>
CPET 499	<i>Industrial Applications of Networking</i>

Total **19**

Minor in Mathematics		20
CS 160	<i>Introduction to Computer Science I</i>	4
MA 227	<i>Calculus for Technology I</i>	4
MA 228	<i>Calculus for Technology II</i>	3
MA 175	<i>Introductory Discrete Mathematics</i>	3
MA 321	<i>Advanced Technical Mathematics</i>	3
<i>or</i>		
MA 351	<i>Elementary Linear Algebra</i>	3
STAT 301	<i>Elementary Statistical Methods I</i>	3
<i>or</i>		
STAT 511	<i>Statistical Methods</i>	3
Total		133

Computer Networking

Program: Certificate

Department of Electrical and Computer Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

This certificate program in computer networking provides the theoretical and practical knowledge necessary to enable you to work with computer operating systems, data communication and network equipment, networking protocols, network system administration, local area networks, wide area networks, and network security.

The ECET department also offers the Bachelor of Science and Associate of Science with a major in electrical engineering technology and a Bachelor of Science with a major in computer engineering technology. In addition to the degrees, the department offers a minor in electronics and certificate programs in advanced processors, computer-controlled systems, electronics communications, and power electronics systems.

To earn the certificate in computer networking, you must fulfill all course prerequisites, and successfully complete the following courses with a grade of C or better in each course. This certificate is not available to any student with a major in CPET (B.S.).

Course Number and Title		Credits
CPET 181	<i>Computer Operating Systems Basics</i>	3
CPET 281	<i>Local Area Networks and Management</i>	3
CPET 364	<i>Networking Security</i>	3
One of the following:		3
ECET 264	<i>C Programming Language Applications</i>	
CS 170	<i>C and Data Structures or equivalent</i>	
One of the following:		4
ECET/CPET 355	<i>Introduction to Data Communications</i>	
CS 274	<i>Data Communications plus one-hour lab</i>	
One of the following:		3
CPET 384	<i>Wide Area Network Design</i>	
CS 374	<i>Computer Networks</i>	

Computer Science

Programs: A.S., B.S., and Minor; B.A., in cooperation with the School of Arts and Sciences

Department of Computer Science

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 252 ▼
260-481-6803 ▼ www.cs.ipfw.edu*

Mission The department strives to offer students excellent instruction and educational opportunities in computer science, information systems, and applied computer science. The latter is at the graduate level.

It endeavors to provide its students a durable technical foundation in an environment of rapid technical change, to enable and promote their professional growth through contact with the best professional practice, and to play a role of resource and technical leadership in the regional communities.

Program Objectives Graduates of both undergraduate programs must be able to:

- Analyze, design, implement, and evaluate a computerized solution to a real-life problem using appropriate tools.
- Communicate effectively through speaking, writing, and the use of presentation tools.
- Work effectively as a team member.
- Enter a professional computer science/information systems position or an appropriate graduate program.
- Pursue life-long learning and continued professional development.
- Be aware of ethical and societal concerns relating to computers in society and apply this knowledge in the conduct of their careers.

Note: Two bachelor's programs in computer science are offered: a B.A. and a B.S. You should review both programs, described below, before selecting one.

The degree programs in computer science provide a strong background to students interested in developing software for diverse computer applications. Preparation includes an understanding of programming and problem solving, data abstraction, computer hardware organization, operating systems, programming language design and translation, and development of large-scale software systems.

A.S. WITH A MAJOR IN COMPUTER SCIENCE

The Department of Computer Science offers majors in computer science and in information systems leading to an A.S. and B.S. Minors are also offered in both subjects.

The A.S. program includes fundamental computing courses. All requirements may be applied to the B.S. program in computer

science. Graduates typically continue in the B.S. program even though associate-degree recipients are qualified for employment in the computer field.

To earn the A.S. with a major in computer science, you must fulfill the requirements of IPFW (see Part 7) in addition to completing the courses listed below. Only grades of C or better in computer science courses may be applied to the degree or used to satisfy prerequisites. A maximum of 10 credits of D grades will be accepted in other courses.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I (or equivalent)</i>	3
Major Requirements (20 credits)	
CS 160–161 <i>Introduction to Computer Science I–II</i>	8
CS 260 <i>Data Structures</i>	3
CS 271 <i>Computer Architecture</i>	3
CS 274 <i>Data Communications</i>	3
Credits in approved computer science courses at the 200 level or above except CS 306	3
Supporting Courses	
ENG W234 <i>Technical Report Writing</i>	3
MA 165–166 <i>Analytic Geometry and Calculus I–II</i>	8
MA 175 <i>Introductory Discrete Mathematics</i>	3
Approved Laboratory Science sequence from the following	8–10
BIOL 108/109	
BIOL 117/119	
CHM 115/116	
GEOL G103/G104/G211	
PHYS 152/251	
PHYS 201/202	
PHYS 220/221	
Credits in approved electives	14–16
Free Electives	
Credits in approved free electives sufficient to bring total to 64	
Total	64

B.S. WITH A MAJOR IN COMPUTER SCIENCE

This program helps you prepare for a career in computer science and for possible graduate study.

In addition to satisfying the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3), you must complete the courses required for the A.S. with a major in computer science (see above) and the following additional courses. Only computer science courses in which you have earned a grade of C or better can be applied to the degree or used to satisfy prerequisites. A maximum of 10 credits of D grades (including any from the A.S.) will be accepted in other courses.

Course Number and Title	Credits
IPFW General Education Requirements	
Area II—Natural and Physical Sciences	
Partially fulfilled by the two-semester laboratory science requirement of the associate degree. Must also have one or more of the following courses to make a total of 12 credit hours:	

BIOL 215, 250, 326, 350

CHM 218, 224, 261

GEOL G210, G213, G221

PHYS 302

Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses (CS 306 may not be used for this requirement)</i>	
Major Requirements	34
CS 321 <i>Introduction to Computer Graphics</i>	3
CS 350 <i>Programming Language Design</i>	3
CS 360 <i>Software Engineering</i>	3
CS 364 <i>Introduction to Database Systems</i>	3
CS 472 <i>Operating Systems Design</i>	3
CS 460 <i>Capstone Design and Professional Practice</i>	4
Concentration Electives	12
9 credits must be selected from one concentration and 3 credits from a different concentration	
<i>Software Development Concentration</i>	
CS 365, CS 380, CS 384, CS 474	
<i>Network and Visual Computing Concentration</i>	
CS 368, CS 372, CS 374, CS 421	
With permission of the advisor, up to 3 credits of concentration electives may be selected from among CS 492, CS 494, and CS 495.	
Supporting Courses	
STAT 511 <i>Statistical Methods</i>	3
One of the following:	3
MA 351 <i>Elementary Linear Algebra</i>	
MA 511 <i>Linear Algebra with Applications</i>	
Credits in approved advanced communication course	3
Credits in additional approved electives sufficient to bring total to 124	
Total	124

B.A. WITH A MAJOR IN COMPUTER SCIENCE

Offered within a liberal-arts framework, the Bachelor of Arts program in computer science helps you prepare for graduate studies or a career in computer science.

To earn the B.A. with a major in computer science, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) in addition to the requirements below. No more than 10 credits with D grades can be applied to the degree. Of the mathematics courses numbered below 261, only MA 165, 166, and 175 apply toward the degree; statistics courses must be numbered 490 or higher to be counted.

Students interested in this program should contact the Department of Mathematical Sciences.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
Quantitative reasoning requirement satisfied by the mathematics courses below	0
Area II—Natural and Physical Sciences	
Credits in approved two-course sequence in biology, chemistry, geosciences, or physics	8–10
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	
MA 314 <i>Introduction to Mathematical Modeling</i> (credits included in Mathematics and Statistics Requirement, below)	0
School of Arts and Sciences Requirements (29 credits)	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i> (or other approved writing course)	3
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution</i>	
MA 166 <i>Analytic Geometry and Calculus II</i> satisfies the science and mathematics requirement (credits included in Mathematics and Statistics Requirement, below)	0
Credits in Social and Behavioral Sciences	3
Credits in Humanities	3
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Computer Science Core (32 credits)	
CS 160–161 <i>Introduction to Computer Science I–II</i>	8
CS 260 <i>Data Structures</i>	3
CS 271 <i>Computer Architecture</i>	3
CS 350 <i>Programming Language Design</i>	3
CS 384 <i>Numerical Analysis</i>	3
CS 486 <i>Analysis of Algorithms</i>	3
CS 488 <i>Theory of Computation</i>	3
Credits in approved advanced computer science courses at the 300 or 400 level	6
Mathematics and Statistics Requirement (20 credits)	
MA 165–166 <i>Analytic Geometry and Calculus I–II</i>	8
MA 175 <i>Introductory Discrete Mathematics</i>	3
MA 314 <i>Introduction to Mathematical Modeling</i>	3
One of the following:	3
MA 351 <i>Elementary Linear Algebra</i>	
MA 511 <i>Linear Algebra with Applications</i>	
One of the following:	3
STAT 511 <i>Statistical Methods</i>	
STAT 516 <i>Basic Probability and Applications</i>	
Free Electives (9–11 credits)	
Credits in approved free electives sufficient to bring total to 124.	
Total	124

MINOR IN COMPUTER SCIENCE

If you are pursuing a major other than computer science, you may earn a minor in computer science by completing the following courses. Only computer science courses in which you have earned a grade of C or better can be applied to the degree or used to satisfy prerequisites.

Course Number and Title	Credits
CS 160–161 <i>Introduction to Computer Science I–II</i>	8
CS 260 <i>Data Structures</i>	3
MA 175 <i>Introductory Discrete Mathematics</i>	3
Credits in approved computer science courses at the 200 level or above	6
Total	20

Construction Engineering Technology

Program: B.S.

Department of Civil and Architectural Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 229 ▼
260-481-6797 ▼ www.caet.ipfw.edu*

Mission To provide employers and the public of northeastern Indiana with educated, technologically equipped graduates, able to serve the varied construction industries (represented by architectural, civil, and construction engineering technologies, and interior design) in advancing the solutions to problems facing the public and private sector.

Goals

- To provide education of the traditional and returning adult student for career success in the construction industry
- To develop a respect for diversity and a knowledge of contemporary professional, societal, and global issues with an understanding of professional and ethical responsibilities.
- To be responsive to the ever-changing technologies of the construction industries.
- To instill in students the desire for and ability to engage in lifelong learning.

The breadth of the curriculum will provide leadership potential in addressing problems of the region, its people, and its industries.

This program is open to those who have earned an associate degree in architectural engineering technology or civil engineering technology, or the equivalent. Concentrations provide opportunities to prepare yourself for work in a specific segment of the construction industry. You may choose options in architectural engineering technology, civil engineering technology, or construction engineering technology. Graduates of this program take jobs with contractors, building-materials companies, utilities, architectural firms, engineering firms, and government agencies. The construction engineering technology program does not lead to licensure as a professional engineer or registered architect.

The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. It provides you with problem-solving skills, hands-on competency, and required state-of-the-art technical knowledge. Alumni of the department are employed in all areas of the building industry, including construction; architecture; interior design; civil engineering; land surveying; and state, county, and city governments.

To earn the B.S. with a major in construction engineering technology, you must fulfill the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3), those for an associate degree in architectural engineering technology or civil engineering technology, and the additional requirements below:

Course Number and Title	Credits
IPFW General Education Requirements	
Area II—Natural and Physical Sciences 4	
GEOL G100 <i>General Geology</i>	3
GEOL L100 <i>General Geology Lab</i>	1
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
ETCS General Distribution Requirements 10	
ENG W234 <i>Technical Report Writing</i>	3
MA 227 <i>Calculus for Technology II</i>	4
*COM 315 <i>Speech Communication for Technical Information</i>	3
<i>*CET option only</i>	
Core and Concentration (Major) Courses 36	
<i>Major Courses</i>	
ARET 355 <i>Techniques of Land Utilization</i>	3
CET 381 <i>Applied Structures III</i>	4
CET 431 <i>Properties and Behavior of Soils</i>	3
CET xxx <i>Structural Selective</i>	3
CET 384 <i>Wood Construction</i> or	
CET 385 <i>Fundamentals of Reinforced Concrete</i> or	
CET 482 <i>Steel Structure Design</i>	
CNET 344 <i>Constructed Project Quality</i>	3
CNET 348 <i>Project Design Analysis</i>	3
CNET 442 <i>Project Design Analysis</i>	3
CNET 443 <i>Engineered Construction</i>	3
CNET 445 <i>Construction Project Management</i>	3
CNET 448 <i>Project Design Synthesis</i>	3
CNET 457 <i>Construction Safety</i>	3
XXXX xxx <i>Technical Elective</i>	3
<i>(department-approved courses)</i>	
Subtotal	62
Credits from the A.S. CET or A.S. ARET	68
Total	130

Consumer and Family Sciences

Program: Transfer Program School of Health Sciences

Neff Hall 330 ▼ 260-481-6562

At IPFW, you may complete two years toward the Bachelor of Science offered by the School of Consumer and Family Sciences at the West Lafayette campus of Purdue University. Majors are in child development and family studies, dietetics, and retail management. These degree programs must be completed at West Lafayette. IPFW also offers a B.S. and an A.S. in hospitality areas (see description later in this section).

The details of your general-education requirements and the courses in your field of specialization are determined by your selection of an option. For this information, you should obtain the *Bulletin* of the School of Consumer and Family Sciences. You must also consult the IPFW coordinator of consumer and family sciences to select the appropriate courses for your B.S. option.

At IPFW, you may complete the following courses required for all options:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i> <i>(or equivalent)</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
Area II—Natural and Physical Sciences	
For most options, the following IPFW courses are recommended:	
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
Area III—The Individual, Culture, and Society 9	
See the Consumer and Family Sciences <i>Bulletin</i> and the CFS coordinator for requirements for your option. For most options, the following IPFW course is recommended:	
ECON E201 <i>Introduction to Microeconomics</i>	3
Total	27

The option you select may require additional credits in any of the three areas. You may fulfill many of the general-education requirements in all options at IPFW.

Creative Writing

Program: Minor Department of English and Linguistics School of Arts and Sciences

*Classroom-Medical Building 145 ▼ 260-481-6841 ▼
www.ipfw.edu/engl*

This program is available to all IPFW students except those pursuing the communication media, teacher-certification, or writing concentration with a major in English.

You may earn the minor by completing the following 15 credits, including at least 8 credits earned as resident credit at IPFW, with a grade of C or better in each course.

Course Number and Title	Credits
ENG W203 <i>Creative Writing</i>	3
One of the following:	3
ENG W301 <i>Writing Fiction</i>	
ENG W303 <i>Writing Poetry</i>	
One of the following:	3
ENG W401 <i>Advanced Fiction Writing</i>	
ENG W403 <i>Advanced Poetry Writing</i>	
One additional writing course, 300 level or above	3
One additional course in classics, comparative literature, English, (except ENG W130, W131, W135, W233), film, folklore, or linguistics; or COM 436 or THTR 376	3
Total	15

Critical Care Nursing

Program: Certificate
Department of Nursing
School of Health Sciences

Neff Hall B50 ▼ 260-481-6816 ▼ www.ipfw.edu/hsc_nur

The primary objectives of this certificate are to provide:

- advanced knowledge and skills in the specialty of critical-care nursing to registered nurses and student nurses about to enter the workforce.
- the opportunity for nurses working in or intending to work in any acute-care area of nursing to increase skills and knowledge in critical care to meet the growing challenge of providing care to increasingly sick patients within the managed-healthcare environment.
- increased marketability of graduates from this program in a market where critical-care skills are valued.

To earn the certificate, you must:

- fulfill the requirements of IPFW (see Part 7).
- be a licensed RN. (Students enrolled in second-year nursing courses in the IPFW nursing program may participate with permission of the certificate program coordinator.)
- complete the following courses with a C or better:

Course Number and Title	Credits
Nursing Core (5 credits)	
NUR 245 <i>Basic Cardiac Dysrhythmias</i>	1
NUR 362 <i>Acute Care Nursing</i>	4
Supporting Courses (7 credits)	
NUR 334 <i>Clinical Pathophysiology</i>	4
PHIL 312 <i>Medical Ethics</i>	3
Approved Electives (3 credits)	
(Credits in a course from nursing, SPEA, or the social sciences that better meets your goals may be substituted with the permission of the program coordinator)	
One of the following:	3
GERN G231 <i>Introduction to Gerontology</i>	
NUR 309 <i>Special Topics: Transcultural Healthcare</i>	
NUR 319 <i>Alternative and Complementary Therapies</i>	
NUR 399 <i>Special Topics</i>	
PSY 367 <i>Adult Development Aging</i>	
Total	15

Cytotechnology

Program: Transfer Program
School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

At IPFW, you may complete three years towards the Bachelor of Science in cytotechnology. You must be admitted to the clinical program at Indiana University–Purdue University Indianapolis to complete the degree. The details of your prerequisite course work should be discussed with the IPFW allied health advisor. You may also consult an advisor at the IUPUI campus to discuss the degree by calling 317-278-4752 or by e-mail at askhpp@iupui.edu. The most current program information is found at www.pathology.iupui.edu.

An interview plus a minimum cumulative GPA of 2.5, a minimum GPA of 2.0 in required prerequisites, and a minimum GPA of 2.5 in biology courses are required for admission to the IUPUI clinical program. Biology credits earned more than seven years prior to application must be updated by taking 3 additional credit hours related to cell biology within a period of time not to exceed 12 months prior to admission. Remedial courses will not fulfill prerequisite hours. Completion of courses does not guarantee admission to the IUPUI program.

At IPFW you may complete the following courses:

Course Number and Title	Credits
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
Credits in humanities	3
MA 153 <i>Algebra and Trigonometry I</i>	3
One of the following (see advisor):	4
BIOL 117 <i>Principles of Ecology and Evolution</i>	
BIOL 119 <i>Principles of Structure and Function</i>	
One of the following combinations:	6–8
BIOL 203/204 <i>Anatomy and Physiology</i>	
BIOL 215/216 <i>Basic Human Anatomy/Basic Mammalian Physiology</i>	
Credits from at least 3 of the following courses (see advisor):	9–11
BIOL 220 <i>Microbiology</i> (4 cr.)	
BIOL 218 <i>Genetics and Molecular Biology</i> (3 cr.)	
BIOL 381/382 <i>Cell Biology</i> (3 cr./3 cr.)	
BIOL 315 <i>Developmental Anatomy</i> (4 cr.)	
Other required courses:	
CHM 115/115L <i>General Chemistry with Lab</i>	4
CHM 116/116L <i>General Chemistry with Lab</i>	4
Electives	38–42
Total	90

Dance

Programs: Minor

Department of Theatre

School of Visual and Performing Arts

Williams Theatre 128 ▼ 260-481-6551 ▼ www.ipfw.edu/vpa

You may earn a theatre dance minor by completing the following courses and earning a grade of C or better in each course.

Course Number and Title	Credits
THTR 117 <i>Jazz Dance I</i>	2
THTR 137 <i>Jazz Dance II</i>	2
THTR 121 <i>Tap I</i>	2
THTR 221 <i>Tap II</i>	2
THTR 125 <i>Ballet I</i>	2
THTR 145 <i>Ballet II</i>	2
THTR 424 <i>Basic Choreography for the Theatre</i>	3
One of the following:	3
THTR 105 <i>Dance History</i>	
THTR 355 <i>American Musical Theatre</i>	
Total	18

SPECIAL ACADEMIC REGULATIONS

Probation You must earn a grade of C or better in each required theatre course and maintain a GPA of 2.5 or higher over all theatre courses you have completed. You are placed on academic probation if you do not meet this requirement.

Dismissal and Readmission If you are on probation and do not correct academic deficiencies during your next semester of enrollment, you will be dismissed from the theatre program.

If you are dismissed from the theatre program, you may seek readmission under the university guidelines specified in Part 7 of this *Bulletin*.

Time Limit You must complete the degree requirements specified in the *Bulletin* in effect at the time you were regularly admitted to the university. However, to ensure that you will be professionally competitive with other members of your graduating class, you may be required to satisfy the degree requirements specified in the most current *Bulletin* if you have not completed all requirements for your degree within seven years from the date of your admission.

Degree Requirements You may not use a single course to fulfill more than one Department of Theatre requirement.

Department Handbook Detailed information regarding requirements, policies, and practices of the department is included in a theatre student handbook available in the department office. All theatre majors must comply with the requirements specified in the handbook.

Dental Assisting

Program: Certificate

Department of Dental Education

School of Health Sciences

Neff Hall 150 ▼ 260-481-6837

This program involves one semester of prerequisite courses and one year of dental assisting courses. The program offers a full-time

curriculum that is accredited by the Commission on Dental Accreditation of the American Dental Association.

A Dental Assisting Certificate prepares you for a career as a dental-health professional who may choose to specialize in any of the following areas of dentistry: chairside general dentistry, expanded functions dental assisting (restorative) in general or pediatric dentistry, orthodontics, oral surgery, periodontics, assist in dental surgery at area hospitals, endodontics, public health dentistry, dental sales, dental insurance, dental research, business assisting, or office management or clinical supervision. The program combines didactic, laboratory, and clinical courses. Graduates are eligible to take the national boards to become a certified dental assistant (CDA) and take the state boards to obtain a dental radiology license in the State of Indiana.

Admission Admission to IPFW does not confer admission to this program. To be admitted to the certificate program you apply separately to IPFW and the dental assisting program. Prospective dental assisting students must first complete prerequisite courses listed below or equivalent courses at another accredited college or university. These courses may not be graded on a pass/not-pass option. Remedial or developmental courses cannot be used to fulfill these prerequisite requirements. Students must maintain a GPA of 2.00 or higher. Two observations in dental offices are required. See department for application and observation forms. You must also make an appointment with a dental assisting advisor to discuss the program. Because space in the dental assisting program is limited to 24 students per year, admission is competitive. Applications for selection into the dental assisting program must be received no later than April 1 of the year an applicant wishes to enter the program. The number of eligible applicants each year exceeds the number of spaces available.

PREREQUISITE COURSES

To apply for the Dental Assisting Certificate program, you must complete the following prerequisite courses by Aug. 15 with a grade of C or better:

Course Number and Title	Credits
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG R150 <i>Reading/Learning Techniques I</i> (or test out of this course on placement exams)	3
ENG W130 <i>Principles of Composition</i> (or test out of the two English courses on placement exams)	3
PSY 120 <i>Elementary Psychology</i>	3

Effective for fall 2006 applicants:

COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition</i>	3
PSY 120 <i>Elementary Psychology</i>	3

Preferred Admission

NUR 106 <i>Medical Terminology</i>	3
DAST A122 <i>Introduction to Dentistry</i>	1

Total **6-13**

Prerequisite and preferred admission courses must be completed by Aug. 15 for admission into the class that begins each fall. A minimum prerequisite GPA of 2.00 is required for all applicants. Required courses may be repeated until the applicant receives a grade of C or better. Repeated courses will not be averaged.

PROGRAM REQUIREMENTS

After acceptance into the program, you must fulfill the requirements of IPFW (see Part 7) and Dental Education, and satisfactorily complete the following courses:

Course Number and Title	Credits
DAST A111 <i>Oral Pathology, Physiology, and Anatomy</i>	2
DAST A112 <i>Dental and Medical Emergencies and Therapeutics</i>	2
DAST A121 <i>Microbiology and Asepsis Technique</i>	2
DAST A131 <i>Dental Materials I</i>	2
DAST A132 <i>Dental Materials II</i>	2
DAST A141 <i>Preventive Dentistry and Nutrition</i>	2
DAST A151 <i>Radiology Clinic I/Seminar</i>	1
DAST A171 <i>Clinical Science I</i>	4
DAST A172 <i>Clinical Science II</i>	4
DAST A182 <i>Practice Management, Ethics, and Jurisprudence</i>	2
DHYG H214 <i>Oral Anatomy - Histology and Embryology</i>	3
DHYG H242 <i>Introduction to Dentistry</i>	1
DHYG H303 <i>Radiology</i>	2
Total	29

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN DENTAL ASSISTING

Attendance Because of the experiential learning process used in all dental assisting courses, class attendance is essential and mandatory. Some evening hours are required for additional clinical experiences and professional association meetings.

Physicals and Immunizations Before beginning clinical courses, students must submit evidence that they have (1) completed an annual physical examination, (2) obtained the required immunizations, (3) completed TB testing, (4) received hepatitis B immunizations and Hepatitis B titer, and (5) hold a current CPR certification at the professional healthcare-provider level with the American Heart Association or the American Red Cross.

Please see Part 3 of the *Bulletin*, School of Health Sciences Special Academic Regulation for students in health sciences regarding student withdrawal and criminal records checks.

Dental Hygiene

Program: A.S.

Department of Dental Education

School of Health Sciences

Neff Hall 150 ▼ 260-481-6837

This program involves one year of prerequisite courses and two years of dental hygiene courses. The program offers a full-time curriculum that is accredited by the Commission on Dental Accreditation of the American Dental Association.

An A.S. in dental hygiene prepares you for a career as a dental-health professional who specializes in educational, preventive, and therapeutic oral healthcare. The program combines didactic, laboratory, and clinical courses. Graduates are eligible to take national, state, and regional licensing examinations. Dental hygienists who graduate with an associate degree can work in private dental offices, dental clinics and hospitals, public health facilities, and dental research facilities.

Admission Admission to IPFW does not confer admission to this program. To be admitted to the A.S. program, you must apply separately to IPFW and the dental hygiene program. Prospective dental hygiene students must first complete the prerequisite courses listed below or equivalent courses at another accredited college or university. These courses may not be graded on a pass/not-pass option. Remedial or developmental courses cannot be used to fulfill these prerequisite requirements. Students must maintain a GPA of 2.50 or higher. Because space in the dental hygiene program is limited to 30 students per year, admission is competitive and an overall GPA of at least 3.20 or higher is recommended. Applications for selection into the dental hygiene program must be received no later than Feb. 1 of the year an applicant wishes to enter the program. The number of eligible applicants each year exceeds the number of spaces available.

PREREQUISITE COURSES

To apply for the A.S. in dental hygiene program, you must complete the following prerequisite courses by June 1 with a grade of C or better:

Course Number and Title	Credits
BIOL 203–204 <i>Human Anatomy and Physiology</i>	6
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
CHM 111 <i>General Chemistry</i>	3
Credits in arts and humanities courses	6
Suggested courses include art appreciation, music appreciation, ethics, folklore, foreign language, literature, philosophy, religion, history, medical terminology, women's studies.	
Total	27

Prerequisite courses must be completed by June 1 for admission into the class that begins each fall. A minimum prerequisite GPA of 2.50 is required for all applicants. Required courses may be repeated only once to improve the grade. The second grade for any course will be averaged with the first grade given for each course. Microbiology, human anatomy, and human physiology constitute a large portion of the Dental Hygiene National Board Examination each year. Therefore, credits in these three courses must be completed within five years of admission into the program. Credits in all other prerequisite courses will be accepted for 10 years. Outdated courses must be retaken.

PROGRAM REQUIREMENTS

After acceptance into the program, you must fulfill the requirements of IPFW (see Part 7) and Dental Education, and satisfactorily complete the following courses:

Course Number and Title	Credits
BIOL 220 <i>Microbiology for Allied Health Professionals</i>	4
DAST A112 <i>Dental and Medical Emergencies and Therapeutics</i>	2
DHYG H211 <i>Head and Neck Anatomy</i>	2
DHYG H214 <i>Oral Anatomy</i>	3
DHYG H215 <i>Pharmacology and Therapeutics</i>	2
DHYG H216 <i>Chemistry and Nutrition—First Year</i>	2
DHYG H217 <i>Preventive Dentistry</i>	2
DHYG H218 <i>Fundamentals of Dental Hygiene</i>	5
DHYG H219 <i>Clinical Practice I</i>	4
DHYG H221 <i>Clinical Dental Hygiene Procedures</i>	2
DHYG H301–H302 <i>Clinical Practice II–III</i>	10
DHYG H303 <i>Radiology</i>	2
DHYG H304 <i>Oral Pathology</i>	2
DHYG H305–H306–H307 <i>Radiology Clinic I–II–III</i> (in sequence)	3
DHYG H308 <i>Dental Materials</i>	3
DHYG H309 <i>Practice of Community Dental Hygiene</i>	2
DHYG H320 <i>Practice Management, Ethics, and Jurisprudence</i>	2
DHYG H321 <i>Periodontics</i>	2
DHYG H344 <i>Senior Hygiene Seminar</i>	2
DHYG H347 <i>Dental Public Health</i>	3
Total	59

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN DENTAL HYGIENE

Attendance Because of the experiential learning process used in all dental hygiene courses, class attendance is essential and mandatory. Some evening hours are required for additional clinical experiences and professional association meetings.

Physicals and Immunizations Before beginning clinical courses, students must submit evidence that they have (1) completed an annual physical examination, (2) obtained the required immunizations, (3) completed TB testing, (4) received hepatitis B immunizations, and (5) hold current CPR certification at the professional healthcare-provider level.

Please see Part 3 of the *Bulletin*, School of Health Sciences Special Academic Regulation for Students in Health Sciences regarding student withdrawal and criminal records checks.

Dental Laboratory Technology

Program: A.S.
Department of Dental Education
School of Health Sciences

Neff Hall 150 ▼ 260-481-6837

The program offers a full-time and part-time curriculum that is accredited by the Commission on Dental Accreditation of the American Dental Association. The program helps you prepare to construct restorative dental appliances and prostheses prescribed by dentists. All courses are offered during daytime hours. Upon completion of the program, you are eligible to take the written portion of the Basic Examination of the National Board for

Certification; further examinations may enable you to become a certified dental technician.

Admission Admission to IPFW does not confer admission to the program. You must apply separately to both IPFW and the dental laboratory technology program. You must contact the director of dental laboratory technology for specific information about the program. You may begin the program only in the fall.

PROGRAM REQUIREMENTS

To earn an A.S. in dental laboratory technology, you must fulfill the requirements of IPFW (see Part 7) and the Department of Dental Education, and satisfactorily complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements (9 credits)	
ENG W131 <i>Elementary Composition I</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
STAT 125 <i>Communicating with Statistics</i>	
Dental Technology Requirements (60–64 credits)	
DLTP D111 <i>History, Ethics, Organization</i>	1
DLTP D112 <i>Dental Anatomy</i>	
DLTP D113 <i>Basic Physics, Chemistry, and Dental Materials</i>	5
DLTP D114 <i>Occlusion</i>	3
DLTP D125 <i>Crown and Bridge Prosthodontics</i>	3
DLTP D126 <i>Orthodontics/Pedodontics Appliances I</i>	3
DLTP D127 <i>Complete Denture Prosthodontics I</i>	4
DLTP D128 <i>Partial Denture Prosthodontics I</i>	3
DLTP D129 <i>Dental Ceramics I</i>	3
DLTP D215 <i>Crown and Bridge Prosthodontics II</i>	4
DLTP D216 <i>Orthodontics/Pedodontics Appliances II</i>	3
DLTP D217 <i>Complete Denture Prosthodontics II</i>	3
DLTP D218 <i>Partial Denture Prosthodontics II</i>	3
DLTP D219 <i>Dental Ceramics II</i>	4
DLTP D221 <i>Dental Laboratory Business Procedures</i>	2
DLTP D222 <i>Practical Laboratory Experience</i>	4–6
Credits from among the following:	8–10
DLTP D225 <i>Specialty in Crown and Bridge Prosthodontics</i>	
DLTP D226 <i>Specialty in Orthodontics/Pedodontics</i>	
DLTP D227 <i>Specialty in Complete Denture Prosthodontics</i>	
DLTP D228 <i>Specialty in Partial Denture Prosthodontics</i>	
DLTP D229 <i>Specialty in Dental Ceramics</i>	
Total	69–73

Dietetics

See *Consumer and Family Sciences*

Early Childhood Education

Programs: A.S.

Department of Educational Studies

School of Education

Neff Hall 250 ▼ 260-481-6441

The A.S. in early childhood education program provides preparation for workers in nursery schools, Headstart programs, and preschool programs. It does not lead to teacher licensure.

To earn the A.S. in early childhood education, you must fulfill the requirements of IPFW (see part 7) and the School of Education.

Since course requirements were being revised at the time of this *Bulletin* printing, you should contact the School of Education (Neff 250) for specific course requirements.

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN EARLY CHILDHOOD EDUCATION

In addition to the academic regulations of IPFW (see Part 7), the following rules apply to early childhood students.

Developmental Courses No credit toward graduation is awarded for ENG R150, R151, or W130; or MA 109 or 113.

Pass/Not-Pass Option Permission to elect this option must be requested on a form available from the School of Education. Permission will be granted only if the course will not be used to fulfill any degree requirements other than total credits for the degree. A.S. students are limited to two courses under this option.

Correspondence Courses A.S. students may not use more than 9 credits of correspondence courses credit toward the degree.

Grades You must complete each professional education course with a grade of C or better. You must have earned a cumulative GPA of 2.00 or higher to be eligible to receive the A.S.

Academic Fresh Start The school has an academic fresh start option to assist students who are returning to college after an absence of five or more years. The policy permits students' recent college performance to determine the GPA required for admission into teacher education.

You must apply for this option after the completion of 12 credits following admission/readmission to IPFW. For further information, consult with your academic advisor or visit the School of Education Licensing and Advising Center, Neff 243.

Resident Study You must complete your final 32 credits at IPFW, with at least 12 of these credits in professional education courses.

Economics

Programs: B.A., Teacher Certification, and Minor

Department of Political Science

School of Arts and Sciences

Classroom-Medical Building 209 ▼ 260-481-6686

Economics is the study of the rational allocation of scarce resources. The major seeks to develop those critical skills that help you understand and solve problems in a wide variety of

circumstances. These analytical abilities are valuable in the business world and many professional disciplines such as law and social work.

This program is offered in close cooperation with the Department of Economics in the School of Business and Management Sciences, which offers all economics courses required for the major.

B.A. WITH A MAJOR IN ECONOMICS

To earn the B.A. with a major in economics, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), in addition to the following requirements. Correspondence courses, whether from Indiana University or elsewhere, may not be used to satisfy any of the requirements for this major.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3–4
MA 165 <i>Analytic Geometry and Calculus I</i> (4 credits)	
MA 229 <i>Calculus for the Managerial, Social and Biological Sciences I</i> (3 credits)	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
ECON E201 <i>Introduction to Microeconomics</i>	0
<i>(credits included in Economics Core, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in ECON)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i> (or other approved writing course)	3
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Economics Core Courses (15 credits)	
ECON E201 <i>Introduction to Microeconomics</i>	3
ECON E202 <i>Introduction to Macroeconomics</i>	3
ECON E270 <i>Introduction to Statistical Theory in Economics and Business I</i>	3
ECON E321 <i>Intermediate Microeconomic Theory</i>	3
ECON E322 <i>Intermediate Macroeconomic Theory</i>	3

Additional Economics Courses	12
Additional credits in 300/400-level economics courses or in other courses approved by the economics faculty; at least two of these courses must be completed at IPFW.	
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

TEACHER CERTIFICATION

You may be certified as a teacher of social studies after fulfilling all requirements for the B.A. with a major in economics and all requirements for teacher certification. Full information on teacher-certification requirements is available from the School of Education.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

MINOR IN ECONOMICS

If you are pursuing a major other than economics, you may earn a minor in economics by completing the following credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW:

Course Number and Title	Credits
ECON E201 <i>Introduction to Microeconomics</i>	3
ECON E202 <i>Introduction to Macroeconomics</i>	3
One of the following:	3
ECON E321 <i>Intermediate Microeconomic Theory</i>	
ECON E322 <i>Intermediate Macroeconomic Theory</i>	
Credits in two additional ECON courses at the 300–400 level	6
Total	15

Programs can be designed to provide concentrations in several areas. A theory and quantitative concentration of 18 credits, including at least 9 resident credits, can be provided along with suitable study in mathematics to prepare students for graduate programs in economics and related disciplines.

Education

See *Early Childhood Education, Elementary Education, Mild Intervention, Secondary Education*

Electrical and Computer Engineering Technology

See *Advanced Microprocessors, Computer Controlled Systems, Computer Engineering Technology, Computer Networking, Electrical Engineering Technology, Electronic Communication, Electronics, Power Electronic Systems*

Electrical Engineering

Program: B.S.E.E.

Department of Engineering

School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 327 ▼
260-481-6362 ▼ www.engr.ipfw.edu

IPFW offers bachelor's programs in electrical engineering, mechanical engineering, and computer engineering. The electrical and mechanical engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The computer engineering program is new and being reviewed for accreditation.

Studies in engineering emphasize the practical and analytical aspects of engineering by combining laboratory and lecture courses in the sciences, humanities, and engineering sciences.

Mission The mission of the Department of Engineering is to offer engineering programs that prepare students for successful careers in professional engineering positions. The engineering programs will be accessible to traditional and nontraditional students and will support evolving career objectives through an emphasis on the value of lifelong learning.

Educational Objectives The faculty of the engineering department at IPFW is committed to continuous improvements in its engineering programs. As such, the faculty continues to work with the alumni, their employers, and the industrial advisory committee to develop the following educational objectives:

- To prepare students for successful engineering careers related to industry, especially in northeastern Indiana, and to prepare students technically for possible graduate study.
- To develop students' skills in the design process and in product design.
- To provide students with experience in team work and multidisciplinary projects.
- To provide students with a sound foundation in the mathematical, scientific, and engineering fundamentals required to solve engineering problems.
- To give students opportunities for participation in student professional societies as well as professional experience through the Cooperative Education program.
- To help students recognize the need for professional registration and life-long learning and to understand their professional and ethical responsibilities.

Admission To gain admission to the B.S.E.E. program, in addition to satisfying IPFW admission requirements (see Part 7), you should rank in the upper half of your high-school class and have the following courses on your record:

Subject	Semesters
Algebra	4
Biology or physics	2
Chemistry	2
English	8
Plane geometry	2
Trigonometry	1

Additionally, you must have a minimum SAT I verbal score of 480 and an SAT I mathematics score of 520 for admission to freshman engineering. If you only partially meet the above requirements, you may be admitted to IPFW in a pre-engineering status while taking courses that will prepare you for admission to an engineering program.

Admission deadlines for the Department of Engineering are:

- Aug. 1 for the fall semester.
- Dec. 15 for the spring semester.
- May 1 for Summer Session I.
- June 15 for Summer Session II.

DEGREE REQUIREMENTS

To earn the B.S.E.E. at IPFW, you must satisfy the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3); follow the special academic regulations that appear at the end of this section; and satisfactorily complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	36
Area I—Linguistic and Numerical Foundations	10
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition</i>	3
MA 165 <i>Analytic Geometry and Calculus I</i>	4
Area II—Natural and Physical Sciences	9
CHM 115 <i>General Chemistry</i>	5
PHYS 152 <i>Mechanics</i>	4
Area III—The Individual, Culture, and Society	6
ECON E201 <i>Introduction to Microeconomics</i>	3
One of the following:	3
ANTH E105, L200, P200; BUS W100; COM 250, 303; ENG L364; FOLK F101, F111; GERN G231; AFRO A210; HIST H105, H106, H113, H114, H232; INTL I200; JOUR C200, J110; LING L103; PACS P200; POLS Y103, S103*, Y105, Y107, Y109, Y221, S211*; PSY 120, 120H, 240, 350; SOC S161, S163; SPEA E162, H120, J101, V170	
Area IV—Humanistic Thought	6
Two of the following: ARET 310; COM 216, 251; ENG L101, L102, L108, L150, L250, L251, L301, L302; FILM K101; FINA A170, H101, H111, H112, H401, H415; FWAS H201, H202; HON H101*; MUS Z101, Z105, Z393; PHIL 110, 111, 112, 120, 150, 312, 351; THTR 201	
Area V—Creative and Artistic Expression	2
ENGR 120 <i>Graphical Communications and Spatial Analysis</i>	2
Area VI—Inquiry and Analysis	3
One of the following: ANTH E335, P340; CMLT C333, C337; COM 316; ECON E306; FILM K390; FOLK F305; HIST A313, D426, H373; LING L303, L360; MUS L418, U410; PHIL 303, 304; POLS Y306, Y307, Y335, Y339, Y376, Y490; PSY 345, 362, 365	
*Grade of C or better required.	
School of ETCS Requirements	
Freshman Engineering	8
ENGR 101 <i>Introduction to Engineering</i>	1
ENGR 121 <i>Computer Tools for Engineers</i>	2
ENGR 122 <i>C and C++ Programming for Engineers</i>	2
ENGR 199 <i>Introduction to Engineering Design</i>	3
Mathematics and Science Requirements	22
MA 166 <i>Analytic Geometry and Calculus II</i>	4
MA 261 <i>Multivariate Calculus</i>	4

MA 275	<i>Discrete Mathematics</i>	3
MA 351	<i>Elementary Linear Algebra</i>	3
MA 363	<i>Differential Equations</i>	3
PHYS 251	<i>Heat, Electricity, and Optics</i>	5
Core and Concentration (Major) Courses		44
ECE 201	<i>Linear Circuit Analysis</i>	3
ECE 202	<i>Linear Circuit Analysis II</i>	3
ECE 207	<i>Electronic Measurements Techniques</i>	1
ECE 208	<i>Election Devices and Design Laboratory</i>	1
ECE 255	<i>Introduction to Electronic Analysis and Design Class</i>	3
ECE 270	<i>Introduction to Digital System Design</i>	4
ECE 280	<i>Electronics and System Engineering through Robotics</i>	3
ECE 281	<i>Electronics and System Engineering through Robotics Lab</i>	1
ECE 301	<i>Signals and Systems</i>	3
ECE 302	<i>Probability Methods in Electrical Engineering</i>	3
ECE 311	<i>Electric and Magnetic Fields</i>	3
ECE 362	<i>Microprocessor Systems and Interfacing</i>	4
ECE 382	<i>Feedback Systems Analysis and Design</i>	3
ECE 405	<i>Senior Engineering Design I</i>	3
ECE 406	<i>Senior Engineering Design II</i>	3
ECE 436	<i>Digital Signal Processing</i>	3
Required Mechanical Engineering Courses		3
ME 200	<i>Thermodynamics I</i>	3
or		
ME 250	<i>Statics</i>	3
Technical Elective Courses		12
Electrical and Computer Engineering		6–12
ECE 373	<i>Numerian Methods in Engineering</i>	3
ECE 414	<i>Elements of Electro and Fiber Optics</i>	3
ECE 418	<i>Introduction to Computer Graphics</i>	3
ECE 442	<i>Transmission of Information</i>	3
ECE 443	<i>Communications Laboratory</i>	1
ECE 466	<i>Introduction to VHDL Programming</i>	3
ECE 483	<i>Digital Control Systems-Analysis and Design</i>	3
ECE 495	<i>Selected Topics in Electrical Engineering</i>	3
ECE 589	<i>State Estimation ad Parameter Identification of Stochastic Systems</i>	3
Other Electrical and Computer Engineering Electives		
ECE 357	<i>VLSI Chip Design Laboratory</i>	1
ECE 364	<i>Software Engineering Tool Lab</i>	1
ECE 462	<i>Object Oriented Programming Using C++ and Java</i>	3
ECE 465	<i>Embedded Microprocessors</i>	3
Mechanical Engineering		
ME 301	<i>Thermodynamics II</i>	3
Mathematics and Sciences		
MA 417	<i>Mathematical Programming</i>	3
MA 418	<i>Computations Laboratory for MA 417</i>	1
PHYS 322	<i>Optics</i>	3
PHYS 342	<i>Modern Physics</i>	3
PHYS 345	<i>Optics Laboratory I</i>	1
Total		125

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN THE DEPARTMENT OF ENGINEERING

Plan of Study A plan of study must be approved by your advisor before you complete 90 credits of degree-applicable courses. COM 114 and ENG W131 must be completed with grades of C or better before seeking approval of your plan.

Concentration Course Grades You must have a combined GPA of at least 2.00 in all ECE, ENGR, and ME courses and in any other courses used to fulfill technical-elective requirements. It is your responsibility to see that this requirement is met. Even though the grade of D is accepted as a passing grade (except in COM 114, ENG W131, and all mathematics courses where a grade of C or better is required), it is highly recommended that the course be repeated if it serves as a prerequisite to another required course.

Electrical Engineering Technology

Programs: A.S. and B.S.

Department of Electrical and Computer Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

The Department of Electrical and Computer Engineering Technology (ECET) offers the Associate of Science and Bachelor of Science with a major in electrical engineering technology and a Bachelor of Science in computer engineering technology. These degrees provide technical preparation with an emphasis on laboratory, problem solving, and project management skills that will help you prepare for employment in all areas of electronics, including microprocessor-based systems, digital and analog communications, digital and analog control, electrical power, microwave systems, and industrial control and automation. Many of the department's more than 1,000 alumni hold technical and managerial positions nationwide.

Both the A.S. and B.S. programs in electrical engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The B.S. program in computer engineering technology is new and is being reviewed for accreditation. In addition to the degree programs, the department offers a minor in electronics, and certificate programs in advanced microprocessors, computer-controlled systems, electronics communications, power electronics systems, and computer networking.

Mission The mission of the department is to offer high-quality undergraduate ECET, CPET, and continuing education programs. These programs meet regional needs and include credit and noncredit training in electrical, electronics, computer applications, and computer networking. The department seeks to advance and share technical knowledge through teaching and creative endeavors, and to work with regional industries to develop and increase technically knowledgeable human resources.

A.S. WITH A MAJOR IN ELECTRICAL ENGINEERING TECHNOLOGY

The A.S. program emphasizes course and lab work in electricity, electronics, computers, mathematics, science, and general academic areas that help prepare you for entry into the electrical and electronics fields as a technician and qualifies you for admission to the B.S. program.

To earn the A.S., you must fulfill the requirements of IPFW (see Part 7) and complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I*</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
Area II—Natural and Physical Sciences	
PHYS 218 <i>General Physics</i>	4
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Core and Concentration (Major) Courses	
ECET 107 <i>Introduction to Circuit Analysis</i>	4
ECET 111 <i>Digital Circuits</i>	4
ECET 114 <i>Introduction to Microcomputers</i>	3
ECET 146 <i>Digital Circuits II</i>	3
ECET 157 <i>Electronics Circuits Analysis</i>	4
ECET 205 <i>Introduction to Microprocessors</i>	4
ECET 207 <i>AC Electronics Circuit Analysis</i>	4
ECET 231 <i>Electrical Power and Controls</i>	4
ECET 264 <i>C Programming Language Applications</i>	3
ECET 296 <i>Electronic System Fabrication</i>	2
ECET 302 <i>Introduction to Control Systems</i> or	4
ECET 303 <i>Communications I</i>	4
Required non-ECET technical course	2
MET 157 <i>Electrical-Mechanical Drafting with CAD</i>	2
Required math courses	10
MA 154 <i>Algebra and Trigonometry II</i>	3
MA 227 <i>Calculus for Technology I</i>	4
MA 228 <i>Calculus for Technology II</i>	3
Total	67-68

*ENG W131 Grade C or above required.

B.S. WITH A MAJOR IN ELECTRICAL ENGINEERING TECHNOLOGY

The B.S. helps you prepare for a career in an advanced technical position in communications, electronics, control systems, manufacturing, electrical power, microprocessors, or embedded software programming in Visual Basic, C/Embedded C, C++, assembly language, and/or Java. The B.S. also enables you to pursue advanced degrees in management, engineering, technology, or computer science.

To earn the degree, you must complete the A.S. with a major in electrical engineering technology (see above); fulfill the requirements of IPFW (see Part 7) and of the School of Engineering, Technology, and Computer Science (see Part 3); and complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
The courses listed below will meet the IPFW general education requirements required in the Bachelor of Science in electrical engineering technology.	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition*</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
Area II—Natural and Physical Sciences	
CHM 111 <i>General Chemistry I</i>	3
PHYS 218 <i>General Physics</i>	4
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
IET 105 <i>Industrial Management</i>	3
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VII—Inquiry and Analysis 6	
ECET 490 <i>Senior Design Project I</i>	1
ECET 491 <i>Senior Design Project II</i>	2
ENG W421 <i>Technical Writing Projects</i>	3
Core and Concentration (Major) Courses	
ECET 302 <i>Introduction to Control Systems</i>	4
<i>or</i>	
ECET 303 <i>Communications I</i>	4
ECET 307 <i>Analog Network Signal Processing</i>	4
ECET 357 <i>Real-Time Digital Signal Processing</i>	4
ECET 490 <i>Senior Design Project, Phase I</i>	1
ECET 491 <i>Senior Design Project, Phase II</i>	2
Required ECET/CPET elective courses selected from the following:	
ECET 305 <i>Advanced Microprocessors</i>	
ECET 312 <i>Power Electronics</i>	
ECET 331 <i>Generation and Transmission of Electrical Power</i>	
ECET 346 <i>Advanced Digital Circuits</i>	
ECET 348 <i>Project Design Analysis</i>	
ECET/CPET 355 <i>Data Communication and Networking</i>	
ECET 361 <i>Introduction to PLC and Pneumatic Systems</i>	
ECET 365 <i>Electrical Measurements</i>	
ECET 372 <i>Process Control</i>	
ECET/CPET 375 <i>Computer Controlled System Designs</i>	
ECET 377 <i>Introduction to Fiber Optics</i>	
ECET 382 <i>C++ Object Oriented Programming for Industrial Applications</i>	
ECET 393 <i>Industrial Practice III</i>	
ECET 394 <i>Industrial Practice IV</i>	
ECET 395 <i>Industrial Practice V</i>	
ECET 403 <i>Communications II</i>	
ECET 411 <i>Microcomputer Interfacing</i>	
ECET 434 <i>PC Systems II</i>	
ECET/CPET 435 <i>Electronic Industrial Controls</i>	
ECET 453 <i>Topics in Telecommunications</i>	
ECET 466 <i>Windows Programming for Industrial Applications</i>	

ECET 468 <i>Microwave Solid State Devices</i>	
ECET/CPET 472 <i>Automatic Control Systems</i>	
ECET 473 <i>Microwaves</i>	
ECET 483 <i>Industrial Local Area Networks</i>	
ECET/CPET 486 <i>Robotics and Control Electronics with Microcomputers</i>	
ECET 492 <i>Digital Systems I</i>	
CPET 281 <i>Local Area Networks and Management</i>	
CPET 364 <i>Networking Security</i>	
CPET 384 <i>Wide Area Network Design</i>	
CPET 493 <i>Wireless Networking</i>	
CPET 494 <i>Java Programming Applications</i>	
CPET 495 <i>Web Engineering and Design</i>	
Non-ECET technical elective courses	6
CS, MET, or IET courses preferred (3 credits may be from co-op or military service)	
Required math courses	13
MA 154 <i>Algebra and Trigonometry II</i>	3
MA 227 <i>Calculus for Technology I</i>	4
MA 228 <i>Calculus for Technology II</i>	3
MA 321 <i>Advanced Technical Mathematics</i>	3
Approved math/science elective courses	3
selected from the following:	
MA 175 <i>Introductory Discrete Mathematics</i>	3
MA 351 <i>Elementary Linear Algebra</i>	3
STAT 301 <i>Elementary Statistical Methods I</i>	3
Required English Technical Writing Course	
ENG W234 <i>Technical Report Writing</i>	3
Total	127-128

*ENG W131 Grade C or above required.

ECET 490 and ECET 491 also counted as ECET core courses.

Minor in Computer Science (B.S. EET)	20
(Only computer science courses in which you have earned a grade C or better can be applied to the degree or used to satisfy prerequisites)	
CS 160 <i>Introduction to Computer Science I</i>	4
CS 161 <i>Introduction to Computer Science II</i>	4
CS 260 <i>Data Structures</i>	3
MA 175 <i>Introductory Discrete Mathematics</i>	3
Approved computer science credits at the 200 level or above	6
Minor in Mathematics	20
CS 160 <i>Introduction to Computer Science I</i>	4
MA 227 <i>Calculus for Technology I</i>	4
MA 228 <i>Calculus for Technology II</i>	3
MA 175 <i>Introductory Discrete Mathematics</i>	3
One of the following:	3
MA 321 <i>Advanced Technical Mathematics</i>	
MA 351 <i>Elementary Linear Algebra</i>	
One of the following:	3
STAT 301 <i>Elementary Statistical Methods I</i>	
STAT 511 <i>Statistical Methods</i>	
Total	132

Electronic Communications

Program: Certificate

**Department of Electrical and Computer
Engineering Technology**

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

This certificate program provides theory and experiments for electronic communications topics ranging from low-frequency applications to fiber optics. It includes courses in analog communications (AM and FM), digital communications (satellite communications and digital TV), microwaves (high-frequency communications), and fiber optics. Computer programs such as SPICE, ACOLADE (digital communications), SYSCAD (analog communications), TOUCHSTONE (RF and microwave systems), and Microwave Office are incorporated into the curriculum.

Upon satisfactory completion of this certificate program, you will be familiar with all aspects of electronic communication and will have a technical background for work in any of the areas.

The ECET department also offers the Bachelor of Science and Associate of Science with a major in electrical engineering technology, and Bachelor of Science with a major in computer engineering technology. In addition to the degrees, the department offers a minor in electronics and certificate programs in advanced microprocessors, computer-controlled systems, power electronics systems, and computer networking.

To earn the certificate in electronic communications, you must satisfy the requirements of IPFW (see Part 7), fulfill all course prerequisites, and satisfactorily complete the following courses. This certificate is not available to any student with a major in EET (A.S. and/or B.S.).

Course Number and Title	Credits
ECET 303 <i>Communications I</i>	4
ECET 377 <i>Introduction to Fiber Optics</i>	4
ECET 403 <i>Communications II</i>	4
ECET 473 <i>Microwaves</i>	4
Total	16

Electronics

Program: Minor

**Department of Electrical and Computer
Engineering Technology**

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

The minor in electronics provides a fundamental technical background in analog and digital electronics to enable you to understand, analyze, and troubleshoot basic circuits. It also enables you to specialize and gain an in-depth knowledge of a particular area of electronics.

The ECET department also offers the Associate of Science and Bachelor of Science with a major in electrical engineering technology and a B.S. with a major in computer engineering

technology. In addition, the department offers certificate programs in advanced microprocessors, computer-controlled systems, computer networking, electronic communications, and power electronics systems.

To earn a minor in electronics, you must complete the following courses and, unless you have already completed them, the 6 credits of mathematics prerequisites:

Course Number and Title	Credits
Fundamental Courses (12 credits)	
ECET 107 <i>Introduction to Circuit Analysis</i>	4
ECET 111 <i>Digital Circuits</i>	4
ECET 157 <i>Electronics Circuit Analysis</i>	4
Advanced Courses (8 credits in one of the three options)	
<i>Controls</i>	
ECET 302 <i>Introduction to Control Systems</i>	4
ECET 361 <i>Introduction to PLC and Pneumatic Systems</i>	4
<i>Microprocessors</i>	
ECET 205 <i>Introduction to Microprocessors</i>	4
ECET 305 <i>Advanced Microprocessors</i>	4
<i>Communications</i>	
ECET 303 <i>Communications I</i>	4
ECET 355 <i>Data Communications and Networking</i>	4
Total	20

Elementary Education

Program: B.S.Ed.

**Department of Educational Studies
School of Education**

Neff Hall 250 ▼ 260-481-6441

The B.S.Ed. in elementary education is intended to prepare students for successful careers as teachers of children in preschool, elementary-primary, and elementary-intermediate classroom settings. The elementary education degree is divided into two concentrations: early childhood, for preschool and elementary-primary school settings, and middle childhood, for elementary-intermediate school settings. Preservice teachers must choose one or both concentrations to complete the degree. Upon satisfactory completion of the program, you are eligible to apply for an Indiana teaching license.

To earn the B.S.Ed. in elementary education, you must satisfy the requirements of IPFW (see part 7) and the School of Education.

EARLY CHILDHOOD CONCENTRATION

Course Number and Title	Credits
School Settings: Preschool and Elementary-Primary	
General Education credits	63
School of Education credits	52
Elective credits	9
Total credits	124

IPFW General Education Requirements	63
Area I—Linguistic and Numerical Foundations	18
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Expository Writing</i>	3

MA 101	Math for Elementary Teachers I	3
MA 102	Math for Elementary Teachers II	3
MA 103	Math for Elementary Teachers III	3
Area II—Natural and Physical Sciences		12
<i>See Part 2 General Education Requirements for approved courses</i>		
Biology		3
Chemistry or Physics		3
Geology or Astronomy		3
EDUC Q200	Basic Science Skills	3
Area III—The Individual, Culture, and Society		15
<i>See Part 2 General Education Requirements for approved courses</i>		
American History		3
Economics or Political Science		3
Sociology or Psychology 120		3
One of the following:		3
HIST H232	World in the 20th Century	
FWAS H201	Humanities I: The Ancient World	3
or		
FWAS H202	Humanities II: Foundations of Modern Western World	
Area IV—Humanistic Thought		9
<i>See Part 2 General Education Requirements for approved courses</i>		
ENG L101 or ENG L102	Western World Masterpieces	3
ENG L390	Children's Literature	3
Philosophy		3
Area V—Creative and Artistic Expression		9
FINA T255	Crafts and Design	3
MUS Z241	Introduction to Music Fundamentals	2
EDUC M323	Teaching of Music in the Elementary Schools	2
EDUC M333	Art Experiences for the Elementary Teacher	2
Area VI—Inquiry and Analysis		3
<i>See Part 2 General Education Requirements for approved courses</i>		
School of Education Requirements		
<i>Initial Requirements:</i>		
EDUA F300	Invitation to Teaching	2
EDUC W200/M101	Microcomputers for Education and Lab/Field Exp.	1/0
	<i>(a grade of B or better is required)</i>	
AUS 115	Intro to Communicative Disorders	3
EDUC K201	Schools, Society and Exceptionality	1
PPST (Pre-Professional Skills Test)		
<i>Block 1: Teacher Education</i>		
EDUC K206	Teaching Methods for Students with Special Needs	3
EDUC H340	Education and American Culture	3
EDUC P249/M201	Growth and Development in Early Childhood and Lab/Field Experience	3/0
<i>Block 2: Professional Education</i>		
T.E.A.M. I		
EDUC P250	Gen Educational Psychology	3
EDUC P251	Ed Psych for Elementary Teachers	3
EDUC E340	Methods for Teaching Reading I	3
EDUC E339	Methods for Teaching Lang Arts	3
EDUC M201	Lab/Field Experience	0

<i>Block 3: Professional Education</i>		
EDUC E337/M101	Classroom Learning Environment and Lab/Field Experience	3/0
EDUC E325	Soc Studies in Elementary School	3
EDUC E333	Inquiry in Math/Science	3
EDUC E336	Play as Development	3
<i>Student Teaching</i>		
EDUC M425	Student Teaching	12
EDUC M501	Portfolio	0
EDUC M470	Practicum (optional)	4
	<i>(for an additional endorsement area)</i>	
<i>Electives</i>		9
Total		124

MIDDLE CHILDHOOD CONCENTRATION

Course Number and Title	Credits
School Settings: Elementary-Intermediate	
General Education Credits	63
School of Education credits	52
Elective credits	9
Total credits	124
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114	Fundamentals of Speech Communication
	<i>(grade of B or better required)</i>
ENG W131	Elementary Composition I
	<i>(grade of B or better required)</i>
ENG W233	Expository Writing
MA 101	Math for Elementary Teachers I
MA 102	Math for Elementary Teachers II
MA 103	Math for Elementary Teachers III
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Biology	3
Chemistry or Physics	3
Geology or Astronomy	3
EDUC Q200	Basic Science Skills
	3
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
American History	3
Economics or Political Science	3
Sociology or Psychology 120	3
One of the following:	3
HIST H232	World in the 20th Century
FWAS H201	Humanities I: The Ancient World
or	
FWAS H202	Humanities II: Foundations of Modern Western World
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
ENG L 101 or ENG L102	Western World Masterpieces
	3
ENG L390	Children's Literature
	3
Area V—Creative and Artistic Expression	
FINA T255	Crafts and Design
	3
MUS Z241	Intro to Music Fundamentals
	2

EDUC M323	<i>Teaching of Music in the Elementary Schools</i>	2
EDUC M333	<i>Art Experiences for the Elementary Teacher</i>	2
Area VI—Inquiry and Analysis		3
<i>See Part 2 General Education Requirements for approved courses</i>		
School of Education Requirements		
Initial Requirements:		
EDUA F300	<i>Invitation to Teaching</i>	2
EDUC W200/M101	<i>Microcomputers for Education and Lab/Field Experience (a grade of B or better is required)</i>	1/0
AUS 115	<i>Intro to Communicative Disorders</i>	3
EDUC K201	<i>Schools, Society and Exceptionality</i>	1
PPST (Pre-Professional Skills Test)		
Block 1: Teacher Education		
EDUC K206	<i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340	<i>Education and American Culture</i>	3
EDUC P249/M201	<i>Growth and Development in Early Childhood and Lab/Field Experience</i>	3/0
Block 2: Professional Education		
T.E.A.M. I		
EDUC P250	<i>Gen Educational Psychology</i>	3
EDUC P251	<i>Ed Psych for Elementary Teachers</i>	3
EDUC E340	<i>Meth for Teaching Reading I</i>	3
EDUC E339	<i>Meth for Teaching Lang Arts</i>	3
EDUC M201	<i>Lab/Field Experience</i>	0
Block 3: Professional Education		
T.E.A.M. II		
EDUC E328	<i>Science in Elementary Schools</i>	3
EDUC E325	<i>Soc Studies in Elementary Schools</i>	3
EDUC N343	<i>Math in the Elementary Schools</i>	3
EDUC M201	<i>Lab/Field Experience</i>	0
EDUC E341	<i>Methods of Teaching Reading II</i>	3
Student Teaching		
EDUC M425	<i>Student Teaching</i>	12
EDUC M501	<i>Portfolio</i>	0
EDUC M470	<i>Practicum (optional) (for an additional endorsement area)</i>	4
Electives		9
Total		124

MILD INTERVENTION MINOR

In addition to the major in elementary education, students may earn a minor in mild intervention. (This minor qualifies a teacher to teach students with mild and emotional disabilities in all school settings.)

Course Number and Title	Credits
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC K350/M201 <i>Intro to Mental Retardation/Field Experience</i>	3/0
EDUC K352 <i>Education of Children with Learning Problems</i>	3
EDUC K360 <i>Behavior Characteristics of the Mentally Retarded</i>	3

EDUC K370/M301	<i>Introduction to Learning Disabilities/Field Experience</i>	3/0
EDUC K371	<i>Assessment and Individual Instruction in Reading and Math</i>	3
EDUC K400	<i>Computers for Students with Disabilities</i>	3
EDUC K410	<i>Trends and Issues in Special Education</i>	3
EDUC K453	<i>Management of Academic and Social Behavior</i>	3
EDUC K465	<i>Service Delivery Systems and Consultation Strategies</i>	3
EDUC M470	<i>Practicum in Mild Intervention (Final Course)</i>	6
Total		37

COMPUTER EDUCATION ENDORSEMENT

In addition to the major in elementary education, students may earn a computer education endorsement. This endorsement will have the same school setting coverage as the coverages listed on the license for the elementary education degree.

Course Number and Title	Credits
MA 153 <i>Algebra and Trigonometry I</i>	3
One of the following:	3
CS 106 <i>Introduction to Computers</i>	
EDUC W210 <i>Introduction to Computer Based Education</i>	
CS 114 <i>Introduction to Visual Basic</i>	3
CS 160 <i>Introduction to Computer Science I</i>	4
CS 161 <i>Introduction to Computer Science II</i>	4
CS 260 <i>Data Structures</i>	3
EDUC W310 <i>Computer-Based Teaching Methods</i>	3
EDUC W410 <i>Practicum in Computer Education</i>	3
Total	26

MIDDLE SCHOOL/JUNIOR HIGH ENDORSEMENT

In addition to the major in elementary education students may earn a middle school/junior high endorsement in language arts, mathematics, science, and/or social studies. This endorsement will have the same school setting coverage as the coverages listed on the license for the elementary degree plus middle school/junior high. Each endorsement requires 24 credits of content courses and a 4-credit middle school practicum. If completing more than one endorsement, you only need one practicum for all endorsements.

Course Number and Title	Credits
Language Arts (24 credits)	
One of the following:	3
ENG L102 <i>Western World Masterpieces II: Renaissance to Modern or multicultural literature</i>	
ENG L202 <i>Literary Interpretation</i>	
One of the following:	3
ENG L102 <i>Western World Masterpieces II: Renaissance to Modern</i>	
ENG W233 <i>Intermediate Expository Writing</i>	
One of the following:	3
ENG G205 <i>Introduction to the English Language</i>	

LING L103	<i>Introduction to the Study of Language</i>	
ENG G206	<i>Introduction to the Study of Grammar</i>	
One of the following:		3
JOUR C200	<i>Mass Communication</i>	
COM 250	<i>Mass Communication and Society</i>	
One of the following:		3
ENG L390	<i>Children's Literature</i>	
ENG L391	<i>Literature for Young Adults</i>	
One of the following:		3
EDUC X401	<i>Critical Reading in the Content Area</i>	
EDUC E340	<i>Methods of Teaching Reading I</i>	
British literature elective (300 level or higher)		3
American literature elective (300 level or higher)		3
Mathematics (24 credits)		
MA 153	<i>Algebra and Trigonometry I</i> (or waiver)	3
One of the following:		3
MA 103	<i>Mathematics for Elementary Teachers III</i>	
MA 560	<i>Fundamental Concepts of Geometry</i>	
One of the following:		3-4
MA 227	<i>Calculus for Technology</i>	
MA 229	<i>Calculus for the Managerial, Social, and Biological Sciences</i>	
MA 165	<i>Analytic Geometry and Calculus I</i>	
STAT 125	<i>Communicating with Statistics</i> (or higher)	3
Computer science elective		3
Mathematics electives		8-9
Science (24 credits)		
BIOL 100 and BIOL 100L	<i>Introduction to the Biological World and Lab</i>	4
CHM 111	<i>General Chemistry</i>	3
GEOL G100	<i>General Geology</i>	3
One of the following:		3
BIOL 349	<i>Environmental Science</i>	
GEOL G300	<i>Environmental and Urban Geology</i>	
GEOG G315	<i>Environmental Conservation</i>	
One of the following:		3
PHYS 131	<i>Concepts in Physics I</i>	
PHYS 152	<i>Mechanics</i>	
One of the following:		3
EDUC Q200	<i>Basic Science Skills</i>	
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	
AST A100	<i>The Solar System</i>	3
Science electives		2
Social Studies (24 credits)		
One of the following:		3
ECON E200	<i>Fundamentals of Economics</i>	
ECON E201	<i>Introduction to Microeconomics</i>	
PSY 120	<i>Elementary Psychology</i>	3
One of the following:		3
HIST H232	<i>The World in the 20th Century</i>	
FWAS H201	<i>Humanities I: The Ancient World</i>	
FWAS H202	<i>Humanities II: Foundations of the Modern Western World</i>	

American history	3
Sociology	3
Political science	3
Social studies electives	6

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN ELEMENTARY EDUCATION

In addition to the academic regulations of IPFW (see Part 7), the following rules apply to elementary education students.

GPA Requirements Students with a cumulative GPA of 2.50 or higher are automatically admitted to the school. Students with a GPA of 2.00–2.49 who wish to transfer into the school or change their major may be admitted as education premajors. These students will not be eligible for admission to teacher education until they achieve a cumulative GPA of 2.50 or higher.

Developmental Courses No credit toward graduation is awarded for ENG R150, R151, or W130; or MA 109 or 113.

Pass/Not-Pass Option Permission to elect this option must be requested on a form available from the School of Education. Permission will be granted only if the course will not be used to fulfill any degree requirements other than total credits for the degree.

Correspondence Courses The school approves limited numbers of credits earned by correspondence study. You may not use more than 18 credits of correspondence courses toward the degree.

Grades In order to be admitted into Block I, you must earn a B or better in the following courses: ENG W131, COM 114, and EDUC W200. You must earn a C or better in the following courses: EDUC K201 and a quantitative reasoning (math) course, and you must pass EDUA F300.

For the bachelor's degree, you must complete each course in the professional education block with a grade of C or better, with an overall GPA in the block of 2.50 or higher. Elementary education students must complete each general education area with a GPA of 2.00 or higher. Grades earned in each teaching minor and/or concentration must average 2.50 or higher. You must have earned a cumulative GPA of 2.50 or higher to be eligible to receive a B.S.Ed.

Academic Fresh Start The school has an academic fresh start option to assist students who are returning to college after an absence of five or more years. The policy permits students' recent college performance to determine the GPA required for admission into teacher education.

You must apply for this option after the completion of 12 credits following the admission/readmission to IPFW. For further information, consult with your academic advisor or visit the School of Education Licensing and Advising Center, Neff 243.

Upper-Division Courses You must complete at least 35 credits at the 300–400 level.

Deadlines Before you student teach, you must satisfactorily complete a speech and hearing examination prescribed by the School of Education. During the senior year, you must file an application for your degree.

Resident Study You must complete your final 32 credits at IPFW, with at least 12 of these credits in professional education courses.

Teacher Licensure To be eligible for initial teacher licensure, you must complete the elementary education requirements for a bachelor's degree, pass the Praxis I and Praxis II exams, complete a criminal history report, and apply for the license.

Early Field Experience Program If you are pursuing a B.S. in elementary education, you are required to participate in the prescribed field-experience program. Field-experience courses are numbered M101, M201, M301, and M401 and must be taken as shown in the degree-requirements listings.

This distinctive program provides an organized series of courses designed to integrate all professional education courses with field experiences. The program allows you repeated opportunities to participate with teachers/pupils in classrooms. In the early part of your field-experience program, you are introduced to teaching, educational concerns, goal setting, and professionalism.

Student Teaching All students expecting to student teach should schedule an appointment and file a completed application in the office of Student Teaching, Neff 243, one year before you plan to student teach. Appointments are available between October to December for students who plan to student teach in the fall semester or January to March for students who plan to student teach in the spring semester. Please do not submit an application unless you actually intend to complete your student teaching during the coming school year. Exact dates are available by contacting the office of Student Teaching (Neff 243, 260-481-6449).

Portfolio All students seeking initial teacher certification must complete and submit a portfolio for assessment. The portfolio is based upon the Interstate New Teachers Assessment and Support Consortium (INTASC) Standards and is used to assess a teacher candidate's knowledge and mastery of the standards. Portfolio checkpoints are seen throughout the program of study with a final assessment taken during the student teaching semester.

Engineering

See *Computer Engineering, Electrical Engineering, Mechanical Engineering*

English

Programs: A.A., B.A., and Minor

Department of English and Linguistics

*Classroom-Medical Building 145 ▼ 260-481-6841 ▼
www.ipfw.edu/engl*

The Department of English and Linguistics offers courses in all periods of British and American literature; in special topics, such as children's literature; and in writing, film study, linguistics, folklore, and mythology. Degree programs in English and minors in creative writing, English, folklore, linguistics, and professional writing are designed for students who desire a humanistic education. The program in English offers excellent preparation for many different careers. Literary study provides a basis for understanding various

forms of cultural expression; writing skills are a powerful tool in an age dominated by information technologies; linguistics teaches the structure and function of language; folklore introduces the student to voices otherwise neglected by the dominant culture. The Bachelor of Arts with a major in English is appropriate for someone who wishes to enter a graduate or professional school. Degree options also prepare students for careers in teaching, writing, and business communications.

An Associate of Arts with a concentration in English, offered by the School of Arts and Sciences, is described in Part 3 of this *Bulletin*.

B.A. WITH A MAJOR IN ENGLISH

To earn the B.A. with a major in English, you must fulfill the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and those listed below.

As you complete your degree, you will be required to submit clean copies of two papers to the department. The first paper must be from a course taken during the first 15 credits you count toward the major, and the second from a course taken thereafter and counted toward the major. Both papers should be from courses taught in the department, be appropriate to your concentration, and represent your best work. At least one should be based on research and include documentation. Please turn the paper in before the end of the appropriate semester and include a copy of the assignment, if it is available.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
Credits not in your major discipline	3
Area VI—Inquiry and Analysis	
<i>See Part 2 General Education Requirements for approved courses</i>	
Credits not in your major discipline	3
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG L202 <i>Literary Interpretation (credits included in English Core, below)</i>	0
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in major discipline)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6

Core and Concentration (Major) Courses		
ENG L202	<i>Literary Interpretation</i>	3
Credits in Writing (ENG W203 or a W-prefixed course above the 200-level)		3
Credits in American literature		3
Credits in British literature before 1700		3
Credits in British literature after 1700		3
Credits in language study (linguistics, history of the English language, or Old or Middle English literature)		3
Credits in one of the concentrations listed below		15-53
General Elective Courses		
Sufficient elective credits, selected in consultation with your advisor		0-32
Total		124

ENGLISH AND COMMUNICATION MEDIA CONCENTRATION (15 CREDITS)

Course Number and Title	Credits
JOUR J200 <i>Writing for Mass Media</i>	3
One of the following:	3
COM 250 <i>Mass Communication and Society</i>	
JOUR C200 <i>Mass Communications</i>	
JOUR J110 <i>Foundations of Journalism and Mass Communication</i>	
Credits in two 300- or 400-level writing courses (ENG W331, W350, W365, W398, W420, W462; JOUR J310)	6
Credits in classics, comparative literature, English, film, or folklore	3
In addition, you must complete a minor in one of the following outside fields: business studies, communication studies, journalism, modern foreign languages, professional writing, or fine arts. No more than 6 credits applied to the minor will apply to the major.	

ENGLISH LANGUAGE CONCENTRATION (15 CREDITS)

Course Number and Title	Credits
One of the following:	3
LING L103 <i>Introduction to the Study of Language</i>	
LING L303 <i>Introduction to Linguistic Analysis</i>	
One of the following:	3
ENG G301 <i>History of the English Language</i>	
ENG L304 <i>Old English Language and Literature</i>	
One of the following:	3
COM 521 <i>Theories of Rhetoric</i>	
ENG W310 <i>Language and the Study of Writing</i>	
ENG W462 <i>Studies in Rhetoric and Composition</i>	
LING L360 <i>Language in Society</i>	
Credits in two additional courses in linguistics (including AUS 306), the English language, anthropological linguistics (including ANTH L200 and L400), or psycholinguistics (including AUS 181, 182, 309; PSY 426, 526)	6

The department recommends the study of a second foreign language with a foreign-language minor.

ENGLISH LITERATURE CONCENTRATION (15 CREDITS)

Course Number and Title	Credits
Credits in one additional course in American literature	3
Credits in one additional course in British literature before 1700	3
Credits in one additional course in British literature after 1700	3
Credits in two additional courses in classics, comparative literature, English, film, or folklore	6
If you plan to work toward advanced degrees (M.A., Ph.D.) in English, the department recommends additional period or major-author courses and study of a second foreign language. If you are a prelaw student, the department recommends upper-level writing courses.	

TEACHER CERTIFICATION CONCENTRATION (21 CREDITS PLUS 32 PROFESSIONAL EDUCATION CREDITS)

To be eligible for teacher certification, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

Course Number and Title	Credits
ENG W400 <i>Issues in Teaching Writing</i>	3
ENG L391 <i>Literature for Young Adults</i>	3
Credits in one additional course in language study	3
Credits in one course in ethnic, minority, or non-Western literature	3
Credits in one course in Western literature other than British or American	3
Credits in one course in mass communication, including journalism and film	3
Credits in one additional course, 300 level or higher, in writing, literature, language study, or mass communication	3

School of Education Requirements

Course Number and Title	Credits
Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.	
<i>GROUP I</i>	
EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1
<i>GROUP II</i>	
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3

EDUC P250/M201 <i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301 <i>Educational Psychology Secondary Teachers and Lab/Field Experience</i>	3
EDUC X401 <i>Critical Reading in the Content Area</i>	3
EDUC M447 <i>Methods of Teaching High School English</i>	3
EDUC M480 <i>Student Teaching in the Secondary School</i>	10
Middle School Certification (recommended)	
EDUC M470 <i>Practicum</i>	4

LANGUAGE ARTS TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a language arts teaching minor by completing the following 24 credits with a grade of C or better in each course.

Course Number and Title	Credits
One of the following:	3
COM 250 <i>Mass Communication and Society</i>	
JOUR C200 <i>Mass Communications</i>	
One of the following:	3
EDUC E340 <i>Methods of Teaching Reading I</i>	
EDUC X401 <i>Critical Reading in the Content Area</i>	
ENG W400 <i>Issues in Teaching Writing</i>	
One of the following:	3
ENG L101 <i>Western World Masterpieces I: Ancient to Renaissance</i>	
ENG L102 <i>Western World Masterpieces II: Renaissance to Modern</i>	
One course in multicultural literature	
One of the following:	3
ENG L202 <i>Literary Interpretation</i>	
ENG W233 <i>Intermediate Expository Writing</i>	
One of the following:	3
ENG G205 <i>Introduction to the English Language</i>	
ENG G206 <i>Introduction to the Study of Grammar</i>	
LING L103 <i>Introduction to the Study of Language</i>	
One of the following:	3
ENG L390 <i>Children's Literature</i>	
ENG L391 <i>Literature for Young Adults</i>	
One elective 300-level course in British literature	3
One elective 300-level course in American literature	3
Total	24

WRITING CONCENTRATION (15 CREDITS)

Course Number and Title	Credits
Credits in three W-prefixed courses in writing (ENG W203 or courses above the 200 level)	9
Credits in one course in writing above the 300 level	3
Credits in one additional course in classics, comparative literature, English, film, or folklore	3

If you are interested in writing professionally, the department recommends a minor in business studies or journalism.

MINOR IN ENGLISH

This program is available to all IPFW students who are not pursuing a major in English. You may earn a minor in English by completing the following 15 credits, including at least 8 credits earned as resident credit at IPFW, with a grade of C or better in each course:

Course Number and Title	Credits
Credits in American literature	3
Credits in British literature before 1700	3
Credits in British literature after 1700	3
Additional credits in ENG and LING courses, W100–W299 excepted	6
Total	15

English and Linguistics

See *Creative Writing, English, Folklore, Linguistics, Professional Writing, Teaching English as a New Language (TENL)*

Ethnic and Cultural Studies

Program: Certificate
School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6746

This certificate is available to all IPFW students interested in understanding the institutions, histories, and cultures of American ethnic groups.

To earn the certificate, you must (1) complete all requirements for a bachelor's degree, and (2) complete, with the approval of the program's advisory committee, 18 additional credits from the following list with a grade of C or higher in each course. No more than one independent-reading or internship course may be taken from the same department.

Course Number and Title	Credits
Credits in six of the following courses:	18
ANTH E320 <i>Indians of North America</i>	
ECON E360 <i>Public Finance: Survey</i>	
EDUC E400 <i>Education in the Inner City</i>	
EDUC E403 <i>Education in the Inner City Practicum</i>	
FOLK F220 <i>Introduction to American Folklore</i>	
HIST A349 <i>Afro-American History</i>	
HIST T425 <i>Topics in History (when topic is appropriate)</i>	
MUS M395 <i>Contemporary Jazz and Soul Music</i>	
PHIL 493 <i>Interdisciplinary Undergraduate Seminar (when topic is black philosophy)</i>	
POLS Y398 <i>Internship in Urban Institutions</i>	
SOC S300 <i>Race and Ethnic Relations</i>	
SOC S494 <i>Field Experience in Sociology</i>	
FINA H415 <i>Art of Pre-Columbian America</i>	
Total	18

Film and Media Studies

Program: Minor

Department of Communication

School of Arts and Sciences

Neff Hall 230 ▼ 260-481-6825 ▼ www.ipfw.edu/comm/

The minor in film and media studies provides a coherent introduction to the basics of film/media literacy. The program is designed to develop a critical understanding of the historical, theoretical, aesthetic, cultural and institutional contexts of film, television, and other electronic and digital mass media.

Film/media aesthetics:	3
One of the following:	
FILM K101 <i>Introduction to Film Studies</i>	
COM 251 <i>Introduction to Electronic Mass Media</i>	
Film/media history:	3
One of the following:	
FILM K201 <i>Survey of Film History</i>	
COM 250 <i>Mass Communication and Society</i>	
Upper-level requirements:	6
Two of the following:	
FILM K302 <i>Genre Study in Film</i>	
FILM K390 <i>The Film and Society</i>	
COM 338 <i>Documentary and Experimental Film and Video</i>	
Free elective:	3
One of the following:	
COM 422 <i>Women, Men, and Media</i>	
COM 436 <i>Script Writing</i>	
COM 491 <i>Special Topics in Communication</i> (with appropriate topic)	
FREN F460 <i>French Fiction in Film</i>	
POLS Y200 <i>Politics and Film</i>	
Total	15

Additional courses may be approved and will be announced in the program brochure and in the *Schedule of Classes* each semester. At least 8 credits must be completed as resident credit at IPFW.

Fine Arts (Fine Arts Program)

Programs: B.A., B.F.A., and Minor

Department of Visual Arts/Fine Arts Program

School of Visual and Performing Arts

Visual Arts Building 117 ▼ 260-481-6705 ▼ www.ipfw.edu/vpa/

The mission of the Department of Visual Arts, Fine Arts Program, is to educate students and the community in fine art. Degrees offered by the visual arts department are a Bachelor of Arts, a Bachelor of Fine Arts, a Bachelor of Arts in art education, and a fine arts minor. A minor in art history is described elsewhere in this part of the *Bulletin*.

B.A. WITH A MAJOR IN FINE ARTS

This program is based on the humanist tradition of developing an artistic awareness through visual expression. It is designed to enable students to see, formulate, and articulate concepts through the manipulation of form and materials. This art-making practice is through several studio art disciplines offered at IPFW. They are

crafts (ceramics, metalsmithing), drawing, painting, printmaking, or sculpture. The IPFW B.A. program is a broad-based liberal arts degree with wide-ranging interest in and outside of the fine arts. Students can choose to concentrate in a specific art discipline, or may explore a wide range of artistic disciplines.

Components	Credits
I. General Education	33
II. Content Field	57-69
III. General Liberal Arts	21-33
Total	123

Admission to B.A. Program with a Major in Fine Arts To earn the B.A., you must fulfill the requirements of IPFW (see Part 7) and the School of Visual and Performing Arts (see Part 3). *Students within the fine arts B.A. must maintain a minimum 2.0 GPA within the Content Field (see below).*

Course Number and Title	Credits
IPFW General Education Requirements	33
Area I Linguistic and Numerical Foundations	9
<i>See Part 2 General Education Requirements for approved courses</i>	
ENG W131 <i>Elementary Composition</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i> (<i>Fine arts majors may not use any FINA-prefixed courses to fulfill this requirement</i>)	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i> (<i>Fine-arts majors may not use any FINA-prefixed courses to fulfill this requirement</i>)	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Visual and Performing Arts Requirements	

II. Content Field:

Students must complete a minimum of 48 credit hours in studio art and at least 9 credit hours in FINA art history classes including the following:

Credits in FINA studio courses	12
FINA P121 <i>Drawing Fundamentals I</i>	
FINA P122 <i>Drawing Fundamentals II</i>	
FINA P151 <i>Design Fundamentals I</i>	
FINA P152 <i>Design Fundamentals II</i>	
At least one course from both 2D and 3D disciplines must be taken. Choose from the following:	9
FINA P223 <i>Figure Drawing (2D)</i>	
FINA P225 <i>Painting Fundamentals (3D)</i>	
FINA P231 <i>Sculpture Fundamentals (3D)</i>	
FINA P233 <i>Metalsmithing Fundamentals (3D)</i>	
FINA P235 <i>Ceramics Fundamentals (3D)</i>	
FINA P241 <i>Printmaking Fundamentals (2D)</i>	
VCD P273 <i>Computer Art/Design</i>	3

200/300/400 Studio Electives **24–36**
 Select at least eight additional, but no more than twelve, studio art classes (24–36 credits) at the 200/300/400 level. At least three classes (15 credits) in studio courses must be at the 300 level or above. Of these, up to four classes can be in VCD unless permission from your advisor is given to include more. All classes should be selected in consultation with your advisor and approved by the chair of fine arts.

Art History 9

FINA H111* *Ancient through Medieval Art*
FINA H112* *Renaissance Through Contemporary Art*
 Art History Elective, 300 or 400 Level (FINA classes)
 *Class must be taken within the first four semesters of the B.A. program

Additional Courses 21–33

III. General Liberal Arts 21–33

A minimum of seven additional, but no more than eleven, liberal arts courses (21–33 credits) are needed to fulfill the B.A. requirements. An option of pursuing a minor in an outside field is encouraged within these credits.

Residence Requirements: For a bachelor's degree, registration in and completion of at least 32 credits of resident course credit at the 200 level or above, including at least 15 credits at the 300 level or above, in courses applicable to the major

Transferred Credit: All studio art and art history courses transferred from another institution or campus must be evaluated by an appropriate faculty member in the Fine Arts Program before they may be applied to a major in fine arts. See Transfer Credit.

Limit on Fine Arts Credit Hours: A maximum of 60 credit hours of studio art fine art courses and a minimum of 48 credit hours of studio art fine art courses will count toward the 123 required for the B.A.

Total 123

BACHELOR OF FINE ARTS (B.F.A.)

The Bachelor of Fine Arts program is designed for exceptional students who are interested in pursuing a professional career in the field of fine arts. They must have demonstrated superior ability and motivation in a particular studio art discipline. Students within the B.F.A. program can concentrate in crafts (ceramics, metalsmithing), drawing, painting, printmaking, or sculpture. This intensive studio experience will amount to an extra year beyond the B.A. program for most B.F.A. majors. All students in the fine arts program start as B.F.A. candidates and then petition for formal entrance into the B.F.A. program after the completion of 200-level requirements. Each student is subject to a portfolio review, judgment of grades, and a personal interview with faculty for admission into the B.F.A. program. Students may not enroll in any FINA courses 300 or higher unless above requirements are met. All B.F.A. students must maintain a 3.0 GPA within the content field (see below)

Admission Students must meet the requirements of IPFW (see Part 7)

Components:	Credits
I. General Education	33
II. Content Field	90
Total	123

Course Number and Title	Credits
IPFW General Education Requirements	33
Area I—Linguistic and Numerical Foundations	9
<i>See Part 2 General Education Requirements for approved courses</i>	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition</i>	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i> (<i>Fine arts majors may not use any FINA-prefixed courses to fulfill this requirement.</i>)	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i> (<i>Fine arts majors may not use any FINA-prefixed courses to fulfill this requirement.</i>)	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Visual and Performing Arts Requirements	
II. Content Field:	90
Students must complete a minimum of 75 credit hours in studio and 15 credit hours in FINA art history classes for the B.F.A.	
100 Level Foundation Courses	12
FINA P121-P122 <i>Drawing Fundamentals I-II</i>	6
FINA P151-P152 <i>Design Fundamentals I-II</i>	6
Art History	15
FINA H111-H112 (<i>must be taken within the first four semesters of the program</i>)	6
Three additional FINA 300 level or above art history classes	9
200-level classes	24
FINA P223 <i>Figure Drawing</i>	3
FINA P225 <i>Painting Fundamentals</i>	3
FINA P231 <i>Sculpture Fundamentals</i>	3
FINA P233 <i>Metalsmithing Fundamentals</i>	3
FINA P235 <i>Ceramics Fundamentals</i>	3
FINA P241 <i>Printmaking Fundamentals</i>	3
VCD P273 <i>Computer Art/Design</i>	3
Choose one additional class from below:	3
FINA P224 <i>Advanced Drawing I</i>	
FINA P226 <i>Advanced Painting I</i>	
300/400-level studio concentration	21
400-level classes can be repeated to fulfill requirement	
200/300/400 Electives	12
Classes can be in either FINA or VCD	
Senior Project	6
Total	123

Recommendations Students should schedule classes within the B.F.A. program under the guidance of a visual arts advisor.

Residence Requirements For a bachelor's degree, registration in and completion of at least 33 credits of resident course credit at the 200 level or above, including at least 15 credits at the 300 level or above, in courses applicable to the major.

Transferred Credit All studio art and art history courses transferred from another institution or campus must be evaluated by an appropriate faculty member in the Fine Arts Program before they may be applied to a major in fine arts. See Transfer Credit Review.

Transfer Credit Review Courses in studio art that have been transferred to IPFW from another institution or campus are not counted as part of the fine arts major unless they have been reviewed by the fine arts faculty. For a review of transferred studio credit, the student should provide the reviewer with a portfolio consisting of representative work in each area (e.g., painting, sculpture, etc.) for which transfer credit is desired. The portfolio should include both studies and finished work and be as complete as possible.

MINOR IN FINE ARTS

A minor in fine arts is designed for IPFW students outside the fine arts program. IPFW students can earn a minor in studio art by completing the following credits while maintaining a 2.0 GPA within the fine arts classes:

Course Number and Title	Credits
Required Classes	6
FINA P121 <i>Drawing Fundamentals I</i>	
FINA P151 <i>Design Fundamentals</i>	
Additional fine arts credits	9
Select three additional classes within the fine arts program. At least two classes must be at the 200 level or above. Two FINA art history classes can be used as part of the additional classes.	
Total	15

Resident Requirements Completion of at least 6 resident credits at the 200 level or above is required for the minor.

SPECIAL ACADEMIC REGULATIONS

Enrollment Policy To ensure that degree-seeking students are guaranteed priority registration in their classes, the following policies will be observed:

1. Students who are not progressing toward completion of degree requirements, including students who have graduated but wish to continue a program of study, will be reclassified as non-degree-seeking. These students' registrations will not be processed until the final week before the beginning of each semester. This policy will allow these students an opportunity to avail themselves of classroom opportunities when space is available.
2. All 400-level studio courses may be repeated up to a maximum of 18 credits. This long-standing policy is based upon the rationale that six semesters of study at that level in one discipline is sufficient for undergraduate training.
3. Independent-study courses are available for students with at least junior standing to pursue studio interests not served in other course offerings. Independent-study courses may be arranged with the appropriate faculty member on the basis of a viable course of study, a reasonable load for the instructor, and space availability. Priority will be given to degree-seeking students and to classes with regularly scheduled meetings.

4. Prerequisites for 200-level studio courses may be waived by the appropriate instructor during the week before classes begin, contingent upon space availability. Completion of all prerequisites is required to continue with classes beyond 6 credits in that discipline.

Credit Transfer If you transfer art credits from another college or university, you may be admitted to the B.F.A. or foundation program upon a successful portfolio presentation. To earn the B.F.A. at IPFW, you must fulfill all remaining requirements and complete a minimum of 24 credits of upper-division studio work at IPFW.

Time Limit If you do not complete degree requirements within seven years of matriculation, you may be required to meet the degree requirements specified in the current *Bulletin*.

Student Handbook A departmental student handbook, consisting of policies and regulations of the Department of Visual Arts, has been prepared as a guide for students. This handbook, available in the department office, provides detailed information about responsibilities and a sample curriculum for each degree. All fine arts majors are expected to be familiar with the contents of this handbook.

Fine Arts (Visual Communication and Design Program)

**Programs: B.F.A., A.S., and Minor
Department of Visual Arts, VCD Program
School of Visual and Performing Arts**

Visual Arts Building 213 ▼ 260-481-6709 ▼ www.ipfw.edu/vpa

The mission of the Department of Visual Arts, Visual Communication and Design Program, is to educate its students and the community in art, design, and appropriate technologies. Students may pursue the Bachelor of Fine Arts with concentrations in computer art, graphic design, and photography. A two-year program of study, an Associate of Science in commercial art, is also offered (listed separately in this *Bulletin*). A minor in studio art may be achieved by completing 18 studio credits.

Both the B.F.A. and A.S. programs include general education, art/design history, and visual communication and design courses.

BACHELOR OF FINE ARTS IN COMPUTER ART, GRAPHIC DESIGN, OR PHOTOGRAPHY

The Bachelor of Fine Arts program includes general education, art/design history, visual art, and design studio courses and offers concentrations in computer art, graphic design, and photography.

Students are eligible for admission to the B.F.A. major after (1) completing 45 credits of study with a cumulative G.P.A. of 2.0 or higher and a grade of C or better in each VCD course and (2) receiving approval for admission by the faculty after a portfolio review. A student may not enroll in any course numbered 300 or above until these criteria are met.

Admission The student must meet the requirements of IPFW. Admission to the Department of Visual Arts does not confer acceptance to the B.F.A. major. Newly admitted students are assigned to either a pre-B.F.A. or A.S. program. Later acceptance to the B.F.A. area of concentration is dependent upon satisfying the requirements of a portfolio review.

Course Requirements (Bachelor of Fine Arts)

Course Number and Title	Credits
IPFW General Education Requirements	33
Area I—Linguistic and Numerical Foundations	9
<i>See Part 2 General Education Requirements for approved courses</i>	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
Quantitative reasoning course	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Art/Design History	12
FINA H111 <i>Ancient and Medieval Art</i>	3
FINA H112 <i>Renaissance—Modern Art</i>	3
Credits in art/design history courses numbered 300 or above	6
Area of Concentration: Studio and Electives	75
Computer Art	
FINA P151–P152 <i>Design Fundamentals I–II</i>	6
PHYS 125 <i>Light and Color</i>	3
VCD P243 <i>Photography Fundamentals</i>	3
VCD P273 <i>Computer Art and Design I</i>	3
PHIL 275 <i>The Philosophy of Art</i>	3
VCD P374 <i>Computer Art and Design II</i>	6
VCD P475 <i>Computer Art and Design III</i>	6
VCD P476 <i>Three-Dimensional Computer Modeling</i>	6
VCD P478 <i>Computer Animation</i>	6
VCD P356 <i>Package Design</i>	3
VCD P357 <i>Display Design</i>	3
VCD P495 <i>Computer Art Internship (or additional studio)</i>	3
Studio Electives in VCD or FINA	24
Graphic Design	
FINA P121–P122 <i>Drawing Fundamentals I–II</i>	6
FINA P151–P152 <i>Design Fundamentals I–II</i>	6
FINA P226 <i>Painting Fundamentals II</i>	3
VCD P273, P374, P475 <i>Computer Art and Design I–III</i>	9
VCD P271, P272, P371, P372 <i>Illustration I–IV</i>	12
VCD P253–P254 <i>Principles of Graphic Design I–II</i>	6
VCD P261 <i>Layout and Finished Art</i>	3
VCD P356 <i>Package Design</i>	3
VCD P357 <i>Display Design</i>	3
VCD P453–P454 <i>Graphic Design III–IV</i>	6
VCD P495 <i>Graphic Design Internship (or additional studio)</i>	3
Studio Electives in VCD or FINA	15
Photography	
FINA P151–P152 <i>Design Fundamentals I–II</i>	6
PHYS 125 <i>Light and Color</i>	3
PHIL 275 <i>The Philosophy of Art</i>	3

VCD P273, P374, P475 <i>Computer Art and Design I–III</i>	9
VCD P343–P344 <i>Advanced Photography</i>	6
VCD P443–P444 <i>Advanced Photography</i>	15
VCD P495 <i>Photography Internship (or additional studio)</i>	3
Studio Electives in VCD or FINA	30
Senior Project	6
VCD P450 Senior Project	6

Majors must complete a senior project in the elected area of concentration. This two-semester course requires of the student a project incorporating an in-depth study and exploration of an artistic endeavor. The senior project culminates in a B.F.A. thesis exhibition that is judged by the faculty and reviewed by the public. An artist's statement and project description is a requirement of the exhibition installation.

SPECIAL ACADEMIC REGULATIONS

To ensure that degree-seeking students are guaranteed priority registration in their classes, the following policies will be observed:

1. Students who are not progressing toward completion of degree requirements, including students who have graduated but wish to continue a program of study, will be reclassified as non-degree-seeking. These students' registrations will not be processed until the final week before the beginning of each semester. This policy will allow these students an opportunity to avail themselves of classroom opportunities when space is available.
2. All 400-level studio courses may be repeated up to a maximum of 18 credits. This long-standing policy is based upon the rationale that six semesters of study at that level in one discipline is sufficient for undergraduate training.
3. Independent-study courses are available for students with at least junior standing to pursue studio interests not served in other course offerings. Independent-study courses may be arranged with the appropriate faculty member on the basis of a viable course of study, a reasonable load for the instructor, and space availability. Priority will be given to degree-seeking students and to classes with regularly scheduled meetings.
4. Prerequisites for 200-level and above studio courses may be waived by the appropriate instructor during the week before classes begin, contingent upon space availability.
5. Internships are available for students with at least junior standing to pursue learning opportunities in professional situations. Students may receive up to 6 credit hours for such experiential learning. Documentation concerning internship requirements can be found in the Visual Communication and Design office.

Credit Transfer If a student transfers studio credits from another college or university, he/she may be admitted to the B.F.A. program upon successful portfolio presentation. To earn the B.F.A. at IPFW, the student must fulfill all remaining requirements and complete a minimum of 24 credits of upper-division studio work at IPFW.

Time Limit If a student does not complete degree requirements within seven years of matriculation, he/she may be required to meet the degree requirements specified in the current *Bulletin*.

Student Handbook A departmental student handbook, consisting of policies and regulations of the Visual Communication and Design Program, has been prepared as a guide for students. This handbook, available in the department office, provides detailed information about responsibilities and a sample curriculum for each degree. All fine arts majors are expected to be familiar with the contents of this handbook.

Folklore

Program: Minor
Department of English and Linguistics
School of Arts and Sciences

Classroom-Medical Building 145 ▼ 260-481-6841

The minor in folklore familiarizes you with the international body of folklore as well as the theories, techniques, and history of folkloristics. The folklore minor is particularly appropriate for degree programs in anthropology, education, English, history, sociology, and other humanities and social sciences.

This program is available to all IPFW students except those pursuing the teacher-certification concentration with a major in English.

To earn a minor in folklore, you must complete the following 15 credits, including at least 8 credits earned as resident credit at IPFW, with a grade of C or better in each course:

Course Number and Title	Credits
One of the following:	3
FOLK F101 <i>Introduction to Folklore</i>	
FOLK F220 <i>Introduction to American Folklore</i>	
One of the following:	3
ANTH E462 <i>Anthropological Folklore</i>	
FOLK F251 <i>Folklore Methods and Theories</i>	
Credits in additional courses, including at least two courses above the 200 level in folklore or in folklore-related courses in anthropology, classics, or other disciplines approved by the department	9
Total	15

Forestry and Natural Resources

Program: Transfer Program
School of Arts and Sciences

Science Building G56 ▼ 260-481-6316

Admission At IPFW you may complete 30–34 credits toward one of the five majors — fisheries and aquatic sciences, forestry, natural resources, wildlife, and wood products manufacturing technology — offered by the Department of Forestry and Natural Resources. You must transfer to Purdue University West Lafayette campus for second-year courses in order to have prerequisites for the summer practicum between the sophomore and junior years. You are encouraged to contact a West Lafayette advisor to confirm course selections. The following courses encompass most of the first-year requirements of these majors.

Course Number and Title	Credits
AGRY 255 <i>Soil Science</i>	3
BIOL 108 <i>Biology of Plants</i>	4

BIOL 109 <i>Biology of Animals</i>	4
CHM 111–112 <i>General Chemistry</i>	6
COM 114 <i>Fundamentals of Speech Communication</i>	3
ECON E201 <i>Introduction to Microeconomics</i>	3
FNR 103 <i>Introduction to Environmental Conservation</i>	3
FNR 225 <i>Dendrology and Wildland Plants</i>	3
MA 229–230 <i>Calculus for the Managerial, Social, and Biological Sciences I–II</i>	6
STAT 301 <i>Elementary Statistical Methods I</i>	3
Credits in English composition:	6
ENG W131 <i>Elementary Composition I</i>	
ENG W233 <i>Intermediate Expository Writing</i>	
Credits in one of the following humanities and social sciences: anthropology; economics; fine arts, music, and theatre (history and appreciation only); foreign language; history; literature; philosophy; political science; psychology; sociology; speech communication	6
Total	50

French

Programs: A.A., B.A., B.A. with Teacher Certification, Minor, and Teaching Minor
Department of Modern Foreign Languages
School of Arts and Sciences

Classroom-Medical Building 267 ▼ 260-481-6836 ▼
www.ipfw.edu/mfl/

The Department of Modern Foreign Languages offers majors in French for the B.A. and the B.A. with teacher certification, a minor and a teaching minor in French, and study-abroad opportunities. The department offers similar programs in German and Spanish, and limited courses in other languages. An Associate of Arts with a concentration in French, offered by the School of Arts and Sciences, is described in Part 3 of this *Bulletin*.

French is the language of many fascinating countries and cultures in Africa, parts of Asia, Europe, and North America. French-speaking countries influence many fields of study, such as the arts, philosophy, politics and world economy, science, and technology. With a major in French and a degree, in particular a B.A., you may continue your education in languages or expand into other fields at a graduate school, or you may pursue a career in business or teaching.

B.A. WITH A MAJOR IN FRENCH

To earn the B.A. with a major in French, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), and satisfactorily complete the requirements of the major, given below.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	

One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
LING 103 <i>Introduction to the Study of Languages</i>	3
One of the following:	3
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	
Area IV—Humanistic Thought	
One of the following:	3
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
Additional credits in Area IV	3
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in FREN)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	0
FREN W300 <i>Methods of Research and Criticism</i> <i>(credits included in Major Courses, below)</i>	
<i>Foreign Language</i>	
One of the following:	4–8
FREN F111–F112 <i>Elementary French I–II</i> (8 credits)	
FREN F113 <i>First-Year French in One Semester</i> (4 credits)	
FREN F203–F204 <i>Second-Year French I–II</i>	6
<i>Distribution (not in FREN)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
FREN F213 <i>Second-Year French Composition</i> <i>(normally taken concurrently with F203–F204)</i>	2
FREN W300 <i>Methods of Research and Criticism</i> <i>(taught in fall semester; should be taken concurrently with the first 300-level French or Francophone literature course)</i>	3
Credits in 300-level French literature courses	6
Credits in 300-level French language courses, excluding F325 Oral French for Teachers	*6–9
Credits in 400-level French and francophone civilization courses (F463 or F464)	3
Additional credits in 400-level French courses	*9–12
<i>*The combined total of 300-level French language courses and 400-level French courses must be at least 18 credits.</i>	
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

B.A. WITH A MAJOR IN FRENCH WITH TEACHER CERTIFICATION

Students pursuing a French major for the B.A. with teacher certification must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and satisfactorily complete the requirements of the major, given below.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
LING 103 <i>Introduction to the Study of Languages</i>	3
One of the following:	3
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	
Area IV—Humanistic Thought	
One of the following:	3
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
Additional credits in Area IV	3
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in FREN)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements (25–29 credits)	
<i>English Writing</i>	0
FREN W300 <i>Methods of Research and Criticism</i> <i>(credits included in Major Courses, below)</i>	
<i>Foreign Language (10–14 credits)</i>	
One of the following:	4–8
FREN F111–F112 <i>Elementary French I–II</i> (8 credits)	
FREN F113 <i>First-Year French in One Semester</i> (4 credits)	
FREN F203–F204 <i>Second-Year French I–II</i>	6
<i>Distribution (not in FREN)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6

Core and Concentration (Major) Courses

FREN F213	Second-Year French Composition <i>(normally taken concurrently with F203–F204)</i>	2
FREN F325	Oral French for Teachers	3
FREN W300	Methods of Research and Criticism <i>(taught in fall semester; should be taken concurrently with the first 300-level French or francophone literature course)</i>	3
	Credits in 300-level French language courses	6
	Credits in 300-level French literature courses	6
	Credits in 400-level French and francophone civilization courses (F463 or F464)	3
	Additional credits in 400-level French courses	9

Professional Education

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300	Invitation to Teaching	2
EDUC W200/M101	Microcomputers for Education: An Introduction and Lab/Field Experience	1
EDUC K201	Schools, Society, and Exceptionality	1

GROUP II

EDUC H340	Education and American Culture	3
EDUC K206	Teaching Methods for Students with Special Needs	3
EDUC P250/M201	General Educational Psychology and Lab/Field Experience	3
EDUC P253/M301	Educational Psychology Secondary Teachers and Lab/Field Experience	3
EDUC X401	Critical Reading in the Content Area	3
EDUC M445	Methods of Teaching Foreign Languages	3
EDUC M480	Student Teaching in the Secondary School	10

Middle School Certification (Recommended)

EDUC M470	Practicum	4
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General Elective Courses

Sufficient additional credits, if necessary, to bring the total to 124.

Total	124–130
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FRENCH TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a French teaching minor by completing the following 34 credits with a grade of C or better in each course.

Course Number and Title	Credits
FREN F111–F112 Elementary French I–II	8
FREN F203–F204 Second-Year French I–II	6
FREN F213 Second-Year French Composition <i>(normally taken concurrently with F203–F204)</i>	2
Credits in 300-level French language courses	12
Credits in 300-level French literature courses	3
Credits in 400-level French and francophone civilization courses (F463 or F464)	3
Total	34

FRENCH MINOR

If you are pursuing a major other than French, you may earn a minor in French by completing the following 14 credits, with a grade of C or better in each course.

Course Number and Title	Credits
FREN F213 Second-Year French Composition <i>(normally taken concurrently with F203–F204)</i>	2
Credits in 300-level French language courses	6
Credits in 300-level French literature courses	6
Total	14

Study Abroad Both majors and nonmajors are encouraged to study abroad. For those who wish to study French, Indiana University administers and cosponsors an academic-year program in Aix-en-Provence; semester programs in Paris, Rennes, and Rouen; and summer programs in Paris and Quebec.

General Studies

Programs: A.A.G.S. and B.G.S. Division of Continuing Studies

Kettler Hall 145 ▼ 260-481-6828 ▼ www.edu/dcs/gsd/p

General Studies offers a wide variety of personalized degree options to the traditional and nontraditional student. Students may individually tailor their program to combine a substantial core of courses basic to a traditional university education and study in career-related areas. Within the flexible framework of degree requirements, students may design an undergraduate program that can more readily meet their career and personal-development goals than can a traditional major. Students will be encouraged and assisted in developing a unique academic program complementing their individual interests, abilities, and intellectual and practical concerns.

In addition to taking advantage of the wide variety of daytime, evening, and weekend classes at IPFW, students may choose to earn credit toward their degree through correspondence study. Students may also earn credit by examination, and in some cases earn credit for significant, documentable self-acquired competencies when the learning outcomes have been comparable to those of university-level work. Consideration is given to all previously earned college credit from other accredited institutions. The Associate of Arts in General Studies and Bachelor of General Studies programs may also be tailored to the needs of those unable to study on campus during regularly scheduled periods.

Both programs include courses in broad categories called required areas of learning (listed below) and elective credit that students may earn in any IPFW program. The required areas of learning provide broad exposure to the humanities, social sciences, and sciences, while the electives permit students to explore areas of interest, receive credit for prior university-level experiential learning, and tailor the degree to their individual needs. In each plan of study, students must demonstrate competency in each of the following areas: written communication, oral communication, mathematics, and computer literacy.

After students are admitted to a general studies degree program, students will develop a plan of study to meet their objectives. An advisor will provide assistance in this effort. For further information,

refer to the current Indiana University School of Continuing Studies General Studies Degree *Bulletin*.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
STAT 125 <i>Communicating with Statistics</i>	3
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Required Areas of Learning	
<i>Arts and Humanities</i>	0–6
(depending upon course selection for general education)	
Afro-American Studies	History
Classical Studies	Journalism
Communication	Music
Comparative Literature	Philosophy
English (except R150 and W130)	
Film	Theatre
Fine Arts	Visual Communication and Design
Folklore	
Foreign Language	
<i>Science and Mathematics</i>	3–9
(depending upon course selection for general education)	
ANTH B200 and E445 (only)	
Astronomy	
Biology	
Chemistry	
*Computer Science (includes BUS K211, K212, K213, K214, K215, and K216)	
ECON E270 (only)	
Entomology	
Forestry and Natural Resources	
GEOG G107, G109, G315 (only)	
Geology	
Horticulture	
Mathematics (except 109, 111, and 113)	
Physics	
PSY 120, 201, 314, 329, and 416 (only)	
SOC S351 (only)	
SPEA K300 (only)	
Statistics	
*required course	
<i>Social and Behavior Sciences</i>	6–12
(depending upon course selection for general education)	
Anthropology	Psychology
Economics	Sociology
Geography	SPEA J101 (only)
Linguistics	WOST W210 (only)
Political Science	

General studies is a university-wide degree program, certified through Indiana University's School of Continuing Studies. The program follows the same curriculum requirements throughout Indiana University.

ASSOCIATE OF ARTS IN GENERAL STUDIES

To earn an A.A.G.S., students must complete the following requirements:

Required Core and Concentration (Major)	36
12 credits in each required area of learning, including courses from at least two departments in each area.	
General Elective Courses	24
In consultation with an advisor, you are urged to concentrate electives in related areas.	
Total	60

Students must complete at least 10 of the above credits after admission to the program. No more than 15 credits can be in any one subject. Courses in which a grade of D is earned will count only as electives. At least 15 credits must be taken within the IU system or as a Purdue student at IPFW.

BACHELOR OF GENERAL STUDIES

To earn a Bachelor of General Studies, students must complete the following requirements:

Required Core and Concentration (Major)	54
12 credits in each required area of learning, 36	
including courses from at least two departments in each area.	
18 credits in one of the three required areas of learning 18	
General Elective Courses	66
In consultation with an advisor, you are urged to concentrate electives in related departments (15 credits in arts and sciences are required).	
Total	120

Students must complete at least 20 of these credits after admission to the program. No more than 21 credits in a single arts and sciences department/subject area or 30 credits in a single professional-school area may be counted. Courses in which a grade of D is earned will count only as electives. A minimum of 30 credits must be taken at the 300-400 level. At least 30 credits must be taken within the IU system or as a Purdue student at IPFW.

Geology

Programs: B.A., B.S.G., Teacher Certification, Honors Program, and Minor Department of Geosciences School of Arts and Sciences

Science Building 230 ▼ 260-481-6249 ▼ www.geosci.ipfw.edu

The Department of Geosciences offers the B.A. with a major in geology and the B.S. in geology with options in geology and environmental geology. These programs help you prepare for employment as a professional geologist or in many technical and nontechnical disciplines unrelated to geology, for teaching earth and space science in middle and secondary schools, or for further study at the graduate level.

The Bachelor of Arts program provides broad experience in the natural sciences, mathematics, humanities and social sciences, providing a spectrum of knowledge to prepare you for many technical and nontechnical fields. The Bachelor of Science program emphasizes technical components. It is particularly well-suited for prospective professional geologists or those expecting to seek advanced degrees in geology. Graduates of this program are finding the nation's oil, gas, and mineral resources; resolving environmental problems of the air, water, and soil; and discovering the ways the physical world works.

Classes in advanced subject areas are typically small, with significant individualized attention from the faculty. Highly qualified students gain valuable experience assisting with faculty research or may be employed by the department as laboratory and teaching assistants. Many geoscience courses include field trips ranging from one day to two weeks. These trips provide opportunities for students to travel and study geology throughout North America.

B.A. WITH A MAJOR IN GEOLOGY

To earn the B.A. with a major in geology, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), and complete required geoscience courses with grades of C or better.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	5–6
MA 151 <i>Algebra and Trigonometry</i>	
MA 153–154 <i>Algebra and Trigonometry I–II</i>	
Area II—Natural and Physical Sciences	
CHM 115 <i>General Chemistry</i>	4
One of the following:	0
<i>(credits included in Major Courses, below)</i>	
GEOL G100/L100 <i>General Geology with Lab</i>	
GEOL G103 <i>Earth Sciences: Materials and Processes</i>	
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in GEOL) 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Science Part B	14
<i>Distribution</i>	
One of the following:	4–6
BIOL 117 <i>Principles of Ecology and Evolution</i> (4 credits)	
PHYS 131–132 <i>Concepts in Physics I–II</i> (6 credits)	

Credits in social and behavioral sciences	3
Credits in humanities	3
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6

Core and Concentration (Major) Courses

GEOL G104 <i>Earth Science: Evolution of the Earth</i>	3
GEOL G211 <i>Introduction to Paleobiology</i>	3
GEOL G213 <i>Elementary Geophysics</i>	3
GEOL G221 <i>Introductory Mineralogy</i>	3
GEOL G222 <i>Introduction to Petrology</i>	3
GEOL G323 <i>Structural Geology</i>	3
GEOL G334 <i>Principles of Sedimentology and Stratigraphy</i>	3
One of the following:	3–4
GEOL G100/L100 <i>General Geology with Lab</i> (4 credits)	
GEOL G103 <i>Earth Science: Materials and Processes</i> (3 credits)	

General Elective Courses

Sufficient additional credits to bring the total to 124.

Total	124
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B.S. IN GEOLOGY

To earn the B.S.G., you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and complete required courses in geoscience and ancillary subject areas with grades of C or better.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
MA 227–228 <i>Calculus for Technology I–II</i>	7
Area II—Natural and Physical Sciences	
<i>Credits included in Core Courses, below</i>	
CHM 115 <i>General Chemistry</i>	0
One of the following:	0
GEOL G100 <i>General Geology with L100</i> (4 credits)	
GEOL G103 <i>Earth Sciences: Materials and Processes</i> (3 credits)	
GEOL G210 <i>Oceanography with L100</i> (4 credits)	
GEOG G107 <i>Physical Systems of the Environment with GEOL L100</i> (4 credits)	
AST A100 <i>The Solar System with GEOL L100</i> (4 credits)	
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in GEOL) 3	
<i>See Part 2 General Education Requirements for approved courses</i>	

School of Arts and Sciences Requirements

<i>English Writing</i>			
ENG W233	Intermediate Expository Writing (or other approved writing course)		3
<i>Foreign Language</i>			
	Credits in the first year of a modern foreign language		8
Core and Concentration (Major) Courses			
CHM 115–116	General Chemistry		8
GEOL G104	Earth Science: Evolution of the Earth		3
GEOL G211	Introduction to Paleobiology		3
GEOL G221	Introductory Mineralogy		3
GEOL G222	Introduction to Petrology		3
GEOL G319	Elementary Field Geology		2
GEOL G323	Structural Geology		3
GEOL G334	Principles of Sedimentology and Stratigraphy		3
PHYS 218–219	General Physics	or	8
PHYS 220–221	General Physics		8
	One of the following:		3–4
GEOL G100	General Geology with L100 (4 credits)		
GEOL G103	Earth Sciences: Materials and Processes (3 credits)		
GEOL G210	Oceanography with L100 (4 credits)		
GEOG G107	Physical Systems of the Environment with GEOL L100 (4 credits)		
AST A100	The Solar System with GEOL L100 (4 credits)		
	Credits in a STAT or CS course approved by your advisor		3
Option Requirements			
	Credits in the Environmental Geology Option or Geology Option (see below)		15–18
General Elective Courses			
	Sufficient additional credits to bring the total to 124.		
	Total		124

ENVIRONMENTAL GEOLOGY OPTION

This option will help you prepare for advanced study in environmental geology or for work as a professional geologist in the areas of water supply, waste management, geological hazards, and engineering geology.

Course Number and Title	Credits
12 credits from the following:	
GEOG G315 <i>Environmental Conservation</i>	3
GEOL G300 <i>Environmental and Urban Geology</i>	3
GEOL G406 <i>Introduction to Geochemistry</i>	3
GEOL G415 <i>Geomorphology</i>	3
GEOL G451 <i>Principles of Hydrogeology</i>	3
Additional credits in 300- or 400-level geology courses	3
Total	15

GEOLOGY OPTION

This is the traditional option in geology. It will help you prepare for advanced study in geology or work as a professional geologist.

Option Requirements	Credits
Field camp experience (e.g., GEOL G429)	6–7
Credits in 400-level geology courses	8
Additional credits in 300- or 400-level geology courses	3
Total	17–18

TEACHER CERTIFICATION

You may be certified as a teacher of earth and space science after fulfilling the requirements for a B.A. with a major in geology or a B.S. in geology (ENG W233 must be taken as your writing requirement) and the requirements for teacher certification listed below.

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

To be eligible to apply for teacher licensure, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements for teacher licensing. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

Additional information on teacher-certification requirements is available from the School of Education.

Professional Education

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300	Invitation to Teaching	2
EDUC W200/M101	Microcomputers for Education: An Introduction and Lab/Field Experience	1
EDUC K201	Schools, Society, and Exceptionality	1

GROUP II

AST A100	The Solar System	3
EDUC K206	Teaching Methods for Students with Special Needs	3
EDUC H340	Education and American Culture	3
EDUC P250/M201	General Educational Psychology and Lab/Field Experience	3
EDUC P253/M301	Educational Psychology: Secondary Teachers and Lab/Field Experience	3
EDUC Q400	Man and Environment: Instructional Methods	3
EDUC X401	Critical Reading in the Content Area	3
EDUC M449/M401	Methods of Teaching: Science in the Secondary Schools and Lab/Field Experience	3
EDUC M480	Student Teaching in the Secondary School	10

EARTH AND SPACE SCIENCE TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn an earth and space science teaching minor by completing the following 27–28 credits with a grade of C or better in each course.

Course Number and Title	Credits
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	3
AST A100 <i>The Solar System</i>	3
One of the following:	3-4
GEOL G107 <i>Physical Systems of the Environment with GEOL L100 (4 credits)</i>	
GEOL G100 <i>General Geology with L100 (4 credits)</i>	
GEOL G103 <i>Earth Sciences: Materials and Processes (3 credits)</i>	
One of the following:	3
GEOL G104 <i>Earth Science: Evolution of the Earth</i>	
GEOL G211 <i>Introduction to Paleobiology</i>	
CHM 115 <i>General Chemistry</i>	4
GEOL G221 <i>Introductory Mineralogy</i>	3
GEOL G222 <i>Introduction to Petrology</i>	3
One of the following:	3
GEOL G300 <i>Environment and Urban Geology</i>	
GEOL G315 <i>Environmental Conservation</i>	
GEOL G415 <i>Geomorphology</i>	
GEOL G420 <i>Regional geology field trip</i>	2
Total	27-28

HONORS PROGRAM IN GEOLOGY

Students are encouraged to participate in the departmental honors program. To complete the program, you must maintain a GPA of 3.50 or higher in geology and a cumulative GPA of 3.30 or higher, and must complete at least 1 credit of GEOL G499 Honors Research in Geology leading to a thesis, the results of which must be publicly presented.

MINOR IN GEOLOGY

If you are pursuing a major other than geology, you may earn a minor in geology by completing the following courses with a grade of C or better, with at least 11 resident credits taken at IPFW.

Course Number and Title	Credits
GEOL G104 <i>Earth Science: Evolution of the Earth</i>	3
GEOL G211 <i>Introduction to Paleobiology</i>	3
GEOL G221 <i>Introduction to Mineralogy</i>	3
GEOL G222 <i>Introduction to Petrology</i>	3
One of the following:	3-4
GEOL G100/L100 <i>General Geology with Lab (4 credits)</i>	
GEOL G103 <i>Earth Science: Materials and Processes (3 credits)</i>	
One of the following:	3
GEOL G237 <i>Cartography and Geographic Information</i>	
GEOL G323 <i>Structural Geology</i>	
One of the following:	3
GEOL G300 <i>Environmental and Urban Geology</i>	
GEOL G334 <i>Principles of Sedimentology and Stratigraphy</i>	
Total	21-22

Geosciences

See *Geology*

German

Programs: A.A., B.A., B.A. with Teacher Certification, Minor, and Teaching Minor
Department of Modern Foreign Languages
School of Arts and Sciences

Classroom-Medical Building 267 ▼ 260-481-6836 ▼
www.ipfw.edu/mfl/

The Department of Modern Foreign Languages offers majors in German for the B.A. and the B.A. with teacher certification, a minor and a teaching minor in German, and study-abroad opportunities. The department offers similar programs in French and Spanish, and limited courses in other languages. An Associate of Arts with a concentration in German, offered by the School of Arts and Sciences, is described in Part 3 of this Bulletin.

German is the language of a major culture and will be increasingly important in the context of rapid change in Europe early in the 21st century. German-speaking countries influence the arts, journalism, medicine, philosophy, politics, technology, and the world economy. Students with interests in business or international studies are encouraged to learn German. The Department of Modern Foreign Languages offers a full curriculum, including German culture, language, and literature. A major in German may be combined with a major in another field, a business minor, or a teaching certificate. With a major in German and a degree, in particular a B.A., you may continue your education in languages or expand into other fields at a graduate school, or you may pursue a career in business or teaching.

B.A. WITH A MAJOR IN GERMAN

To earn the B.A. with a major in German, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), and satisfactorily complete the requirements of the major, given below:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
LING 103 <i>Introduction to the Study of Languages</i>	3
One of the following:	3
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	
Area IV—Humanistic Thought	
One of the following:	3
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
Additional credits in Area IV	3

Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in GER)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
GER W300 <i>Methods of Research and Criticism (credits included in Major Courses, below)</i>	0
<i>Foreign Language</i>	
One of the following:	4–8
GER G111–G112 <i>Elementary German I–II (8 credits)</i>	
GER G113 <i>First-Year German in One Semester (4 credits)</i>	
GER G203–G204 <i>Second-Year German I–II</i>	6
<i>Distribution (not in GER)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
GER W300 <i>Methods of Research and Criticism (taught in fall semester; should be taken concurrently with the first 300-level German literature course)</i>	3
GER G318 <i>German Language Skills I</i>	3
Credits in German culture, normally G362, G363, G463, or G464	3
Credits in 300-level German literature courses	3
Additional credits in German at the 300 level	3
Credits in 400-level German courses (language, literature, and/or culture)	9
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

B.A. WITH A MAJOR IN GERMAN WITH TEACHER CERTIFICATION

Students pursuing a B.A. in German with teacher certification must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and satisfactorily complete the following requirements.

Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The National Teachers Examination (NTE) Specialty Area Tests must be completed before or during the student teaching semester, normally in your senior year.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundation	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	

Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
LING 103 <i>Introduction to the Study of Languages</i>	3
One of the following:	3
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	
Area IV—Humanistic Thought	
One of the following:	3
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
Additional credits in Area IV	3
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in GER)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
GER W300 <i>Methods of Research and Criticism (credits included in Major Courses, below)</i>	0
<i>Foreign Language</i>	
One of the following:	4–8
GER G111–G112 <i>Elementary German I–II (8 credits)</i>	
GER G113 <i>First-Year German in One Semester (4 credits)</i>	
GER G203–G204 <i>Second-Year German I–II</i>	6
<i>Distribution (not in GER)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
GER W300 <i>Methods of Research and Criticism (taught in fall semester; should be taken concurrently with the first 300-level German literature course)</i>	3
GER G318 <i>German Language Skills I</i>	3
GER G325 <i>German for Teachers</i>	3
Credits in German culture, normally G362, G363, G463, or G464	3
Credits in 300-level German literature courses	3
Additional German credits at the 300 level	3
Credits in 400-level German courses (language, literature, and/or culture)	12
Professional Education	
Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.	
<i>GROUP I</i>	
EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1
<i>GROUP II</i>	
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3

EDUC P250/M201	General Educational Psychology and Lab/Field Experience	3
EDUC P253/M301	Educational Psychology Secondary Teachers and Lab/Field Experience	3
EDUC X401	Critical Reading in the Content Area	3
EDUC M445	Methods of Teaching Foreign Languages	3
EDUC M480	Student Teaching in the Secondary School	10
Middle School Certification (Recommended)		
EDUC M470	Practicum	4
General Elective Courses		
Sufficient additional credits, if necessary, to bring the total to 124.		
Total		124

GERMAN TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a German teaching minor by completing the following 32 credits with a grade of C or better in each course.

Course Number and Title	Credits
GER G111–G112 <i>Elementary German I–II</i>	8
GER G203–G204 <i>Second-Year German I–II</i>	6
GER G318 <i>German Language Skills I</i>	3
GER G325 <i>Oral German for Teachers</i>	3
One of the following:	3
GER G362 <i>Deutsche Landeskunde</i>	
GER G363 <i>Deutsche Kulturgeschichte</i>	
Additional German credits at the 300-400 level	9
Total	32

GERMAN MINOR

If you are pursuing a major other than German, you may earn a German minor by completing the following 15 credits, with a grade of C or better in each course:

Course Number and Title	Credits
GER G318 <i>German Language Skills I</i>	3
One of the following:	3
GER G362 <i>Deutsche Landeskunde</i>	
GER G363 <i>Deutsche Kulturgeschichte</i>	
Additional German credits at the 300-400 level	9
Total	15

Study Abroad Both majors and nonmajors are encouraged to study abroad. For those who wish to study German, Indiana University administers and cosponsors an academic-year program in Freiburg, a semester program in Freiburg, and a summer program in Graz (Austria).

Gerontology

Program: Certificate
School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6746

A certificate in gerontology is available to all IPFW students earning undergraduate degrees. It is also available to non-degree-seeking

students. The program provides basic academic courses concerning the aging process as well as course work in social issues and applied topics concerning the elderly. A practicum component involves applied work in social agencies serving the elderly.

To earn the certificate, you must (1) meet all regular IPFW admission requirements (see Part 7); and (2) complete the following 18 credits with a grade of C or better in each course. The program of study must be approved by the gerontology certificate coordinator. All prerequisites must be satisfied before enrolling in any of the courses listed below.

Course Number and Title	Credits
GERN G231 <i>Introduction to Gerontology</i>	3
Credits from the following: (<i>you may substitute independent or directed study in gerontology or aging in a suitable department as approved by the gerontology coordinator</i>)	12
AUS 430 <i>Speech-Language Disorders in Healthcare Settings</i>	
BIOL 327 <i>Biology of Aging</i>	
FNN 302 <i>Nutrition Education</i> or	
FNN 303 <i>Essentials of Nutrition</i>	
HSRV 351 <i>Human Services for the Elderly</i>	
MUS L340 <i>Music Therapy in Healthcare Settings</i>	
MUS U410 <i>Creative Arts, Health, and Wellness</i>	
NUR 399 <i>Special Topics: Gerontological Nursing</i>	
PHIL 312 <i>Medical Ethics</i>	
PSY 367 <i>Adult Development and Aging</i>	
PSY 371 <i>Death and Dying</i>	
SOC S331 <i>Sociology of Aging or S375 Social Gerontology</i>	
SPEA H411 <i>Long-Term Care Administration</i>	3
Practicum in a geriatric setting, approved by the gerontology certificate coordinator, chosen from the following courses. Note that some of these courses may be taken only by those majoring in the sponsoring discipline.	
AUS 549 <i>Clinical Practice in Speech/Language Pathology I</i>	
HSRV 151 <i>Clinical in Activity Therapies</i>	
HSRV 205 <i>Summer Internship in Human Services</i>	
HSRV 251 <i>Clinical in Case Study Method</i>	
HSRV 299 <i>Human Services</i>	
HSRV 400 <i>Internship I</i>	
HSRV 401 <i>Internship Seminar I</i>	
HSRV 450 <i>Internship II</i>	
HSRV 451 <i>Internship Seminar II</i>	
MUS L254 <i>Music Therapy Practicum I</i>	
MUS L353 <i>Music Therapy Practicum II</i>	
MUS L354 <i>Music Therapy Practicum III</i>	
MUS L421 <i>Music Therapy Psychiatric Practicum</i>	
MUS L424 <i>Music Therapy Internship</i>	
NUR 490 <i>Nursing Practicum</i>	
PHIL 480 <i>Practicum in Applied Ethics</i>	
PSY 480 <i>Field Experience in Psychology</i>	
SOC S494 <i>Field Experience in Sociology</i>	
SPEA V380 <i>Internship in Public Affairs</i>	
Total	18

Health Information Administration

Program: Transfer Program

School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

The health information administration program is offered in the IUPUI School of Informatics. The first two years of the program may be completed at IPFW. Professional courses in the junior and senior year are completed at the Indianapolis campus. A minimum cumulative GPA of 2.5 in the courses below is required for admission to the IUPUI program. Completion of these course requirements does not guarantee admission to the IUPUI program. Please consult the IPFW allied health advisor for current admission information. Further information about the IUPUI program is also available at www.sahs.iupui.edu/oasa/fadvising.html or by e-mail at askahtl@iupui.edu.

Course Number and Title	Credits
ENG W131 <i>Elementary Composition I</i>	3
Choose from the following:	3
ENG W232 <i>Introduction to Business Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	
ENG W234 <i>Technical Report Writing</i>	
ENG W331 <i>Business and Administrative Writing</i> (P: W233)	
One of the following combinations:	6–8
BIOL 203/204 <i>Anatomy and Physiology</i>	
BIOL 215/216 <i>Basic Human Anatomy/Basic Mammalian Physiology</i>	
BIOL 220 <i>Microbiology for Allied Health Professionals</i>	4
NUR 106 <i>Medical Terminology</i>	3
One of the following:	3
CS 106 <i>Introduction to Computer Science I</i>	
CS 107 <i>Introduction to Computer Science for Science Majors</i>	
OLS 280 <i>Computer Applications for Supervisors</i>	3
Choose 6 credits from the following:	6
MA 213 <i>Finite Mathematics</i>	
OLS 326 <i>Comprehensive Spreadsheet Concepts</i>	
OLS 329 <i>Comprehensive Database Management Concepts</i>	
Choose 3 credits from the following:	3
PSY 120 <i>Elementary Psychology</i>	
SOC S161 <i>Principles of Sociology</i>	
SOC S163 <i>Social Problems</i>	
CS 306 <i>Computers in Society</i>	
Total	90

History

Programs: A.A., B.A., B.A. Honors, Teacher Certification, and Minor

Department of History

School of Arts and Sciences

Classroom-Medical Building 209 ▼ 260-481-6686 ▼
www.ipfw.edu/hist

Courses and programs in history help you gain a better understanding of yourself and your world and prepare you for a

career in teaching, library work, law, public service, or a related profession.

Listed below are requirements for the bachelor's degree, the honors degree, the minor, and teacher certification in history. An Associate of Arts with a concentration in history is described under School of Arts and Sciences in Part 3 of this *Bulletin*.

B.A. WITH A MAJOR IN HISTORY

To earn the B.A. with a major in history, you must fulfill the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and those listed below.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
HIST H105 <i>American History I</i>	0
<i>(credits included in History Core, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in HIST) 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
HIST H217 <i>The Nature of History</i>	3
<i>(if you have satisfied the second writing course requirement with another approved course prior to becoming a history major, you should consult the department chair to discuss the possible need to take HIST H217)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in HIST)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
HIST H113 <i>History of Western Civilization I</i>	0
<i>(credits included in History Core, below)</i>	
Credits in non-Western culture	3
Core and Concentration (Major) Courses	
HIST H105–H106 <i>American History I–II</i>	6
HIST H113–H114 <i>History of Western Civilization I–II</i>	6
HIST J495 <i>Proseminar for History Majors</i>	3

Credits in upper-level American history	6
Credits in upper-level Western European history*	6
Credits in upper-level Other World history*	6
Additional credits in history (H217 excluded)	3

*HIST H232 may not be used to fulfill the Western European or Other World requirements, but may be used for additional credit toward the major or minor.

General Elective Courses

Sufficient additional credits to bring the total to 124.

Total	124
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B.A. HONORS DEGREE

As an entering student, you become eligible for this honors program by scoring above 600 on the SAT I verbal test or the CEEB history achievement test; thereafter, you must have a GPA of 3.25 or higher or be recommended by a member of the department for admission. Admission to the degree program requires that you submit a written petition to the department no later than the end of your junior year.

Completion of the program requires, in addition to fulfillment of the B.A. requirements, (1) a GPA of 3.30 or higher in history and a cumulative GPA of 3.25 or higher; (2) 9 credits of honors courses, including 6 in history; (3) satisfactory completion in HIST K499 of an honors thesis; and (4) satisfactory defense of the honors thesis.

TEACHER CERTIFICATION

You may be certified as a teacher of social studies after fulfilling all requirements for the B.A. with a major in history and all requirements for teacher certification. Full information on teacher-certification requirements is available from the School of Education.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

MINOR IN HISTORY

If you are pursuing a major other than history, you may earn a minor in history by completing the following credits with a grade of C or better in each course, including at least 9 credits as resident credit at IPFW:

Course Number and Title	Credits
Credits in 100-level courses (H105, H106, H113, H114, or equivalent honors courses)	9
Credits above the 100 level, including courses in at least two of the following three areas: United States, Western Europe, and Other World areas	9
Total	18

Included in the above credits must be at least one course dealing primarily with the period before 1800 (HIST A301, A302, A310, B351, B352, C388, C390, C393, E331, F341, H113, H222, and occasional special offerings). HIST H232 may not be used to fulfill the Western European or Other World area requirements, but may be used for additional credits toward the major or minor.

Honors Program

Programs: Certificate All Baccalaureate Degrees

Kettler Hall G35 ▼ 260-481-6924 ▼ www.ipfw.edu/honors

The Honors Program is an undergraduate program that seeks to create learning opportunities and an environment of intellectual excitement and discovery through enriched courses of study and activities within a learning community. Through involvement with the Honors Program, honors students enter into a partnership of learning that extends well beyond the classroom to incorporate an interdisciplinary approach with career-oriented skills. Rich course opportunities and tailored projects create an individual curriculum for each student.

The program is open to students of all majors and undergraduate degrees. Traditional incoming students become eligible for the Honors Program by meeting any one of the following criteria: placing in the top 10 percent of their high school's graduating class, scoring a 650 SAT in verbal or math categories, or attaining a 1200 SAT (or 27 ACT) composite score. Any student may participate in the Honors Program after 12 or more credit hours with GPA-related grades at IPFW and a 3.3 GPA or higher. Transfer students eligible for the program must have at least 12 credit hours of GPA-related grades (A, B, C, D, F, IF) with an equivalent of at least a 3.5 GPA on a 4.0 scale from the transferring institution.

To earn the certificate along with the Honors Medal, you must fulfill the requirements of IPFW (see Part 7) and the Honors Program, which are as follows:

- 18 credits of honors coursework through honors courses or H-options.
- An honors project (including presentation and paper).
- Honors courses that represent at least two disciplines.
- At least one 300-level honors course.
- Both cumulative and honors GPA of 3.50 or higher.

In addition, students are highly encouraged to earn at least three credits of non-project honors coursework through honors courses. Because the Honors Program is an undergraduate program, all of the requirements of the program must be completed while the student is pursuing an undergraduate degree. Upon completion of such a degree, further completion of program requirements will not take effect unless work toward a different undergraduate degree is undertaken.

Hospitality Management

Program: B.S. Department of Consumer and Family Sciences School of Health Sciences

Neff Hall 330 ▼ 260-481-6562

Men and women with leadership ability are in great demand for managerial and administrative positions in the rapidly expanding hospitality industry. The number of available management positions in the industry continues to exceed the number of hospitality graduates each year. Students from this program assume

responsibilities for managerial proficiency at various levels and for providing services in the multitude of situations where people eat or live away from home.

To earn the B.S., you must satisfy the requirements of IPFW (see Part 7), earn a grade of C or better in each required ENG and HTM course, and complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	30
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
OLS 252 <i>Human Relations in Organizations</i>	3
SOC S161 <i>Principles of Sociology</i>	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
CFS General Distribution Requirements	9
ENG W232 <i>Introduction to Business Writing</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
PSY 120 <i>Elementary Psychology</i>	3
Business Core	9
CS 106 <i>Introduction to Computers</i>	3
ECON E200 <i>Fundamentals of Economics</i>	3
BUS A201 <i>Principles of Financial Accounting</i>	3
Organizational Leadership and Supervision Core	9
OLS 376 <i>Human Resources Issues</i>	3
OLS 454 <i>Gender and Diversity in Management</i>	3
OLS 476 <i>Compensation Planning and Management</i>	3
Hospitality Management Core	46
HTM 100 <i>Introduction to Hospitality and Tourism</i>	2
HTM 181 <i>Lodging Management</i>	3
FNN 203 <i>Food Selection and Preparation</i>	3
HTM 212 <i>Organization and Management in the Hospitality and Tourism Industry</i>	3
HTM 231 <i>Hospitality and Tourism Marketing</i>	3
HTM 251 <i>Computers in the Hospitality Industry</i>	3
HTM 291 <i>Quantity Food Production and Service</i>	3
HTM 291L <i>Quantity Food Production and Service Lab</i>	2
HTM 301 <i>Practicum in Restaurant, Hotel, and Institutional Management</i>	1
HTM 302 <i>Hospitality and Tourism Industry Internship</i>	2
HTM 312 <i>Human Resources Management for the Service Industries</i>	3
HTM 371 <i>Introduction to Tourism</i>	3
HTM 411 <i>Hospitality and Tourism Law</i>	3
HTM 491 <i>Beverage Management</i>	2
HTM 492 <i>Advanced Foodservice Management</i>	4
FNN 303 <i>Essentials of Nutrition</i>	3

Hospitality Electives		21
HTM 311	<i>Procurement Management for Foodservice</i>	3
HTM 314	<i>Franchising</i>	3
HTM 315	<i>Club Management and Operations</i>	3
HTM 321	<i>Equipment for Restaurants, Hotels, and Institutions</i>	3
HTM 322	<i>Hospitality Facilities</i>	3
HTM 323	<i>Foodservice Layout and Design</i>	3
HTM 341	<i>Cost Controls in Food Service and Lodging</i>	3
HTM 391	<i>Specialty Food Service and Catering</i>	3
COM 303	<i>Intercultural Communication</i>	3
HTM 322	<i>Hospitality Facilities Management</i>	3
HPER R160	<i>Man, His Leisure, and Recreation</i>	3
HPER R180	<i>Recreation Leadership</i>	3
OLS 378	<i>Labor Relations</i>	3
Total		124

Hotel, Restaurant, and Tourism Management

Program: A.S.
Department of Consumer and Family Sciences
School of Health Sciences

Neff Hall 330 ▼ 260-481-6562

This program helps you prepare for the responsibilities of supervising tourism businesses and operations of facilities that provide food service and lodging for large numbers of people. All courses required for this option apply to the Bachelor of Science in hospitality management at IPFW.

To earn the A.S., you must satisfy the requirements of IPFW (see Part 7), earn a grade of C or better in each required ENG and HTM course, and complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	18
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 153 <i>Algebra and Trigonometry</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
ENG W232 <i>Introduction to Business Writing</i>	3
Business, Economics, and Supervision	12
BUS A201 <i>Principles of Financial Accounting</i>	3
ECON E200 <i>Fundamentals of Economics</i>	3
OLS 252 <i>Human Relations in Organizations</i>	3
OLS 376 <i>Human Resources Issues</i>	3
HTM Core (formerly RHIT)	35
FNN 203 <i>Food Selection and Preparation</i>	3
FNN 303 <i>Essentials of Nutrition</i>	3
HTM 100 <i>Introduction to Hospitality and Tourism Industry</i>	2
HTM 181 <i>Lodging Management</i>	3
HTM 191 <i>Sanitation and Health in Food-Service, Lodging, and Tourism</i>	3
HTN 212 <i>Organization and Management in the Hospitality and Tourism Industry</i>	3

HTM 291	Quantity Food Production and Service	3
HTM 291L	Quantity Food Production and Service Lab	2
HTM 301	Practicum in RHIT Management	1
HTM 311	Procurement Management for Foodservice	3
HTM 321	Equipment for RHIT	3
HTM 341	Cost Controls in Foodservice and Lodging	3
HTM 371	Introduction to Tourism	3
General Elective Courses		3
Total		68

SPECIAL ACADEMIC REGULATION FOR STUDENTS IN HOTEL, RESTAURANT, AND TOURISM MANAGEMENT

Correspondence and independent-study courses in the major are not accepted for credit in this program.

The academic-renewal option (see Part 7) is available.

Human Services

Program: B.S. completion degree
Department of Human Services
School of Health Sciences

Neff Hall 136 ▼ 260-481-6424

The Bachelor of Science in Human Services is a completion degree that requires a total of 125 semester credit hours with a minimum of 60 semester credits earned during the B.S. completion program, and an additional 65 credits transferred in from an A.S. program in human services. The program is designed to prepare students to become human service professionals who can meet the needs of clients and communities within a diverse society. Examples of job roles that graduates of the degree would be qualified to fill include group home supervisor, substance abuse prevention educator, case manager, social service agency staff/manager, and psychiatric rehabilitation worker/supervisor, among others.

Students are admitted to this degree-completion program as follows:

1. Students new to IPFW must complete an application for undergraduate admission and meet the criteria for admission to the university. Students who have ever taken courses at IPFW should apply for re-entry to the university if they have not been actively enrolled at IPFW for one year or greater.
2. Students who have completed the requirements for the Associate of Science in human services at IPFW, Ivy Tech State College, or another human services program from another accredited institution and have a GPA of at least 2.0, will enroll in the program with junior status.
3. Students who have not completed the requirements for the Associate of Science in human services will complete those at Ivy Tech State College but may be admitted to IPFW as a pre-human services student. Pre-human services students may combine studies at IPFW and Ivy Tech to complete the requirements of the Fort Wayne Ivy Tech State College A.S. in human services and may also work on B.S. completion courses other than the IPFW 300- and 400-level Human Services Core courses. After meeting the

criteria for the A.S., students will be eligible for the Human Services Core courses and admission as a fully admitted human services student. All 300- and 400-level courses must be completed at IPFW. For further information regarding the Fort Wayne Ivy Tech State College human services A.S. program, please call Jan Vick, 260-480-4149.

4. All students will be required to meet the regular IPFW and Purdue University admission standards, as presented in the IPFW *Bulletin*. Pre-human services students will also be required to meet the regular Ivy Tech admission standards.

5. Students will be required to complete a program admissions application.

6. Students must comply with internship agency requirements for internship placements. These will include a separate interview and may include proof of certain immunizations and/or certification in CPR. Many clinical agencies now require that students provide them with a criminal history check with the Indiana State Police prior to acceptance as a clinical student and have varying policies regarding what constitutes an acceptable history for placement with their client population. Anyone with a record of a sex crime against a child may not be placed into an internship in which there is an actual or potential possibility that they will come into contact with children (IC 5-2-12-12). Students who cannot be placed in internships with reasonable effort as a result of their criminal histories and subsequently cannot complete the program requirements will be unable to graduate from the program.

To earn the B.S., you must complete the following requirements:

Course Number and Title	Credits
Credits from an A.S. program in human services	65
IPFW General Education Requirements	21
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
Choose one:	3
SPEA K300 <i>Statistical Techniques (recommended)</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	
The following courses if not taken during the A.S. program:	3-6
ANTH B200 <i>Bioanthropology</i>	
BIOL 100 <i>Introduction to the Biological World</i>	
Area III—The Individual, Culture, and Society	
The following course if not taken during the A.S. program:	0-3
PSY 350 <i>Abnormal Psychology</i> (Ivy Tech PSY 205 cannot be substituted for this course)	
Area IV—Humanistic Thought	
See Part 2 General Education Requirements for approved courses	
PHIL 110, 111, 112, 120, or 150	3
Elective	3
Area V—Creative and Artistic Expression	
See Part 2 General Education Requirements for approved courses	
Area VI—Inquiry and Analysis	
Sociology or psychology elective	3
Human Services Core	
NUR 309 <i>Transcultural Healthcare</i>	3
HSRV 315 <i>Introduction to Theories and Therapies</i>	3

HSRV 320	<i>Case Methods</i>	3
HSRV 330	<i>Psychopharmacology for Human Services</i>	1
HSRV 400	<i>Internship I</i>	1
HSRV 401	<i>Internship Seminar I</i>	1
HSRV 450	<i>Internship II</i>	2
HSRV 451	<i>Internship Seminar II</i>	1
Human Service Concentration		12
Student works with advisor to identify a group of courses from human services and related disciplines that support a concentration in such areas as addictions, psychiatric rehabilitation, gerontology, child/adolescent services, activity/recreational therapies, and developmental disabilities. These courses prepare students to graduate with knowledge and skills directly applicable to their chosen area of interest within the human services profession.		
Required supporting courses		12
ENG W233	<i>Intermediate Expository Writing</i>	3
Choose one of the following:		
PSY 203	<i>Introduction to Research Methods in Psychology</i>	3
SOC 352	<i>Methods of Social Research</i>	
NUR 339	<i>Research in Healthcare</i>	
PSY 329	<i>Psychobiology</i>	3
Psychology or sociology elective		3

Industrial Engineering Technology

Programs: A.S. and B.S.

Department of Manufacturing Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 205 ▼
260-481-6385 ▼ www.mft.ipfw.edu*

The Department of Manufacturing Technology (MFT) in the School of Engineering, Technology and Computer Science serves the needs of students, industry, and government in northeastern Indiana.

The department offers Associate of Science (A.S.) and Bachelor of Science (B.S.) degree programs in industrial engineering technology (IET) and mechanical engineering technology (MET). The programs in IET and MET (both A.S. and B.S.) are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The department also offers a certificate in quality.

The primary focus of the department is the development of its students. It encourages students to acquire the knowledge and understanding that helps them contribute to society by leading meaningful and productive lives.

The major thrust of the department is to prepare graduates to understand basic concepts of knowledge, have studied one technical field in sufficient depth to appreciate its methodologies and fundamental unresolved questions, and have acquired a basis for life-long learning. Attainment of the above is accomplished through the establishment of required courses in 1) a core of

general education, 2) required technical courses in the major area, and 3) elective courses combining breadth of subject matter with specific study in depth. Laboratory experience is an essential part of both associate and bachelor degree programs.

Mission The mission of the Department of Manufacturing Technology is to offer quality mechanical and industrial undergraduate engineering technology programs that meet regional needs; to advance and share technical knowledge with students and industry, through teaching, service, and research; and to support the missions and goals of the school and university.

A.S. WITH A MAJOR IN INDUSTRIAL ENGINEERING TECHNOLOGY

This program prepares graduates with knowledge, technical, analytical, and managerial skills necessary to develop, implement, and improve integrated systems in manufacturing and service industries that include people, materials, equipment, information, and energy. Graduates will be prepared for both immediate employment and continuation in the B.S. program.

To earn the A.S. with a major in industrial engineering technology, you must fulfill the requirements of IPFW (see Part 7) and complete the following courses, earning a grade of C or better in those courses that serve as prerequisites.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
ENG W131	<i>Elementary Composition I*</i> 3
COM 114	<i>Fundamentals of Speech Communication</i> 3
MA 159	<i>Algebra and Trigonometry*</i> 5
Area II—Natural and Physical Sciences	
PHYS 218	<i>General Physics*</i> 4
PHYS 219	<i>General Physics II*</i> 4
Area III—The Individual, Culture, and Society	
IET 105	<i>Industrial Management*</i> 3
PSY 120	<i>Elementary Psychology</i> 3
Core and Concentration (Major) Courses	
ETCS 101	<i>Introduction to ETCS</i> 1
IET 204	<i>Techniques of Maintaining Quality*</i> 3
IET 224	<i>Production Planning and Control</i> 3
IET 257	<i>Ergonomics</i> 3
IET 267	<i>Work Methods Design*</i> 3
IET 310	<i>Plant Layout and Material Handling*</i> 3
MET 104	<i>Technical Graphics Communication*</i> 3
MET 106	<i>Analytical and Computational Tools in MET*</i> 2
MET 180	<i>Materials and Processes*</i> 3
MET 223	<i>Introduction to Computer-Aided Modeling and Design*</i> 3
MET 335	<i>Basic Machining*</i> 3
Additional Required Technical Courses	
CS 114	<i>Introduction to Visual Basic*</i> 3
STAT 301	<i>Elementary Statistical Methods I*</i> 3
Required Support Courses	
ENG W234	<i>Technical Report Writing*</i> 3
Total	64

**Grade of C or better required*

B.S. WITH A MAJOR IN INDUSTRIAL ENGINEERING TECHNOLOGY

This program prepares graduates with knowledge, technical, analytical, and managerial skills necessary to develop, implement, and improve integrated systems in manufacturing and service industries that include people, materials, equipment, information, and energy. Graduates will be prepared for careers in higher levels of system design, integration, and management.

To earn the B.S. with a major in industrial engineering technology, you must fulfill the requirements of IPFW (see Part 7), the School of Engineering, Technology, and Computer Science (see Part 3), and of the A.S., and complete the following credits, earning a grade of C or better in those courses that serve as prerequisites:

Course Number and Title	Credits
IPFW General Education Requirements	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	
ENG W421 <i>Technical Writing Projects</i>	3
Required Core and Concentration (Major) Courses	
IET 350 <i>Engineering Economy</i>	3
IET 362 <i>Technological Optimization</i>	3
IET 369 <i>Manufacturing Simulation</i>	3
IET 401 <i>Design for Manufacturing*</i>	3
IET 454 <i>Statistical Process Control</i>	3
IET 464 <i>Off-Line Quality Control</i>	3
IET 480 <i>Cost Estimating and Design</i>	3
MET 201 <i>Statics, Stress, and Strain</i>	3
MET 300 <i>Applied Thermodynamics</i>	3
MET 347 <i>Programming of Automation Systems</i>	3
Additional Required Technical Courses	
CHM 111 <i>General Chemistry</i>	3
ECET 211 <i>Electrical Machines and Controls</i>	3
MA 227 <i>Calculus for Technology I</i>	4
Additional Required Support Courses	
BUS A201 <i>Introduction to Accounting</i>	3
COM 323 <i>Business and Professional Speaking</i>	3
Additional Core and Concentration (Major) Electives	
Any two courses from IET or MET or a course approved by an IET advisor	6
Total including 64 from A.S.	128

*Grade of C or better required

Information Systems

Programs: A.S., B.S., and Minor
Department of Computer Science
School of Engineering, Technology, and Computer Science

Kettler Hall 252 ▼ 260-481-6803 ▼ www.cs.ipfw.edu/

The Department of Computer Science offers majors in computer science and information systems. Minors are also available in these areas.

The A.S. and B.S. programs in information systems provide a strong background to students interested in developing software for business systems and applications. Preparation includes an understanding of programming and problem solving, data communications, systems analysis, database management, and management information systems.

A.S. WITH A MAJOR IN INFORMATION SYSTEMS

This program is focused on fundamental computing courses. All requirements may be applied to the B.S. program in information systems. Graduates of the A.S. program typically continue in the B.S. program, although they are qualified for employment opportunities in the computer field.

To earn the A.S. with a major in information systems, you must fulfill the requirements of IPFW (see Part 7) and complete the following courses. Only computer science courses in which you have earned a grade of C or better can be applied to the degree or used to satisfy prerequisites. A maximum of 10 credits of D grades will be accepted in other courses.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
ENG W131 <i>Elementary Composition I (or equivalent)</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	3
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	3
Major Requirements	20
One of the following:	3
CS 114 <i>Introduction to Visual Basic</i>	
CS 155 <i>COBOL Programming</i>	
CS 160–161 <i>Introduction to Computer Science I–II</i>	8
CS 260 <i>Data Structures</i>	3
CS 274 <i>Data Communications</i>	3
CS elective (200+ level) approved by advisor	3
Supporting Courses	
One of the following:	
MA 151 <i>Algebra and Trigonometry</i>	5
MA 153 <i>Algebra and Trigonometry I</i>	3
BUS A201 <i>Principles of Financial Accounting</i>	3
ENG W234 <i>Technical Report Writing</i>	3
MA 175 <i>Introductory Discrete Mathematics</i>	3
One of the following:	3
BUS W100 <i>Principles of Business Administration</i>	
IET 105 <i>Industrial Management</i>	
One of the following:	3
ECON E200 <i>Fundamentals of Economics</i>	
ECON E201 <i>Introduction to Microeconomics</i>	
Credits in an approved laboratory course in biology, chemistry, earth and space sciences, or physics	4
Approved Electives	9
Total	64

B.S. WITH A MAJOR IN INFORMATION SYSTEMS

The Bachelor of Science program helps you prepare for a career as a computer professional as well as for possible graduate study.

In addition to satisfying the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3), you must complete the courses required for the A.S. with a major in information systems (see above) and the following additional courses. Only computer science courses in which you have earned a grade of C or better can be applied to the degree or used to satisfy prerequisites. A maximum of 10 credits of D grades (including any from the A.S. program) will be accepted in other courses.

Course Number and Title	Credits
IPFW General Education Requirements	12
Area II—Natural and Physical Sciences	3
<i>See Part 2 General Education Requirements for approved courses (may be fulfilled by courses satisfying other requirements)</i>	
Area IV—Humanistic Thought	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Core and Concentration (Major) Courses	27
CS 364 <i>Introduction to Database Systems</i>	3
CS 365 <i>Advanced Database Systems</i>	3
CS 366 <i>Structured Analysis Techniques</i>	3
CS 367 <i>Structured Design Techniques</i>	3
CS 466 <i>Strategic Issues for Information Systems</i>	3
CS 467 <i>Software Project Management</i>	3
Credits in approved advanced electives in CS, BUS, ECON, or MA	9
Supporting Courses	21
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	3
One of the following:	3
MA 230 <i>Calculus for the Managerial, Social, and Biological Sciences II</i>	
MA 314 <i>Introduction to Mathematical Modeling</i>	
One of the following:	3
STAT 301 <i>Elementary Statistical Methods I</i>	
STAT 511 <i>Statistical Methods</i>	
Credits in approved second course in business or economics	3
Credits in approved advanced communication course	3
Additional credits in approved electives	6
Total Including 64 from A.S.	124

MINOR IN INFORMATION SYSTEMS

To earn a minor in information systems, you must complete the following courses:

Course Number and Title	Credits
Major Requirements	
One of the following:	3
CS 114 <i>Introduction to Visual Basic</i>	
CS 155 <i>COBOL Programming</i>	

CS 160–161 <i>Introduction to Computer Science I–II</i>	8
CS 256 <i>Applications Software Project</i>	3
CS 260 <i>Data Structures</i>	3
CS 366 <i>Structured Analysis Techniques</i>	3
Total	20

Interior Design

Program: A.S.

Department of Civil and Architectural

Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 229 ▼
260-481-6797 ▼ www.caet.ipfw.edu*

Mission To provide employers and the public of northeastern Indiana with educated, technologically equipped graduates, able to serve the varied construction industries (represented by architectural, civil, and construction engineering technologies, and interior design) in advancing the solutions to problems facing the public and private sector.

Goals

- To provide education of the traditional and returning adult student for career success in the construction industry
- To develop a respect for diversity and a knowledge of contemporary professional, societal, and global issues with an understanding of professional and ethical responsibilities.
- To be responsive to the ever-changing technologies of the construction industries.
- To instill in students the desire for and ability to engage in lifelong learning.

The breadth of the curriculum will provide leadership potential in addressing problems of the region, its people, and its industries.

The blend of creative and technically oriented courses in this program helps you prepare for the responsibilities of a commercial and residential designer.

To earn the A.S. with a major in interior design, you must satisfy the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3); earn a grade of C or better in ENG W131 and each required INTR course; and complete the requirements listed below:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	9
ENG W131 <i>Elementary Composition I</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
Area III—The Individual, Culture, and Society	6
SOC S161 <i>Principles of Sociology</i>	3
PSY 120 <i>Elementary Psychology</i>	3
Area IV—Humanistic Thought	3
INTR 220 <i>Architecture and Urban Form</i>	3
Core and Concentration (Major) Courses (46 credits)	
INTR 111 <i>Residential Interior Design I</i>	3
INTR 112 <i>Residential Interior Design II</i>	3

INTR 121	<i>Freehand Sketching</i>	3
INTR 123	<i>Perspective Drawing</i>	3
INTR 131	<i>Decorative Materials and Accessories I</i>	3
INTR 132	<i>Decorative Materials II</i>	3
INTR 141	<i>Interior and Furniture Styles I</i>	3
INTR 201	<i>CAD for Interior Design</i>	3
INTR 210	<i>Interior and Furniture Styles II</i>	3
INTR 231	<i>Contract Interior Design I</i>	3
INTR 232	<i>Contract Interior Design II</i>	3
INTR 241	<i>Lighting and Color Design</i>	3
INTR 251	<i>Professional Practice</i>	3
INTR 261	<i>Interior Design Practicum</i> or	
INTR 299	<i>Interior Design (Variable Title)</i>	3
ARET 123	<i>Construction Graphic Communication</i>	4
General Elective Courses		3
See department for approved business electives		
Total		67

SPECIAL ACADEMIC REGULATIONS

You may not enroll in any 200-level INTR course until you have successfully completed a portfolio presentation to the faculty. The presentation will demonstrate your level of achievement and identify any problem areas that may hinder your success in subsequent courses. If a deficiency is recognized, you will be required to repeat certain courses or otherwise correct the deficiency and resubmit your portfolio.

Correspondence and independent-study courses in the major are not accepted for credit.

International Studies

Program: Certificate
School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6885 or 260-481-6746

A certificate in international studies is available to all IPFW students who are interested in developing greater understanding of the histories and cultures of other nations and in studying the various means used to promote and maintain normal relations among them. You must be at least a sophomore in good standing to apply to this program.

To earn this certificate, you must complete the following credits with a grade of C or higher in each course as part of your bachelor's degree program:

Course Number and Title	Credits
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	3
Credits from the following:	9
BUS D300 <i>International Business Administration</i>	
HIST H232 <i>The World in the 20th Century</i>	
POLS Y109 <i>Introduction to International Relations</i>	
Credits from the following:	3
ANTH E341 <i>Culture of China</i>	
ANTH E455 <i>Anthropology of Religion</i>	
FWAS H201 <i>The Ancient World</i>	
HIST D410 <i>Russian Revolutions and the Regime</i>	

HIST D426	<i>Balkans: 1914 Present</i>	
HIST F342	<i>Latin America: Evolution and Revolution</i>	
HIST F432	<i>20th-Century Latin American Revolutions</i>	
HIST F447	<i>U.S.-Latin American Relations</i>	
HIST H202	<i>Russia: 1801–Present</i>	
HIST H228	<i>The Vietnam War</i>	
HIST T335	<i>Topics in Non-Western History</i>	
POLS Y332	<i>Russian Politics</i>	
POLS Y339	<i>Middle Eastern Political Systems</i>	
SOC S410	<i>Topics in Social Organization: Chinese Social Structure</i>	
SPAN S412	<i>Latin-American Culture and Civilization</i>	
Additional credits (may be chosen from the list below and/or from the list of non-Western courses above)		6
FREN F464	<i>Civilisation Francaise II</i>	
GER G362	<i>Deutsche Landeskunde</i>	
GER G363	<i>Deutsche Kulturgeschichte</i>	
HIST A345	<i>American Diplomatic History I</i>	
HIST A346	<i>American Diplomatic History II</i>	
HIST B361	<i>Europe in the 20th Century I</i>	
HIST B378	<i>History of Germany</i>	
FWAS H202	<i>Foundations of the Modern Western World</i>	
POLS Y335	<i>Western European Politics</i>	
POLS Y376	<i>International Political Economy</i>	
SPAN S411	<i>Spanish Culture and Civilization</i>	
WOST W301	<i>International Perspectives on Women</i>	
Total		18

Foreign Language Requirement In addition to the 18 credits stipulated above, students must demonstrate basic proficiency in a language other than English. The proficiency may be demonstrated by placing at the third-semester level or higher on the foreign language placement test, or by completing the first two semesters of a foreign language at the college level. Students who speak a language other than English are exempt from this requirement.

Interpersonal and Organizational Communication

Program: B.A.
Department of Communication
School of Arts and Sciences

Neff Hall 230 ▼ 260-481-6825 ▼ www.ipfw.edu/comm/

This program helps you understand human communication and develop skill and sensitivity in speaking, listening, and participating in varied communication situations. Courses focus on theory and practice in communication tasks ranging from interviewing to addressing large audiences. The degree program helps you prepare for a career in government, sales, public relations, law, public and social service, personnel, or business and industrial communication.

The Department of Communication offers related bachelor's degree programs in media and public communication and in speech communication teaching and a minor in media production for those students who want more courses in practical skills.

To earn the B.A. with a major in interpersonal and organizational communication, you must fulfill the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and the Department of Communication as listed below. You also must earn a minor in an appropriate discipline. Two courses in a major offered in the Department of Communication can also be counted in the required minor. If the minor is selected from an Arts and Sciences department, the courses may be used to satisfy distribution requirements in the School of Arts and Sciences.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundation	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
COM 250 <i>Mass Communication and Society</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in COM)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in COM)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	3
COM 250 <i>Mass Communication and Society</i>	3
COM 300 <i>Introduction to Communication Research Methods</i>	3
COM 318 <i>Principles of Persuasion</i>	3
COM 320 <i>Small Group Communication</i>	3
COM 324 <i>Introduction to Organizational Communication</i>	3
Credits from among the following:	9
COM 303 <i>Intercultural Communication</i>	
COM 310 <i>Family Communication</i>	
COM 325 <i>Interviewing: Principles and Practice</i>	
COM 410 <i>Gender Roles and Communication</i>	

COM 471 <i>Communicating Peace</i>	
COM 491 <i>Special Topics in Communication</i>	
Credits from among the following:	6
COM 507 <i>Introduction to Semiotics</i>	
COM 508 <i>Nonverbal Communication in Human Interaction</i>	
COM 512 <i>Theories of Interpersonal Communication</i>	
COM 516 <i>Analysis of Persuasive Messages</i>	
COM 518 <i>Theories of Persuasion</i>	
COM 520 <i>Small Group Communication</i>	
COM 523 <i>Communication in Personal Relationships</i>	
COM 525 <i>Advanced Interviewing</i>	
COM 574 <i>Organizational Communication</i>	

Minor and Elective Courses	
Credits in approved minor	12–21
Sufficient additional credits to bring the total to 124.	
Total	124

Journalism

Programs: Transfer Program and Minor School of Arts and Sciences

Neff Hall 343 ▼ 260-481-6685 ▼ www.ipfw.edu/jour/

JOURNALISM TRANSFER PROGRAM

At IPFW, you may complete two years of course work toward the Bachelor of Arts offered by the Indiana University School of Journalism at both the Bloomington and Indianapolis campuses. While at IPFW, you may take courses in the fundamental-skills requirements in writing, mathematics, and foreign language; distribution requirements in arts and humanities, natural and mathematical sciences, and social and behavioral sciences; and a maximum of 12 credits in journalism core courses or electives.

Suggested Course and Title	Credits
One of the following:	3
JOUR C200 <i>Mass Communications</i>	
JOUR J110 <i>Foundations of Journalism</i>	
JOUR J200 <i>Writing for Mass Media</i>	3
JOUR J210 <i>Visual Communication</i>	3
JOUR J300 <i>Communications Law</i>	3
Total	12

Internships and special course approvals are arranged through the IPFW journalism coordinator. Scholarships are available for declared journalism majors for the freshman year at IPFW and for subsequent years throughout the IU system. Applications are available in January.

For further information about journalism requirements and opportunities at IPFW, consult the *Bulletin* of the IU School of Journalism and course descriptions appearing in this *Bulletin*.

The IPFW Journalism Program offers two minors. A journalism minor provides underpinning for those interested in various media; the public relations minor described later in this section is more particularly defined and will appeal to those wishing to concentrate in corporate communications or advertising/public relations.

These minors are especially appropriate for media and public communication or English communication media majors. Those with a desire to write or report in some content area should consider a major in the area itself. Reporters need a content area such as political science or history; basic science students will discover that science writing is an especially valuable and challenging career goal.

MINOR IN JOURNALISM

To earn the journalism minor, you must complete each course with a grade of C or better and must complete at least 8 credits as resident credit at IPFW.

Course Number and Title	Credits
JOUR J200 <i>Writing for Mass Media</i>	3
One of the following:	3
COM 352 <i>Mass Communication Law</i>	
JOUR J300 <i>Communications Law</i>	
One of the following:	3
COM 250 <i>Mass Communication and Society</i>	
JOUR C200 <i>Mass Communications</i>	
JOUR J110 <i>Foundations of Journalism and Mass Communication</i>	
One of the following:	3
JOUR J210 <i>Visual Communication</i>	
JOUR J310 <i>Editorial Practices</i>	
JOUR J390 <i>Corporate Publications</i>	
One of the following:	3
COM 490 <i>Internship in Communication</i>	
ENG W398 <i>Internship in Writing</i>	
JOUR C327 <i>Writing for Publication</i>	
JOUR J315 <i>Feature Writing</i>	
JOUR J492 <i>Media Internship</i>	
Total	15

Labor Studies

Division of Labor Studies

Programs Offered: A.S., B.S., Certificate, and Minor

Kettler Hall G28 ▼ 260-481-6831 ▼ www.labor.iu.edu

Each labor-studies program enhances the knowledge and skills of those active in organized labor. Completion of a program enhances your ability to apply knowledge and skills in unions, government agencies, or educational institutions.

Admission For admission to any of these programs, you must apply directly to the labor-studies office.

General Program Requirements Both of the following degrees and the certificate in labor studies require satisfactory completion of 15 credits from among the Labor Studies Core and additional credits from among three Required Areas of Learning (see listings below). Courses in which you earn a grade of D will count only as electives.

LABOR STUDIES CORE

Course Number and Title	Credits
Labor Studies Core (15 credits required)	
Credits from the following: 15	
LSTU L100 <i>Survey of Unions and Collective Bargaining</i>	
LSTU L101 <i>American Labor History</i>	
LSTU L110 <i>Introduction to Labor Studies: Labor and Society</i>	
LSTU L200 <i>Survey of Employment Law</i>	
LSTU L201 <i>Labor Law</i>	
LSTU L203 <i>Labor and the Political System</i>	
LSTU L205 <i>Contemporary Labor Problems</i>	
LSTU L210 <i>Workplace Discrimination and Fair Employment</i>	
LSTU L220 <i>Grievance Representation</i>	
LSTU L230 <i>Labor and the Economy</i>	
LSTU L240 <i>Occupational Health and Safety</i>	
LSTU L250 <i>Collective Bargaining</i>	
LSTU L251 <i>Collective Bargaining Laboratory</i>	
LSTU L255 <i>Unions in State and Local Government</i>	
LSTU L260 <i>Leadership and Representation</i>	
LSTU L270 <i>Union Government and Organization</i>	
LSTU L280 <i>Union Organizing</i>	

REQUIRED AREAS OF LEARNING FOR LABOR STUDIES

Arts and Humanities

Afro-American Studies
Classical Studies
Communication
Comparative Literature
English (except R150 and W130)
Folklore
Foreign Language
History
Journalism
Music
Philosophy
Theatre
Visual Arts

Sciences and Mathematics

Anthropology (B200 and E445 only)
Astronomy
Biology
Chemistry (except 100)
Computer Science (includes BUS K200, K211, K212, K213, K214, K215, K216)
Economics (E270 only)
Entomology
Forestry and Natural Resources
Geography (G107 and G304 only)
Geology
Horticulture
Mathematics (except 101, 102, 103, 109, 111, and 113)
Physics
Psychology (120, 201, 314, 333, 329, and 416 only)
Sociology (S351 only)
SPEA (K300 only)
Statistics

Social and Behavioral Sciences

Anthropology
Economics
Geography
Linguistics
Political Science
Psychology
Sociology
SPEA (J101 only)
WOST (W210 only)

A.S. IN LABOR STUDIES

To earn the Associate of Science in Labor Studies, you must fulfill the requirements of IPFW (see Part 7) and successfully complete the following courses:

Course Number and Title	Credits
Credits from the Labor Studies Core	15
Additional credits in labor-studies courses	12
Arts and Humanities Area of Learning (12 credits)	
ENG W131 Elementary Composition I	3
Credits in a second writing course	3
Credits from at least two different subjects	6
Social and Behavioral Sciences Area of Learning	9
credits, including one economics course (ECON E201 is recommended); courses in this area must be selected from at least two different subjects	
Science and Mathematics Area of Learning	6
credits, including one course in computer science (recommended). Science and mathematics courses must be selected from at least two different subjects	
Electives	6
Total	60

You must earn a minimum of 10 credits after admission to labor studies and may apply toward the degree no more than 15 credits in a single subject other than labor studies. You must complete at least 12 credits while enrolled as an IU student.

B.S. IN LABOR STUDIES

To earn the Bachelor of Science in Labor Studies, you must fulfill the requirements of IPFW (see Part 7) and successfully complete the following courses.

Course Number and Title	Credits
Credits from the Labor Studies Core	15
Additional credits in labor-studies courses	27
Arts and Humanities Area of Learning (12 credits)	
ENG W131 Elementary Composition I	3
Credits in a second writing course	3
Credits from at least two different subjects	6
Social and Behavioral Sciences Area of Learning	12
credits; one economics course is required (ECON E201 recommended); courses in this area must be selected from at least two different subjects	
Science and Mathematics Area of Learning	16
credits, including one course in computer science; science and mathematics courses must be selected from at least two different subjects	

Additional Credits from One Area of Learning	12
Electives	27
Total	120

You must earn a minimum of 20 credits after admission to labor studies and may apply toward the degree no more than 21 credits in a single subject other than labor studies. At least 30 of your credits must be in 300/400-level courses, including at least 12 credits in labor studies courses. You must complete at least 24 credits while enrolled as an IU student.

CERTIFICATE IN LABOR STUDIES

To earn the certificate in labor studies, you must fulfill the requirements of IPFW (see Part 7) and successfully complete the following courses:

Course Number and Title	Credits
Credits in the Labor Studies Core	15
3 credits in each Required Area of Learning	9
Additional credits in one of the Required Areas of Learning	6
Total	30

MINOR IN LABOR STUDIES

If you are pursuing a major other than labor studies, you may earn a minor in labor studies by completing 15 credits, including 6 credits from the Labor Studies Core and 9 additional credits in labor studies. The additional 9 credits may come from other core courses, more-advanced courses, topics courses, internships, and directed labor studies.

Linguistics

Program: Minor

Department of English and Linguistics School of Arts and Sciences

Classroom-Medical Building 145 ▼ 260-481-6841 ▼
www.ipfw.edu/engl

Linguistics is the study of the characteristics of language. Accordingly, linguistics courses are valuable preparation for the study of such subjects as anthropology, communication, education, English, modern languages, psychology, sociology, and speech and audiology.

This program is available to all IPFW students except those pursuing the language, teacher-certification, or communication media concentration with a major in English.

To earn a minor in linguistics, you must complete the following 15 credits, including at least 8 credits earned as resident credit at IPFW, with a grade of C or better in each course:

Course Number and Title	Credits
One of the following:	3
ANTH L200 Language and Culture	
ANTH L400 Seminar in the Ethnography of Communication	
LING L360 Language in Society	

One of the following:	3
LING L103 <i>Introduction to the Study of Language</i>	
LING L303 <i>Introduction to Linguistic Analysis</i>	
One course in the structure or linguistics of a modern foreign language, or one of the following:	3
AUS 181 <i>First Course in American Sign Language</i>	
ENG G205 <i>Introduction to the English Language</i>	
ENG G206 <i>Introduction to the Study of Grammar</i>	
LING L490 <i>Linguistic Structures</i>	
One of the following or one course above the 200 level in linguistics or a related discipline approved by the department:	3
AUS 306 <i>Introduction to Phonetics</i>	
AUS 309 <i>Language Development</i>	
PHIL 450 <i>Symbolic Logic</i>	
PSY 426 <i>Language Development</i>	
PSY 526 <i>Psycholinguistics</i>	
Any LING course numbered 300 or above except LING L303	3
Total	15

Management and Marketing

See *Business, Business Studies*

Manufacturing Technology

See *Industrial Engineering Technology, Mechanical Engineering Technology, Quality*

Mathematics

Programs Offered: A.A., B.S. Minor, and Research Certificate

**Department of Mathematical Sciences
School of Arts and Sciences**

Kettler Hall 200 ▼ 260-481-6821 ▼ www.ipfw.edu/math

The Department of Mathematical Sciences offers programs leading to the Bachelor of Science with a major in mathematics and in mathematics teaching. An Associate of Arts with a concentration in mathematics, offered by the School of Arts and Sciences, is described in Part 3.

B.S. WITH A MAJOR IN MATHEMATICS

Programs leading to the Bachelor of Science help you prepare for employment in business and industry, teaching in secondary schools, or study for advanced degrees. As a mathematics major you choose one of six options: actuarial science, business, computing, mathematics, mathematics teaching, or statistics.

To earn a B.S. with a major in mathematics, you must satisfy the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and the Department of Mathematical Sciences. Required course work appears below.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
MA The quantitative-reasoning requirement is satisfied by mathematics courses below.	0
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Includes two laboratory courses (The science courses must be selected from a list approved by the department.)	11
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in MA)	
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i> (or other approved writing course)	3
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	8
Core and Concentration (Major) Courses	
Of the mathematics courses numbered below 261, only 165, 166, and 175 apply toward the degree; statistics courses must be numbered 490 or higher to be counted. You must have a grade-point average of C or better with at most one D in courses used to fulfill the major requirements.	
CS 160 <i>Introduction to Computer Science I</i>	4
MA 165–166 <i>Analytic Geometry and Calculus I–II</i>	8
MA 175 <i>Introductory Discrete Mathematics</i>	3
or	
MA 275 <i>Intermediate Discrete Mathematics</i>	3
MA 263 <i>Multivariate and Vector Calculus</i>	4
MA 351 <i>Elementary Linear Algebra</i>	3
Option Courses (see below)	46–56
General Elective Courses	
Sufficient additional credits, if necessary, to bring the total to 124	
Total	124

ACTUARIAL SCIENCE OPTION

This option, designed in consultation with professionals from the insurance industry, includes courses that help you prepare for a variety of positions in that field. In particular, it helps you prepare for the first of the series of examinations by the Society of Actuaries. Additional information is available from the department.

Course Number and Title	Credits
BUS A201 <i>Principles of Financial Accounting</i>	3
BUS A202 <i>Principles of Managerial Accounting</i>	3

BUS F301	Financial Management (before enrolling in F301, you must complete the following with grades of C or better: BUS A201-A202, CS 160, ECON E201-E202, MA 165, and STAT 511)	3
ECON E201	Introduction to Microeconomics (credits included in Area III)	0
ECON E202	Introduction to Macroeconomics	3
STAT 511	Statistical Methods	3
STAT 512	Applied Regression Analysis	3
STAT 516	Basic Probability and Applications	3
STAT 517	Statistical Inference	3
Credits in three electives selected from a list of courses approved by the department		9
Credits in electives (two additional finance courses, BUS F302 and F420 highly recommended)		13-16
Total		46-49

BUSINESS OPTION

This option is designed for students who plan to pursue a career in business or industry. In addition to obtaining useful mathematics and statistics tools, the student who completes this option will also receive a minor in business.

Course Number and Title	Credits	
Option Specific Courses		21
MA 305	Foundations of Higher Mathematics	3
MA 314	Introduction to Mathematical Modeling	3
STAT 511	Statistical Methods	3
STAT 512	Applied Regression Analysis	3
STAT 516	Basic Probability and Applications	3
Credits in courses selected from a departmentally approved list (MA 363, 417/418, 441, 453, 511, 525, STAT 514, 517)		6
Business Minor		21
BUS A201	Principles of Financial Accounting	3
BUS A202	Principles of Managerial Accounting	3
BUS K211, K212, K213	Microcomputer Application Series	3
BUS L200	Elements of Business Law	1
BUS W204	Social, Legal, and Ethical Implications of Business Decisions	3
ECON E201	Introduction to Microeconomics (counted as a general education course in Area III)	0
ECON E202	Introduction to Macroeconomics	3
Credits in two courses selected from the following list::		6
BUS D300	International Business Administration	
BUS F301	Financial Management	
BUS M301	Marketing Management in a Competitive Environment	
BUS P301	Managing Operations in a Competitive Environment	
BUS Z302	Management of Organizations and People	
General elective courses		13
Total		53-56

COMPUTING OPTION

This option helps you prepare for computer-related careers for which a strong mathematical background is advantageous.

Course Number and Title	Credits	
CS 161	Introduction to Computer Science II	4
CS 260	Data Structures	3
CS 384	Numerical Analysis	3
MA 314	Introduction to Mathematical Modeling	3
One of the following:		3
MA 510	Vector Calculus	
MA 511	Linear Algebra with Applications	
One of the following:		3
STAT 511	Statistical Methods	
STAT 516	Basic Probability and Applications	
Credits in courses selected from a departmentally approved list		6
Credits in electives		28-31
Total		53-56

MATHEMATICS OPTION

This option helps you prepare for graduate study in the mathematical sciences or for work in fields where a strong mathematical background is required.

Course Number and Title	Credits	
MA 305	Foundations of Higher Mathematics	3
MA 363	Differential Equations	3
MA 441	Real Analysis	3
MA 453	Elements of Algebra	3
One of the following:		3
STAT 511	Statistical Methods	
STAT 516	Basic Probability and Applications	
Credits in courses selected from a departmentally approved list		6
Credits in electives		31-34
Total		52-55

MATHEMATICS TEACHING OPTION

This option provides the mathematical preparation necessary for teaching secondary-school mathematics in Indiana. You are encouraged to choose and complete a teaching minor.

Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The Praxis II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

Information on additional requirements for teacher certification is available in the department office.

Course Number and Title	Credits	
MA 305	Foundations of Higher Mathematics	3
MA 453	Elements of Algebra	3
MA 560	Fundamental Concepts of Geometry	3
One of the following:		3
STAT 511	Statistical Methods	
STAT 516	Basic Probability and Applications	

Credits in courses selected from a departmentally approved list	6
Credits in electives	34–37
Total	52–55

STATISTICS OPTION

This option helps you prepare for careers in business and industry and emphasizes the statistical methods used in decision making. It also provides entry-level preparation for an actuarial career.

Course Number and Title	Credits
STAT 511 <i>Statistical Methods</i>	3
STAT 512 <i>Applied Regression Analysis</i>	3
STAT 514 <i>Design of Experiments</i>	3
STAT 516 <i>Basic Probability and Applications</i>	3
STAT 517 <i>Statistical Inference</i>	3
Credits in courses selected from a departmentally approved list	6
Credits in electives	31–34
Total	52–55

The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

MINOR IN MATHEMATICS

You may earn a minor in mathematics by completing at least six courses in mathematics and statistics. Your selection of courses should be appropriate for your major, and your program for a minor must be approved by the department's program review committee. Two calculus courses must be included. College algebra or trigonometry courses are excluded; one computer science course may be substituted for a mathematics or statistics course. You must have a grade of C or better in all courses included in your minor, and at least half of the credits must be earned as resident credit at IPFW.

Sample Programs for a Minor in Mathematics

Business and Management Majors

Computer Programming: **CS 160** or **114**
Calculus: **MA 229-230** or **165-166**
Finite or Discrete Math: **MA 213** or **175** or **275**
Modeling: **MA 314**
Statistics: **STAT 511** or **ECON E270**

Computer Science Majors

Numerical Analysis: **CS 384**
Calculus: **MA 165-166**
Discrete Mathematics: **MA 175** or **275**
Linear Algebra: **MA 351**
Statistics: **STAT 511** or **516**

Liberal Arts Majors

Computer Programming: **CS 160** or **114**
Calculus: **MA 229-230** or **165-166**
Finite Mathematics: **MA 213**
Modeling: **MA 314**
Statistics: **STAT 125**

Life Sciences Majors

Computer Programming: **CS 160** or **114**
Calculus: **MA 229-230** or **165-166**
Finite Mathematics: **MA 213**
Modeling: **MA 314**
Statistics: **STAT 240** and **340**

Physical Sciences and Engineering Majors

Calculus: **MA 165-166** and **261**
Differential Equations: **MA 363**
Advanced Calculus: **MA 510**
Complex Analysis or Linear Algebra: **MA 351** or **511** or **525**

Technology Majors

Computer Programming: **CS 160** or **114**
Calculus: **MA 165-166** or **227-228**
Discrete or Finite Math: **MA 175** or **213** or **275**
Mathematics Elective: **MA 321** or **351**
Statistics: **STAT 301** or **511**

Mathematics Teaching

Programs: B.S. and Teacher Certification Minor
Department of Mathematical Sciences
School of Arts and Sciences

Kettler Hall 200 ▼ 260-481-6821 ▼ www.ipfw.edu/math

The Department of Mathematical Sciences offers programs leading to the Bachelor of Science with a major in mathematics and in mathematics teaching.

B.S. WITH A MAJOR IN MATHEMATICS TEACHING

The B.S. program provides the mathematical preparation necessary for teaching secondary-school mathematics in Indiana and is designed to meet standards for teacher certification. Information on additional requirements for teacher certification is available in the department office. You are encouraged to choose and complete a teaching minor.

To earn a B.S. with a major in mathematics teaching, you must satisfy the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and the Department of Mathematical Sciences. Required course work appears below. (Note that you are not required to include foreign-language study.)

You should work closely with your academic advisor when choosing free electives and courses to meet the IPFW general-education requirements so as to ensure completion of the certification requirements set by the Indiana Professional Standards Board for teacher certification. Full information about teacher certification is available from the School of Education. To be certified, you must have a GPA of 2.00 or higher in the School of Arts and Sciences' general-education distribution areas of humanities and social and behavioral sciences. Additionally, you must have a GPA of 2.50 or higher in your teaching major of mathematical sciences and the professional education courses listed below. Each professional education course must be completed with a grade of C or better.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC

K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

Course Number and Title	Credits
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IPFW General Education Requirements

Area I—Linguistic and Numerical Foundations

COM 114	Fundamentals of Speech Communication	3
One of the following:		
ENG W131	Elementary Composition I	3
ENG W140	Elementary Composition—Honors	3
MA	The quantitative-reasoning requirement is satisfied by mathematics courses below.	0

Area II—Natural and Physical Sciences **11**

See Part 2 General Education Requirements for approved courses
Includes two laboratory courses. (*Science courses must be selected from list approved by the department.*)

Area III—The Individual, Culture, and Society **6**

See Part 2 General Education Requirements for approved courses

Area IV—Humanistic Thought **6**

See Part 2 General Education Requirements for approved courses

Area V—Creative and Artistic Expression **3**

See Part 2 General Education Requirements for approved courses

Area VI—Inquiry and Analysis (not in MA) **3**

See Part 2 General Education Requirements for approved courses

School of Arts and Sciences Requirements

English Writing

ENG W233	Intermediate Expository Writing	3
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Core and Concentration (Major) Courses

Of the mathematics courses numbered below 261, only 165, 166, and 175 apply toward the degree; statistics courses must be numbered 490 or higher to be counted. You must have a grade-point average of C or better with at most one D in courses used to fulfill the mathematics concentration.

CS 160	Introduction to Computer Science I	3–4
<i>or</i>		
CS 114	Introduction to Visual Basic	
MA 165–166	Analytic Geometry and Calculus I–II	8
MA 175	Introduction to Discrete Mathematics	3
MA 263	Multivariate and Vector Calculus	4
MA 305	Foundations of Higher Mathematics	3
MA 351	Elementary Linear Algebra	3
MA 453	Elements of Algebra	3
MA 560	Fundamental Concepts of Geometry	3

One of the following:

STAT 511	Statistical Methods	
STAT 516	Basic Probability and Applications	

Credits in courses selected from a departmentally approved list **6**

Professional Education

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300	Invitation to Teaching	2
EDUC W200/M101	Microcomputers for Education: An Introduction and Lab/Field Experience	1
EDUC K201	Schools, Society, and Exceptionality	1

GROUP II

EDUC K206	Teaching Methods for Students with Special Needs	3
EDUC H340	Education and American Culture	3
EDUC P250/M201	General Educational Psychology and Lab/Field Experience	3
EDUC P253/M301	Educational Psychology Secondary Teachers and Lab/Field Experience	3
EDUC X401	Critical Reading in the Content Area	3
EDUC M448	Methods of Teaching High School Mathematics	3
EDUC M480	Student Teaching in the Secondary School	10

Middle School Certification (Recommended)

EDUC M470	Practicum	4
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General Elective Courses

Sufficient additional credits to bring the total to 124.
Some may be restricted depending on choices for general-education requirements. You are encouraged to acquire a teaching minor (see School of Education for information).

Total	124
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TEACHER CERTIFICATION MINOR IN MATHEMATICS

If you are already licensed or qualified to be licensed in another area, you may earn a mathematics teaching minor by completing the following 26–27 credits with a grade of C or better in each course.

Course Number and Title	Credits
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MA 165–166	Analytic Geometry and Calculus I–II	8
MA 175	Introduction to Discrete Mathematics	3
MA 305	Foundations of Higher Mathematics	3
MA 351	Elementary Linear Algebra	3
MA 560	Fundamental Concepts of Geometry	3

One of the following: **3–4**

CS 160	Introduction to Computer Science I	
<i>or</i>		
CS 114	Introduction to Visual Basic	

MA 453	Elements of Algebra	
MA 575	Linear Graph Theory	

One of the following: **3**

STAT 511	Statistical Methods	
STAT 516	Basic Probability and Applications	

Total	26–27
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Mechanical Engineering

Program: B.S.M.E.
Department of Engineering
School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 205 ▼
260-481-6385 ▼ www.mft.ipfw.edu*

IPFW offers bachelor's programs in mechanical engineering, electrical engineering, and computer engineering. The electrical and mechanical engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering

and Technology (EAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The computer engineering program is new and being reviewed for accreditation.

Studies in engineering emphasize the practical and analytical aspects of engineering by combining laboratory and lecture courses in the sciences, humanities, and engineering sciences.

Educational Objectives The faculty of the engineering department at IPFW is committed to continuous improvements in its engineering programs. As such, the faculty continues to work with the alumni, their employers, and the industrial advisory committee to develop the following educational objectives:

- To prepare students for successful engineering careers related to industry, especially in northeastern Indiana, and to prepare students technically for possible graduate study.
- To develop students' skills in the design process and in product design.
- To provide students with experience in teamwork and multidisciplinary projects.
- To provide students with a sound foundation in the mathematical, scientific, and engineering fundamentals required to solve engineering problems.
- To give students opportunities for participation in student professional societies as well as professional experience through the Cooperative Education program.
- To help students to recognize the need for professional registration and life-long learning, and to understand their professional and ethical responsibilities.

Mission The mission of the Department of Engineering is to offer engineering programs that prepare students for successful careers in professional engineering positions. The engineering programs will be accessible to traditional and nontraditional students and will support evolving career objectives through an emphasis on the value of life-long learning.

Admission To gain admission to the B.S.M.E. program, in addition to satisfying IPFW admission requirements (see Part 7), you should rank in the upper half of your high school class and have the following courses on your record:

Subject	Semesters
Algebra	4
Biology or physics	2
Chemistry	2
English	8
Plane Geometry	2
Trigonometry	1

Additionally, you must have a minimum SAT verbal score of 480 and an SAT mathematics score of 520 for admission to freshman engineering. If you only partially meet the above requirements, you may be admitted to IPFW in a pre-engineering status while taking courses that prepare you for admission to an engineering program.

Admission deadlines for the Department of Engineering are:

- Aug. 1 for the fall semester.
- Dec. 15 for the spring semester.
- May 1 for Summer Session I.
- June 15 for Summer Session II.

B.S.M.E. REQUIREMENTS

To earn the B.S.M.E. at IPFW, you must satisfy the requirements of IPFW (see Part 7) and the School of Engineering, Technology, and Computer Science (see Part 3); follow the special academic regulations that appear at the end of this section; and satisfactorily complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	36
Area I—Linguistic and Numerical Foundations	10
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 165 <i>Analytic Geometry and Calculus I</i>	4
Area II—Natural and Physical Sciences	9
CHM 115 <i>General Chemistry</i>	4
PHYS 152 <i>Mechanics</i>	5
Area III—The Individual, Culture, and Society	6
ECON E201 <i>Introduction to Microeconomics</i>	3
One of the following:	3
ANTH E105, L200, P200; BUS W100, COM 250, 303;	
ENG L364; FOLK F101, F111; GERN G231; AFRO A210,	
HIST H105, H106, H113, H114, H232; INTL I200; JOUR	
C200, J110; LING L103; PACS P200; POLS Y103, S103*, Y105,	
Y107, Y109, Y221, S211*; PSY 120, 120H, 240, 350; SOC	
S161, S163; SPEA E162, H120, J101, V170	
Area IV—Humanistic Thought	6
Two of the following:	
ARET 310; COM 216, 251; ENG L101, L102, L108,	
L150, L250, L251, L301, L302; FILM K101; FINA A170,	
H101, H111, H112, H401, H415; FWAS H201, H202;	
HON H101*; MUS Z101, Z105, Z393; PHIL 110, 111,	
112, 120, 150, 312, 351; THTR 201	
*Grade of C or better required.	
Area V—Creative and Artistic Expression	2
ENGR 120 <i>Graphical Communication and Spatial Analysis</i>	2
Area VI—Inquiry and Analysis	3
One of the following:	
ANTH E335, P340; CMLT C333, C337; COM 316, ECON E306;	
FILM K390; FOLK F305; HIST A313, D426, H373; LING L303,	
L360; MUS L418, U410; PHIL 303, 304; POLS Y306, Y307,	
Y335, Y339, Y376, Y490; PSY 345, 362, 365	
School of ETCS Requirements	
Freshman Engineering	8
ENGR 101 <i>Introduction to Engineering</i>	1
ENGR 121 <i>Computer Tools for Engineers</i>	2
ENGR 122 <i>C and C++ Programming for Engineers</i>	2
ENGR 199 <i>Introduction to Engineering Design</i>	3
Mathematics and Science Requirements	19
MA 166 <i>Analytic Geometry and Calculus II</i>	4
MA 261 <i>Multivariate Calculus</i>	4
MA 351 <i>Elementary Linear Algebra</i>	3
MA 363 <i>Differential Equations</i>	3
PHYS 251 <i>Heat, Electricity, and Optics</i>	5
Core and Concentration (Major) Courses	48
ME 200 <i>Thermodynamics I</i>	3
ME 250 <i>Statics</i>	3
ME 251 <i>Dynamics</i>	3

ME 252	<i>Strength of Materials</i>	3
ME 280	<i>Electronics and System Engineering through Robotics</i>	3
ME 281	<i>Electronics and System Engineering through Robotics Lab</i>	1
ME 282	<i>Measurements and Instrumentation</i>	2
ME 301	<i>Thermodynamics II</i>	3
ME 303	<i>Materials Science and Engineering</i>	2
ME 304	<i>Mechanics and Materials Laboratory</i>	1
ME 318	<i>Fluid Mechanics</i>	3
ME 319	<i>Fluid Mechanics Laboratory</i>	1
ME 321	<i>Heat Transfer</i>	3
ME 322	<i>Heat Transfer Laboratory</i>	1
ME 361	<i>Kinematics and Dynamics of Machinery</i>	3
ME 369	<i>Machine Design</i>	3
ME 371	<i>System Dynamics</i>	4
ME 487	<i>Mechanical Engineering Design I</i>	3
ME 488	<i>Mechanical Engineering Design II</i>	3
Required Electrical and Computer		3
Engineering Courses		
ECE 201	<i>Linear Circuit Analysis</i>	3
Technical Elective Courses		12
<i>Mechanical Engineering</i>		
ME 373	<i>Numerical Methods in Engineering</i>	3
ME 421	<i>Heating and Air Conditioning</i>	3
ME 424	<i>Design and Optimization of Thermal Systems</i>	3
ME 425	<i>Intermediate Heat Transfer: Theory and Applications</i>	3
ME 453	<i>Experimental Stress Analysis</i>	3
ME 454	<i>Intermediate Dynamics with Computer Applications</i>	3
ME 469	<i>Advanced Mechanics and Behavior of Materials</i>	3
ME 471	<i>Vibration Analysis</i>	3
ME 480	<i>Finite Element Analysis</i>	3
ME 497	<i>Selected Topics in Mechanical Engineering</i>	1-6
ME 498	<i>Research in Mechanical Engineering I</i>	3
ME 499	<i>Research in Mechanical Engineering II</i>	3
<i>Electrical and Computer Engineering</i>		
ECE 382	<i>Feedback System Analysis and Design</i>	3
ECE 418	<i>Introduction to Computer Graphics</i>	3
ECE 483	<i>Digital Control Systems—Analysis and Design</i>	3
<i>Mathematics and Sciences</i>		
MA 510	<i>Vector Calculus</i>	3
MA 511	<i>Linear Algebra with Applications</i>	3
MA 523	<i>Introduction to Partial Differential Equations</i>	3
MA 525	<i>Introduction to Complex Analysis</i>	3
STAT 511	<i>Statistical Methods</i>	3
STAT 512	<i>Applied Regression Analysis</i>	3
CHM 371	<i>Physical Chemistry</i>	3
PHYS 322	<i>Optics</i>	3
PHYS 342	<i>Modern Physics</i>	3
Total		126

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN THE DEPARTMENT OF ENGINEERING

Plan of Study A plan of study must be approved by your advisor before you complete 90 credits of degree-applicable courses. COM 114 and ENG W131 must be completed with grades of C or better before seeking approval of your plan.

Concentration Course Grades You must have a combined GPA of at least 2.0 in all ECE, ENGR, and ME courses and in any other courses used to fulfill technical-elective requirements. It is your responsibility to see that this requirement is met. Even though the grade of D is accepted as a passing grade (except in COM 114, ENG W131, and all mathematics courses, where a grade of C or better is required), it is highly recommended that the course be repeated if it serves as a prerequisite to another required course.

Mechanical Engineering Technology

Programs: A.S. and B.S.
Department of Manufacturing Technology
School of Engineering, Technology, and Computer Science

Engineering, Technology, and Computer Science Building 205 ▼
 260-481-6385 ▼ www.mft.ipfw.edu

The Department of Manufacturing Technology (MFT) in the School of Engineering, Technology, and Computer Science serves the needs of students, industry, and government in northeastern Indiana.

The department offers Associate of Science (A.S.) and Bachelor of Science (B.S.) degree programs in industrial engineering technology (IET) and mechanical engineering technology (MET). The programs in IET and MET (both A.S. and B.S.) are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700. The department also offers a certificate in quality.

The primary focus of the department is the development of its students. It encourages students to acquire the knowledge and understanding that helps them contribute to society by leading meaningful and productive lives.

The major thrust of the department is to prepare graduates to understand basic concepts of knowledge, have studied one technical field in sufficient depth to appreciate its methodologies and fundamental unresolved questions, and have acquired a basis for life-long learning. Attainment of the above is accomplished through the establishment of required courses in 1) a core of general education, 2) required technical courses in the major area, and 3) elective courses combining breadth of subject matter with specific study in depth. Laboratory experience is an essential part of both associate and bachelor degree programs.

Mission The mission of the Department of Manufacturing Technology is to offer quality mechanical and industrial undergraduate engineering technology programs that meet regional needs; to advance and share technical knowledge with students and industry, through teaching, service, and research; and to support the missions and goals of the school and university.

A.S. WITH A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY

This program prepares graduates with knowledge, problem-solving ability and hands-on skills to enter careers in installation, manufacturing, testing, evaluation, computer-aided design, or maintenance of basic mechanical systems. Graduates will be prepared for both immediate employment and continuation in the B.S. program.

To earn the A.S. with a major in mechanical engineering technology, you must fulfill the requirements of IPFW (see Part 7) and complete the following courses, earning a grade of C or better in those courses that serve as prerequisites.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication*</i>	3
ENG W131 <i>Elementary Composition 1*</i>	3
MA 159 <i>Algebra and Trigonometry*</i>	5
Area II—Natural and Physical Sciences	
PHYS 218 <i>General Physics*</i>	4
PHYS 219 <i>General Physics II*</i>	4
Area III—The Individual, Culture, and Society	
IET 105 <i>Industrial Management*</i>	3
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Core and Concentration (Major) Courses	
ETCS 101 <i>Introduction to ETCS</i>	1
IET 204 <i>Techniques of Maintaining Quality*</i>	3
MET 104 <i>Technical Graphics Communication*</i>	3
MET 106 <i>Analytical and Computational Tools in MET*</i>	2
MET 180 <i>Materials and Processes*</i>	3
MET 201 <i>Statics, Stress, and Strain*</i>	3
MET 202 <i>Strength of Materials*</i>	3
MET 216 <i>Machine Elements*</i>	4
MET 223 <i>Introduction to Computer-Aided Modeling and Design*</i>	3
MET 330 <i>Fluid Power</i>	3
MET 335 <i>Basic Machining*</i>	3
Additional Required Technical Courses	
ECET 114 <i>Introduction to Microcomputers*</i>	3
STAT 301 <i>Elementary Statistical Methods I</i>	3
Required Support Courses	
ENG W234 <i>Technical Report Writing*</i>	3
Total	63

*Grade of C or better required

B.S. WITH A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY

This program prepares graduates with knowledge, problem-solving ability, and hands-on skills to enter careers in analysis, applied design, development, implementation, manufacturing, testing, technical sales, evaluation, or oversight of mechanical systems and processes.

To earn the B.S. with a major in mechanical engineering technology, you must fulfill the requirements of IPFW (see Part 7),

the School of Engineering, Technology, and Computer Science (see Part 3), and the A.S.; and complete the following courses, earning a grade of C or better in those courses that serve as prerequisites:

Course Number and Title	Credits
IPFW General Education Requirements	
Area III—The Individual, Culture, and Society	
ECON E201 <i>Introduction to Microeconomics</i>	3
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	
ENG W421 <i>Technical Writing Projects</i>	3
Required Core and Concentration (Major) Courses	
IET 350 <i>Engineering Economy</i>	3
MET 247 <i>CAD Tool and Fixture Design</i>	3
MET 312 <i>Kinematics and Dynamics</i>	3
MET 300 <i>Applied Thermodynamics*</i>	3
MET 347 <i>Computer Numerical Control</i>	3
MET 350 <i>Applied Fluid Mechanics</i>	3
MET 360 <i>Heating, Ventilating, and Air Conditioning</i>	3
MET 381 <i>Engineering Materials</i>	3
MET 487 <i>Instrumentation and Automatic Control</i>	3
MET 494 <i>Senior Design and Analysis</i>	3
Additional Required Technical Courses	
CHM 111 <i>General Chemistry*</i>	3
ECET 211 <i>Electrical Machines and Controls</i>	3
MA 227 <i>Calculus for Technology I*</i>	3
MA 228 <i>Calculus for Technology II</i>	3
Computer Programming Elective	3
Additional Required Support Courses	
COM 323 <i>Business and Professional Speaking</i>	3
Additional Core and Concentration Electives	
Any two courses from IET, MET, or a course approved by an MET advisor.	
Total Including 65 from A.S.	132

*Grade of C or better required

Media and Public Communication

Program: B.A.
Department of Communication
School of Arts and Sciences

Neff Hall 230 ▼ 260-481-6825 ▼ www.ipfw.edu/comm/

The major in media and public communication offers theoretical, critical, and practical perspectives to help you navigate the changing communication environment of the 21st century. The courses in this major help you understand communication and media practices and adapt to new technologies. These courses provide concepts and skills that enable you to think and write critically about media and public communication in relation to society, culture, and everyday life. In addition, course areas are available that give you practical experience in message design, media production, and communication performance. Graduates of the program have

careers in public information, media production, writing for media, management, sales, advertising, and public relations.

The Department of Communication offers a bachelor's degree in interpersonal and organizational communication and a minor in media production for those students who want more courses in practical skills. Two courses in a major offered in the Department of Communication can also be counted in the required minor. If the minor is selected from an Arts and Sciences department, the courses may be used to satisfy distribution requirements in the school.

To earn the B.A. with a major in media and public communication, you must fulfill the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and the Department of Communication as listed below. You also must earn a minor in an appropriate discipline.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
COM 250 <i>Mass Communication and Society</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in COM)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in COM)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	3
COM 250 <i>Mass Communication and Society</i>	3
COM 300 <i>Introduction to Communication Research Methods</i>	3
COM 318 <i>Principles of Persuasion</i>	3
COM 330 <i>Theories of Mass Communication</i>	3

One of the following: 3

COM 251* *Introduction to the Electronic Mass Media*

COM 316* *Controversy in American Society*

**Course taken to satisfy this requirement cannot also be counted in the 9 credit block below*

Credits from among the following: 9

COM 251* *Introduction to the Electronic Mass Media*

COM 303 *Intercultural Communication*

COM 312 *Rhetoric in the Western World*

COM 314 *Advanced Public Speaking*

COM 316* *Controversy in American Society*

COM 325 *Interviewing: Principles and Practices*

COM 422 *Women, Men, and Media*

COM 471 *Communicating Peace*

COM 491 *Special Topics in Communication*

Credits from among the following: 6

COM 507 *Introduction to Semiotics*

COM 515 *Persuasion in Social Movements*

COM 516 *Analysis of Persuasive Messages*

COM 517 *Communication in Politics*

COM 518 *Theories of Persuasion*

COM 521 *Theories of Rhetoric*

COM 522 *History and Criticism of Public Communication*

COM 527 *Introduction to Cultural Studies*

COM 531 *Special Topics in Mass Communication*

COM 557 *Legal Dimensions of Communication*

COM 563 *Public Policy in Telecommunication*

Minor and Elective Courses

Credits in an approved minor 12–21

Sufficient additional credits to bring the total to 124.

Total 124

Media Production

Program: Minor

Department of Communication

School of Arts and Sciences

Neff Hall 230 ▼ 260-481-6825 ▼ www.ipfw.edu/comm/

This program is available to all IPFW students, including students with communication majors. To earn a minor in media production, you must complete at least 18 credits with a grade of C or better. You must also complete any prerequisites for the courses that are chosen and complete at least 9 credits as resident credit at IPFW.

Course Number and Title	Credits
COM 251 <i>Introduction to the Electronic Mass Media</i>	
Credits from among the following: 15	
COM 331 <i>Audio Production</i>	
COM 332 <i>Television Production</i>	
COM 337 <i>Video Production/Editing</i>	
COM 338 <i>Documentary and Experimental Film and Video</i>	

COM 431	<i>Practicum in Radio (2 credits, may be repeated once)</i>	
COM 432	<i>Practicum in Television (2 credits, may be repeated once)</i>	
COM 436	<i>Script Writing</i>	
COM 490	<i>Internship in Communication</i>	
COM 537	<i>Educational/Instructional Television</i>	
FILM K101	<i>Introduction to Film</i>	
JOUR J200	<i>Writing for Mass Media</i>	
JOUR J210	<i>Visual Communication</i>	
PHYS 105	<i>Sound and Music</i>	
PHYS 125	<i>Light and Color</i>	
THTR 158	<i>Stagecraft</i>	
VCD N274	<i>Digital Imaging</i>	
VCD P151	<i>Design Fundamentals I</i>	
VCD P152	<i>Design Fundamentals II</i>	
Total		18

Medical Imaging Technology

Program: Transfer Program
School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

To apply for this professional program, you must be a registered radiographer certified by the American Registry of Radiologic Technology (ARRT). You may earn the A.S. in radiography at IPFW (See Radiography) and then transfer to IUPUI to complete the B.S. in medical imaging technology offered by the Department of Radiology at the Indianapolis campus of the Indiana University School of Medicine. You must also consult the allied-health advisor at the Indianapolis campus to discuss the bachelor's degree (317-274-4752 or askhpp@iupui.edu). A minimum cumulative GPA of 2.5 and a minimum GPA of 2.3 for all life and physical science courses are required for admission to the IUPUI program. All college courses taken including remedial courses and courses that do not meet prerequisite requirements are considered when calculating minimum cumulative admission GPA and minimum life and physical science admission GPA. Additionally, students must achieve a minimum GPA of 2.7 for all radiologic technology courses, and a minimum of 3.0 for clinically related courses (see advisor).

At IPFW, in addition to the A.S., you may complete the following courses toward the bachelor's degree:

Course Number and Title	Credits
ENG W233 <i>Intermediate Expository Writing</i>	3
PHYS 220 <i>General Physics</i> <i>(PHYS 201 or 218 may be substituted)</i>	4
NUR 106 <i>Medical Terminology</i>	3
CHM 115 <i>General Chemistry</i> <i>(CHM 111 and 112 may be substituted for 115)</i>	4
Electives in humanities, sociology or psychology (see advisor)	6
Elective in sociology or psychology	3
Total A.S. in Radiography	82
Total B.S. courses	20
Total	102

Medical Technology

Program: B.S.
Department of Biology
School of Arts and Sciences

Science Building 330 ▼ 260-481-6305 ▼ www.ipfw.edu/bio

School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

A separate B.S. in clinical laboratory sciences is offered by the School of Health Sciences but is closed to new students. Contact the school for information about this program.

DUAL B.S. IN BIOLOGY AND IN MEDICAL TECHNOLOGY (4+1 PROGRAM)

Under this plan you meet all the requirements for a B.S. with a major in biology. Then, during your senior year, you seek admission to an approved hospital school of medical technology and complete one year of technical experience there the following year. Upon successful completion of the hospital-school year, you have the option of petitioning IPFW for a second baccalaureate degree (dual B.S. in biology and medical technology).

B.S. WITH A MAJOR IN MEDICAL TECHNOLOGY (3+1 PROGRAM)

Under this plan, you complete three years of course work at IPFW and then spend 12 months in an approved hospital medical-technology program. To earn a B.S. with a major in medical technology under the 3+1 program, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3). You must also earn a GPA of 2.50 or higher in the biology core and in Group B-elective courses in biology. All biology courses applied toward graduation must be completed within 10 years from the time the first biology course was completed.

The Department of Biology has new facilities for its teaching and research programs, and its faculty represent many different fields within biology.

In the first semester of your junior year, you should see your advisor for assistance with applying to an approved school of medical technology. An approved school is one certified by Purdue University; Parkview Hospital in Fort Wayne is among those affiliated with this program.

When you are admitted to the hospital school for your final year, you must maintain registered student status at IPFW for the fall and spring semesters and for both summer sessions. Upon successful completion of 12 months in the hospital school, you may substitute that experience for as much as 32 credits toward the B.S. in medical technology. You are responsible for seeing that IPFW receives official notification that you have successfully completed the hospital program.

To earn a B.S. with a major in medical technology under the 3+1 program, you must complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	0
<i>(credits included in Supporting Courses, below)</i>	
One of the following <i>(credits included in Supporting Courses, below)</i> :	0
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition-Honors</i>	
MA <i>See Part 2 General Education Requirements for approved courses</i>	3
Area II—Natural and Physical Sciences	
BIOL 117 <i>Principles of Ecology and Evolution</i>	0
<i>(credits included in Biology Core, below)</i>	
CHM 115 <i>General Chemistry</i>	0
<i>(credits included in Supporting Courses, below)</i>	
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	
<i>Credits included in Supporting Courses, below</i>	
CHM 224 <i>Introductory Quantitative Analysis</i>	0
Biology Core Courses (18 credits)	
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 217 <i>Intermediate Ecology</i>	3
BIOL 218 <i>Genetics and Molecular Biology</i>	4
BIOL 219 <i>Principles of Functional Biology</i>	3
Supporting Courses (57–59 credits)	
CHM 115–116 <i>General Chemistry</i>	8
CHM 224 <i>Introductory Quantitative Analysis</i>	4
CHM 254–255 <i>Organic Chemistry and Laboratory</i>	4
CHM 256–258 <i>Organic Chemistry and Laboratory</i>	4
COM 114 <i>Fundamentals of Speech Communication</i>	3
CS 107 <i>Introduction to Computers for Science Majors</i>	3
ENG W131 <i>Elementary Composition I (or equivalent)</i>	3
ENG W233 <i>Intermediate Expository Writing (or equivalent)</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences I</i>	3
STAT 240 <i>Statistical Methods for Biology</i>	3
STAT 340 <i>Elementary Statistical Methods II</i>	3
One of the following sequences	8–10
PHYS 201–202 <i>General Physics I–II</i> (10 credits)	
PHYS 220–221 <i>General Physics</i> (8 credits)	
Credits in a modern foreign language	8
B-Elective Courses in Biology (10–11 Credits)	
BIOL 437 <i>General Microbiology (required)</i>	4
BIOL 537 <i>Immunobiology (required)</i>	3
Additional credits from among the following	3–4
BIOL 215 <i>Basic Human Anatomy</i> (4 credits)	
BIOL 315 <i>Developmental Anatomy</i> (4 credits)	
BIOL 350 <i>Plant Physiology</i> (4 credits)	

BIOL 381–382 <i>Cell Biology and Laboratory</i> (4 credits)	
BIOL 455–456 <i>Animal Physiology and Laboratory</i> (4 credits)	
BIOL 506 <i>Human Molecular Genetics</i> (3 credits)	
BIOL 509–584 <i>Molecular Biology and Applications and Laboratory</i> (4 credits)	
BIOL 515 <i>Molecular Genetics</i> (3 credits)	
BIOL 516 <i>Molecular Biology of Cancer</i> (3 credits)	
BIOL 533 <i>Medical Microbiology</i> (3 credits)	
BIOL 540 <i>Biotechnology</i> (3 credits)	
BIOL 544 <i>Principles of Virology</i> (3 credits)	
BIOL 559 <i>Endocrinology</i> (3 credits)	
BIOL 565 <i>Immunobiology Laboratory</i> (1 credit)	
BIOL 566–567 <i>Developmental Biology and Laboratory</i> (4 credits)	
BIOL 569 <i>Cellular Neurobiology</i> (3 credits)	
Hospital Program	32
Total	135–138

Mild Intervention

Program: Minor School of Education

Neff Hall 250 ▼ 260-481-6441

Students seeking the major in either elementary education or secondary education may elect to pursue a minor in mild intervention, a category of special education with all school settings. Each course in the mild intervention minor must be completed with a grade of C or better.

Course Number and Title	Credits
(This minor qualifies a teacher to teach students with mild and emotional disabilities in all school settings.)	
EDUC K201 <i>Schools, Society and Exceptionality</i>	1
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC 352 <i>Education of Children with Learning Problems</i>	3
EDUC K350/M201 <i>Intro to Mental Retardation/Field Experience</i>	3/0
EDUC K360 <i>Behavior Characteristics of the Mentally Retarded</i>	3
EDUC K370/M301 <i>Intro to Learning Disabilities/Field Experience</i>	3/0
EDUC K371 <i>Assessment and Individual Instruction in Reading and Math</i>	3
EDUC K400 <i>Computers for Students with Disabilities</i>	3
EDUC K410 <i>Trends and Issues in Special Education</i>	3
EDUC K453 <i>Management of Academic and Social Behavior</i>	3
EDUC K465 <i>Service Delivery Systems and Consultation Strategies</i>	3
EDUC M470 <i>Practicum in Mild Intervention (Final Course)</i>	6
Total	37

Modern Foreign Language

See *French, German, Spanish*

Music and an Outside Field

Programs: B.S.

Department of Music

School of Visual and Performing Arts

Classroom-Medical Building G23 ▼ 260-481-6714 ▼
www.ipfw.edu/vpa

The Department of Music provides degree programs leading to careers in music, functions as a service department to the university, and serves as a musical center and resource for Greater Fort Wayne and northeastern Indiana. The department offers programs leading to the following degrees: Bachelor of Music in performance, Bachelor of Music Education, Bachelor of Science in Music and an Outside Field, and Bachelor of Science in Music Therapy. A minor in music and a certificate in piano pedagogy are also available.

Accreditation Programs offered by the department are accredited by the National Association of Schools of Music, American Music Therapy Association, and the National Council for Accreditation of Teacher Education.

Admission You must satisfy the admission requirements of IPFW (see Part 7) and successfully complete an audition and entrance placement exams wherein appropriate faculty committees evaluate your musical knowledge, skill, and potential. Students who do not meet all music-department entrance requirements may be admitted to the department as pre-music students. (See *Department of Music Student Handbook* for further information.)

Curricula To complete a degree in music, you must satisfy the university's general education requirements, Department of Music core requirements, and requirements specific to your degree program, all listed below.

MUSIC AND AN OUTSIDE FIELD REQUIREMENTS

This degree combines a major in music with an opportunity to study in one of many available nonmusic areas, such as business, communication, electrical engineering technology, psychology, or the sciences. Outside fields in business, theatre, and audio and recording technology have specific course requirements. Students should consult with an advisor in the Department of Music for this information. Some outside fields require a 3-credit internship as a part of the outside field hours and others offer the internship as an option. Consult with your advisor. Ensemble participation is not required during the semester of internship.

To earn the B.S. in Music and an Outside Field, you must satisfy the requirements of IPFW (see Part 7), the music core and complete the courses listed below. Credits required in the outside field must be approved in writing by an appropriate faculty member in the outside-field program of study. A record of this approval from the outside-field department will be kept as a part of your permanent file. A maximum of 6 credits in the outside field may be taken with the pass/not-pass option. An overall GPA of 2.50 or higher must be maintained in the outside field and is required for graduation. A course with a grade lower than C will not be counted toward outside-field course requirements.

Course Number and Title	Credits
IPFW General Education Requirements (33 credits)	
Area I—Linguistic and Numerical Foundations	9
<i>See Part 2 General Education Requirements for approved courses</i>	
Reading/Writing	3
COM 114 Fundamentals of Speech Communication	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
MUS Z105 Traditions in World Music	3
Music majors may not use MUS Z101 to fulfill Area IV requirements	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Music majors may not use MUS Z140 to fulfill Area V requirements	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Music Core	33
MUS U109 Computer Skills for Musicians	2
MUS T113/T114 Music Theory I–II	6
MUS T115/T116 Sightsinging and Aural Perception I–II	2
MUS M201/M202 Literature of Music I–II	4
MUS T213/T214 Music Theory III–IV	6
MUS T215/T216 Sightsinging and Aural Perception III–IV	2
MUS T315 Analysis of Musical Form	3
MUS G370 Techniques for Conducting	2
MUS M403/M404 History of Music I–II	6
Performance Studies	29–30
Applied Primary (includes recital)	14
MUS X296 Upper Divisional Exam	0
Applied Secondary	8
Non-keyboard concentrates take MUS P111/121/131/141, Class Piano I–IV;	
Keyboard concentrates take P211, Keyboard Skills (2 credits) and 200-level applied study (6 credits)	
MUS X299 Piano Proficiency Examination	0
MUS X095 Performance Class (6 semesters)	0
Ensembles	7–8
Outside Field	26–30
Some outside fields include in this credit range a 3-credit internship. These outside fields require only 7 semesters of ensemble participation; consult your advisor.	
Other Requirements	
Free electives	4–9
Total	130

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS MAJORING IN MUSIC

Refer to the regulations listed under the music therapy degree program.

PERFORMANCE STUDIES FOR STUDENTS MAJORING IN MUSIC

Refer to the information listed under the music therapy degree program.

Music Education

Programs: B.Mus.Ed.

Department of Music

School of Visual and Performing Arts

Classroom-Medical Building G23 ▼ 260-481-6714 ▼
www.ipfw.edu/vpa

The Department of Music provides degree programs leading to careers in music, functions as a service department to the university, and serves as a musical center and resource for Greater Fort Wayne and northeastern Indiana. The department offers programs leading to the following degrees: Bachelor of Music in performance, Bachelor of Music Education, Bachelor of Science in Music and an Outside Field, and Bachelor of Science in Music Therapy. A minor in music and a certificate in piano pedagogy are also available.

Accreditation Programs offered by the department are accredited by the National Association of Schools of Music, American Music Therapy Association, and the National Council for Accreditation of Teacher Education.

Admission You must satisfy the admission requirements of IPFW (see Part 7) and successfully complete an audition and entrance placement exams wherein appropriate faculty committees evaluate your musical knowledge, skill, and potential. Students who do not meet all music-department entrance requirements may be admitted to the department as pre-music students. (See *Department of Music Student Handbook* for further information.)

Curricula To complete a degree in music, you must satisfy the university's general education requirements, Department of Music core requirements, and requirements specific to your degree program, all listed below.

MUSIC EDUCATION REQUIREMENTS

The music-education program helps you prepare to teach music in grades K–12. You may choose to concentrate in choral/general music education, or instrumental/ general music education. Upon satisfactory completion of this program, you are eligible to apply for an Indiana teaching license in the appropriate concentration.

To earn the B.Mus.Ed., you must satisfy the requirements of IPFW (see Part 7), the music core, and the School of Education (see Part 3) and satisfactorily complete all music and professional-education courses with a grade of C or better.

Course Number and Title	Credits
IPFW General Education Requirements (33 credits)	
Area I—Linguistic and Numerical Foundations	9
<i>See Part 2 General Education Requirements for approved courses</i>	
Reading/Writing	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Quantitative Reasoning	3

Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
MUS Z105 <i>Traditions in World Music</i>	3
Music majors may not use MUS Z101 to fulfill Area IV requirements	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Music majors may not use MUS Z140 to fulfill Area V requirements	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Music Core	33
MUS U109 <i>Computer Skills for Musicians</i>	2
MUS T113/T114 <i>Music Theory I–II</i>	6
MUS T115/T116 <i>Sightsinging and Aural Perception I–II</i>	2
MUS M201/M202 <i>Literature of Music I–II</i>	4
MUS T213/T214 <i>Music Theory III–IV</i>	6
MUS T215/T216 <i>Sightsinging and Aural Perception III–IV</i>	2
MUS T315 <i>Analysis of Musical Form</i>	3
MUS G370 <i>Techniques for Conducting</i>	2
MUS M403/M404 <i>History of Music I–II</i>	6
Performance Studies	29
Applied Primary (includes recital)	14
MUS X296 <i>Upper Divisional Exam</i>	0
Applied Secondary	8
Non-keyboard concentrates take MUS P111/121/131/141, Class Piano I–IV; Keyboard concentrates take P211, Keyboard Skills (2 credits) and 200-level applied study (6 credits)	
MUS X299 <i>Piano Proficiency Examination</i>	0
MUS X095 <i>Performance Class (6 semesters)</i>	0
Ensembles	7
Professional Music Courses	10
MUS K312 <i>Arranging for Instrumental and Vocal Groups</i>	2
MUS M236/M216 <i>Introduction to Music Education K–12 and Lab/Field Experience</i>	2
MUS M337/M317 <i>Methods and Materials for Teaching Instrumental Music and Lab/Field Experience</i>	2
MUS M338/M318 <i>Methods and Materials for Teaching Choral Music and Lab/Field Experience</i>	2
MUS M339/M319 <i>General Music Methods K–8 and Lab/Field Experience</i>	2
MUS X297 <i>Music Education Upper-Divisional Skills Exam</i>	0
Professional Music Concentration Courses	7–9
Choral and General Music	
MUS G371 <i>Choral Conducting I</i>	2
MUS V201 <i>Voice Class (nonvocal concentrates only)</i>	1
MUS E494 <i>Voice Pedagogy</i>	3

Three of the following		3
MUS G261	<i>String Techniques</i>	
MUS G272	<i>Clarinet and Saxophone Techniques</i>	
MUS G281	<i>Brass Techniques</i>	
MUS G337	<i>Woodwind Techniques</i>	
MUS G338	<i>Percussion Techniques</i>	
Instrumental and General Music		
MUS G373	<i>Instrumental Conducting</i>	2
MUS V201	<i>Voice Class</i>	1
Four of the following (excluding primary instrument)		4
MUS G261	<i>String Techniques</i>	
MUS G272	<i>Clarinet and Saxophone Techniques</i>	
MUS G281	<i>Brass Techniques</i>	
MUS G337	<i>Woodwind Techniques</i>	
MUS G338	<i>Percussion Techniques</i>	

Professional Education Courses

A GPA of 2.5 is required. For these courses, see the curriculum check sheets for your degree program in the office of the Department of Music. These check sheets will reflect the most recent changes in teacher certification requirements by the Indiana Professional Standards Board.

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS MAJORING IN MUSIC

Refer to the regulations listed under the music therapy degree program.

PERFORMANCE STUDIES FOR STUDENTS MAJORING IN MUSIC

Refer to the information listed under the music therapy degree program.

Music Performance

**Programs: B.Mus.
Department of Music
School of Visual and Performing Arts**

*Classroom-Medical Building G23 ▼ 260-481-6714 ▼
www.ipfw.edu/vpa*

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Accreditation Programs offered by the department are accredited by the National Association of Schools of Music, American Music Therapy Association, and the National Council for Accreditation of Teacher Education.

Admission You must satisfy the admission requirements of IPFW (see Part 7) and successfully complete an audition and entrance placement exams wherein appropriate faculty committees evaluate your musical knowledge, skill, and potential. Students who do not

meet all music-department entrance requirements may be admitted to the department as pre-music students. (See *Department of Music Student Handbook* for further information.)

Curricula To complete a degree in music, you must satisfy the university's general education requirements, Department of Music core requirements, and requirements specific to your degree program, all listed below.

BACHELOR OF MUSIC (B.MUS.)

The Bachelor of Music program provides an opportunity to earn a performance degree in voice, winds, strings, piano, or percussion.

To earn the Bachelor of Music, you must satisfy the requirements of IPFW (see Part 7), the music core and satisfactorily complete the following courses, and earn a grade of C or better in each music course.

Course Number and Title	Credits
IPFW General Education Requirements (33 credits)	
Area I—Linguistic and Numerical Foundations 9	
<i>See Part 2 General Education Requirements for approved courses</i>	
Reading/Writing	3
COM 114 Fundamentals of Speech Communication	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
MUS Z105 Traditions in World Music	3
Music majors may not use MUS Z101 to fulfill Area IV requirements	
Area V—Creative and Artistic Expression 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Music majors may not use MUS Z140 to fulfill Area V requirements	
Area VI—Inquiry and Analysis 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Music Core 33	
MUS U109 Computer Skills for Musicians	2
MUS T113/T114 Music Theory I–II	6
MUS T115/T116 Sightsinging and Aural Perception I–II	2
MUS M201/M202 Literature of Music I–II	4
MUS T213/T214 Music Theory III–IV	6
MUS T215/T216 Sightsinging and Aural Perception III–IV	2
MUS T315 Analysis of Musical Form	3
MUS G370 Techniques for Conducting	2
MUS M403/M404 History of Music I–II	6
Performance Studies 32	
Applied Primary (includes recitals)	16
MUS X296 Upper Divisional Exam	0
Applied Secondary	8
Non-keyboard concentrates take MUS P111/121/131/141, Class Piano I–IV;	
Keyboard concentrates take P211, Keyboard Skills (2 credits) and 200-level applied study (6 credits)	

MUS X299	<i>Piano Proficiency Examination</i>	0
MUS X095	<i>Performance Class (6 semesters)</i>	0
Ensembles		8
Keyboard majors take major ensembles for 6 semesters and MUS X002, Accompanying, for 2 semesters		
Professional Music Courses and Free Electives		26–27
Piano Majors (26 credits)		
Keyboard literature		3
Piano pedagogy		3
Electives in music		6
Free electives		14
Voice Majors (27 credits)		
Song literature		3
Foreign language		8
Diction		4
Vocal pedagogy		3
Elective credits in music		6
Free electives		3
Instrumental Majors (26 credits)		
Instrumental literature		3
Instrumental pedagogy		2
Chamber ensembles		6
Elective credits in music		6
Free electives		9
Total		124–125

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS MAJORING IN MUSIC

Refer to the regulations listed under the music therapy degree program.

PERFORMANCE STUDIES FOR STUDENTS MAJORING IN MUSIC

Refer to the information listed under the music therapy degree program.

Music Therapy

Program: B.S.M.T., Minor

Department of Music

School of Visual and Performing Arts

*Classroom-Medical Building G23 ▼ 260-481-6714 ▼
www.ipfw.edu/vpa*

Music therapists use music and music activities to promote health and rehabilitation for individuals of all ages with disabilities in a variety of agencies such as hospitals, schools, rehabilitation centers, and private practice settings. Students must satisfactorily complete a six-month internship at the conclusion of the required course work. Graduates of the B.S.M.T. program are eligible to sit for the national certification exam sponsored by the Certification Board for Music Therapists. Music therapy majors must work closely with an advisor to select general education courses that meet national certification requirements. Bachelor of Science in Music Therapy (BSMT) candidates have some specific general education courses in some categories.

Course Number and Title	Credits
IPFW General Education Requirements (33 credits)	
Area I—Linguistic and Numerical Foundations 9	
<i>See Part 2 General Education Requirements for approved courses</i>	
Reading/Writing	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
BIOL 203 <i>Human Anatomy and Physiology</i>	3
Area III—The Individual, Culture, and Society 6	
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i> or	3
SOC S163 <i>Social Problems</i>	3
Area IV—Humanistic Thought 6	
<i>See Part 2 General Education Requirements for approved courses</i>	
MUS Z105 <i>Traditions in World Music</i>	3
Music majors may not use MUS Z101 to fulfill Area IV requirements	
Area V—Creative and Artistic Expression 3	
Music majors may not use MUS Z140 to fulfill Area V requirements	
MUS L153 <i>Introduction to Music Therapy</i>	3
Area VI—Inquiry and Analysis 3	
<i>See Part 2 General Education Requirements for approved courses</i>	
Music Core 33	
MUS U109 <i>Computer Skills for Musicians</i>	2
MUS T113/T114 <i>Music Theory I–II</i>	6
MUS T115/T116 <i>Sightsinging and Aural Perception I–II</i>	2
MUS M201/M202 <i>Literature of Music I–II</i>	4
MUS T213/T214 <i>Music Theory III–IV</i>	6
MUS T215/T216 <i>Sightsinging and Aural Perception III–IV</i>	2
MUS T315 <i>Analysis of Musical Form</i>	3
MUS G370 <i>Techniques for Conducting</i>	2
MUS M403/M404 <i>History of Music I–II</i>	6
Performance Studies 26	
Applied Primary (includes recital)	
MUS X296 <i>Upper Divisional Exam</i>	0
Applied Secondary	
Non-keyboard concentrates take	
MUS P111/121/131/141, Class Piano I–IV;	
Keyboard concentrates take P211, Keyboard Skills (2 credits) and 200-level applied study (6 credits)	
MUS X299 <i>Piano Proficiency Examination</i>	0
MUS X095 <i>Performance Class (5 semesters)</i>	0
Ensembles	6
Professional Music Therapy Courses 30	
MUS E253 <i>Functional Music Skills</i>	2
MUS U355 <i>Music and Exceptionality</i>	3
MUS L253 <i>Music Therapy Observation Practicum</i>	1
MUS X298 <i>Music Therapy Pre-Practicum Exam</i>	0
MUS L254–L353 <i>Music Therapy Practicum I–III</i>	2
MUS L354–L421 <i>Music Therapy Practicum III–IV</i>	2
MUS L340 <i>MT in Healthcare Settings</i>	3
MUS L410 <i>MT Admin/Prof Issues</i>	3

MUS L418	<i>Psychology of Music (May not be used to satisfy Area VI requirements)</i>	3
MUS L420	<i>MT Clinical Processes</i>	3
MUS L422	<i>MT Theory and Techniques</i>	3
MUS L424	<i>Music Therapy Internship</i>	2
Additional Requirements		8
PSY 350	<i>Abnormal Psychology</i>	3
Course in Exceptional Children or Special Education		3
MUS K312	<i>Arranging for Instrumental and Vocal Groups</i>	
MUS E194	<i>Piano Pedagogy</i>	
MUS E353	<i>Orff Techniques for Music Therapy and Special Education</i>	
General Electives		6
The following courses are recommended as general electives: MUS U410; AUS 115; FOLK F101 or F111; GERN G231; HSRV 210 or 211; PHIL 312; PSY 235 or 367; or SOC S331		
Total		136

Note: Music therapy majors must have at least seven courses in the behavioral/health/natural sciences. General electives may include courses required for the gerontology certificate program, a minor in psychology, or other program minor. See *Department of Music Student Handbook* for more options and further information.

Gerontology For information about earning an undergraduate certificate in gerontology concurrently with the B.S.M.T., consult the gerontology program entry in this section of this *Bulletin*. Additional information is published in the *Department of Music Student Handbook*.

MINOR IN MUSIC

A minor in music is designed for students who wish to enhance an interest in music while majoring in another area. To earn this minor, you must complete the courses listed below and earn a grade of C or better in each. Six credits must be at the 200 level or higher.

Course Number and Title		
19 credit hours selected from the following:		
Music Theory (8 credits)		
MUS T113/114	<i>Music Theory I-II</i>	6
MUS T115-T116	<i>Sightsinging and Aural Perception I-II</i>	2
Music History and Literature (8 credits)		
MUS N101	<i>Honors Music for the Listener</i>	3
or		
MUS M201/202	<i>Music Literature I-II</i>	4
Applied Study and/or Ensemble		4
Placement in ensembles and/or applied studios by audition only.		
Electives		3-4
Students may work with an advisor in the Department of Music to select electives to fulfill the remaining credit hours..		
Concert Attendance		0
MUS X095-02	<i>Performance Class</i>	0
Two semesters required		

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS MAJORING IN MUSIC

Department Handbook Detailed information regarding policies and practices of the department is included in the *Department of Music Student Handbook*, available in the department office. Information included below is detailed in the handbook. All music majors are expected to be familiar with the contents of the handbook.

Academic Probation As a music major, you must earn: 1) a semester GPA of 2.00 and a cumulative GPA of 2.00 or higher; 2) a semester GPA of 2.5 or higher for all music courses required for your degree program; 3) a C or better in a music course or ensemble required for your degree, with the exception of X095, Performance Class. Should you fail to meet these standards, you will be placed on departmental probation.

Students on probation may lose eligibility for scholarships and financial aid, as well as risk dismissal from the program. See the department's student handbook for further information on academic probation.

Dismissal You will be dismissed from the department when (1) you have been placed on departmental probation due to grade point deficiency and do not correct the deficiency in the next semester of enrollment; (2) you have been placed on departmental probation for failure to earn a C or better in a music course required for your degree (with the exception of X095 Performance Class) and do not earn a C or better in your second attempt in the same course; (3) you fail to earn a C or better in two consecutive semesters of the same ensemble.

Readmission If you are dismissed, you may petition for readmission to the Department of Music one semester from the date of your dismissal. Students returning from dismissal will automatically be on probation. Failure to maintain a 2.5 GPA for the first semester of re-entry or to make a C or better in a required music course will result in permanent dismissal from the department.

Keyboard Proficiency All music majors must pass a keyboard proficiency examination. Entering students who are prepared to take the examination may do so before registration; all others must register in piano courses until this requirement is satisfied. The examination tests ability to use the piano as a professional tool. The test is given in portions at the three exam periods each semester and may be taken at other times by special arrangement with the coordinator of the area.

Transfer Credits Audition and placement exams will be required. You may be accepted by the department with upper-divisional standing.

Upper-Division Standing During the semester in which you are enrolled in or have successfully completed MUS T214, 216, M202, and the fourth semester of applied music at the 300 or 400 level on the same instrument, you are eligible and will be expected to take the Upper Division Performance Examination (MUS X296), an applied music performance for the applied music instructor and the resident music faculty. Upon the recommendation of the applied instructor and advisor, the performance examination may be postponed beyond four semesters of study on the primary instrument, but you must

achieve eligibility and take the examination by the end of the sixth semester of study. No extensions will be given beyond the sixth semester except in the case of extreme extenuating circumstances and will require the recommendation of the applied instructor and the advisor and approval by the chair of the department. Failure to achieve eligibility does not constitute extenuating circumstances. For complete procedures, see the *Department of Music Student Handbook*.

Music education majors must complete the Music Education Upper Divisional Examination (MUS X297). Music therapy majors must complete the Music Therapy Skills Examination MUS X298. See the course descriptions for content and prerequisites for these examinations.

PERFORMANCE STUDIES FOR STUDENTS MAJORING IN MUSIC

Primary Performance Area Performance study (applied music) is required of all music majors and is available for the study of voice, keyboard, winds, strings, and percussion. Students are assigned to applied-music teachers on the basis of the instructor's availability and suitability. An audition and departmental permission are required. Both a junior and a senior recital are required for the B.Mus. All other degrees require a junior recital, the required number of semesters of study varying with the degree. To be eligible to perform a recital, you must be enrolled in an applied music course (1 cr. for study, 1 cr. for recital). A successful prerecital hearing is required. For a complete list of guidelines please refer to the *Department of Music Student Handbook*.

Secondary Performance Area All students must pass the Keyboard Proficiency Examination (X299). Students for whom keyboard is not the primary applied area must enroll in Class Piano (P111, 121, 131, 141) until the examination is completed. If students complete the examination in fewer than 4 semesters, they will normally complete the credits with further applied study at the 200 level in piano. Study of another instrument or voice is possible, but contingent upon the consent of the degree advisor and the appropriate applied instructor. An audition is required to enter 200-level study. Students whose primary instrument is keyboard will take one semester of Keyboard Skills (P211), and three semesters of 200-level applied study of another instrument or voice. The choice of instrument requires the consent of the degree advisor. An audition is required to enter 200-level study.

Performance Class X095 This 0-credit course is a weekly meeting of music majors and minors and serves as a laboratory for performance. Part of the course requirement is attendance at specified public concerts and recitals. Refer to the listing of courses for your degree program for specific information regarding your required minimum number of semesters.

Music minors should refer to the course description for X095-02 to find their specific requirements.

Ensemble Requirements Music majors are required to enroll in a major ensemble each semester of full-time enrollment. Refer to the listing of courses for your degree program for specific information regarding your required minimum number of ensemble credits. Piano performance majors (Bachelor of Music) may substitute X002 (Accompanying) for 2 semesters toward this requirement.

Correspondence Study Limited credit toward your degree may be earned by correspondence study. See your advisor for additional information.

Restriction on Use of University Facilities University facilities are not to be used for any private enterprises such as teaching.

Time Limit At the time you are awarded your music degree, it is intended that you will be as current as possible in the knowledge and skills you have attained. Accordingly, if you do not complete the requirements within seven years of matriculation, you may be required to (1) demonstrate your eligibility to continue in your degree program by passing comprehensive examinations in all music subjects previously completed, and (2) meet the degree requirements specified in the current *Bulletin*. Time spent fulfilling a military-service obligation will not be counted toward this seven-year limit.

Native American Studies

Program: Certificate

School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6746

A certificate in Native American studies is available to all IPFW students. The program provides an appreciation of the cultures, prehistory, history, and creative and artistic expression of Native Americans for the benefit of those who may be interested in social work, economic development, and Native American organizations.

To earn the certificate, you must meet all regular IPFW admission requirements (see Part 7) and complete the following courses with a grade of C or higher in each course:

Course Number and Title	Credits
Credits in ethnography of Native Americans chosen from the following:	6
ANTH E320 <i>Indians of North America</i>	
ANTH E321 <i>Peoples of Mexico</i>	
ANTH E330 <i>Indians of South America</i>	
HIST A 310 <i>Survey of American Indians I</i>	
HIST A 311 <i>Survey of American Indians II</i>	
Credits in prehistory of Native Americans chosen from the following:	3
ANTH E335 <i>Ancient Civilizations of Mesoamerica</i>	
ANTH P360 <i>Archaeology of North America</i>	
ANTH P370 <i>Ancient Cultures of South America</i>	
Credits in history of Native Americans chosen from the following:	3
HIST A318 <i>The American West</i>	
HIST F341 <i>Latin America: Conquest and Empire</i>	
HIST F342 <i>Latin America: Evolution and Revolution</i>	
HIST F432 <i>20th-Century Latin American Revolutions</i>	
Credits in Native American studies chosen from the following:	3
ENG L364 <i>Native American Literature</i>	
FINA H415 <i>Art of Pre-Columbian America</i>	
FOLK F352 <i>Native American Folklore</i>	
Additional credits from the lists above or in an approved elective	3
Total	18

Nuclear Medicine

Program: Transfer Program
School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

At IPFW you may complete two years toward the Bachelor of Science in nuclear medicine offered by the Department of Radiology at the Indianapolis campus of the Indiana University School of Medicine. Observation in a nuclear medicine facility is required prior to interview. An interview is also required. Completion of these courses does not guarantee admission to the IUPUI clinical program. All college courses taken including remedial courses and courses that do not meet prerequisite requirements are considered when calculating the cumulative GPA and the life and physical science GPA. Applicants to the clinical program must have a minimum of 20 total credit hours from the physical and biological sciences (see advisor). You must have a minimum cumulative GPA of 2.50 and a math/science GPA of 2.50 to be admitted to the Indianapolis clinical program. The details of your general-education requirements should be discussed with an IPFW advisor. You must also consult an allied-health advisor at the Indianapolis campus to discuss the bachelor's degree, 317-274-4752 or e-mail askhpp@iupui.edu. Read about further details about the IUPUI program at www.bulletin.iupui.edu/aht/nuclear.html.

At IPFW you may complete the following courses:

Course Number and Title	Credits
BIOL 215 <i>Basic Human Anatomy</i>	4
BIOL 216 <i>Basic Mammalian Physiology</i>	4
CS 106 <i>Introduction to Computers</i> (or alternate CS course)	3
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
One of the following:	5–6
MA 151 <i>Algebra and Trigonometry</i>	
MA 153–154 <i>Algebra and Trigonometry I–II</i>	
PSY 120 <i>Elementary Psychology</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
Credits in anthropology, psychology, or sociology	6
Credits in humanities	3
Credits in selected courses in life and physical sciences (must have a total of 20)	6–8
CHM 115 <i>General Chemistry</i>	4
CHM 116 <i>General Chemistry</i>	4
One of the following:	1–3
BIOL 105 <i>Medical Terminology</i>	1
NUR 106 <i>Medical Terminology</i>	3
PHYS 220 <i>General Physics</i> (PHYS 218 or 201 may be substituted)	4–5
Credits in electives	4–5
Total	60

Nursing

Programs: A.S. and B.S.
Department of Nursing
School of Health Sciences

Neff Hall B50 ▼ 260-481-6816 ▼ www.ipfw.edu/nursing

The IPFW/Parkview Nursing Program is accredited by the National League for Nursing Accreditation Commission (NLNAC), 61 Broadway 33rd Floor, New York, NY 10006, telephone, 1-800-669-1656. All current nursing policies are online at www.ipfw.edu/nursing/handbook/default.shtml.

A.S. WITH A MAJOR IN NURSING

As a graduate of the A.S. nursing program, you will have attained the knowledge and skills needed to provide quality healthcare and the academic credentials required to take the National Council Licensure Examination (NCLEX-RN). Upon successful completion of this examination, you will be eligible to practice as a registered nurse in Indiana. Current nursing department policies are online at www.ipfw.edu/nursing.

Admission Two admission options are available: admission to prenursing and direct admission to the A.S. program. All admissions are competitive.

PRENURSING

If you meet the general requirements for admission to IPFW (see Part 7) but do not meet additional criteria for admission directly to the A.S. program (specified later in this section), you may be admitted to the School of Health Sciences in prenursing. Admission to the A.S. program from prenursing is limited and competitive. To compete for admission, you must have (1) completed a minimum of 12 credits at IPFW of the prenursing courses listed below, including BIOL 203 and CHM 104; and (2) earned a cumulative GPA of 2.30 or higher in prenursing courses completed at the end of the semester during which your application for admission is submitted. Grades earned in elective courses are not considered in determining the prenursing GPA.

Course Number and Title	Credit
BIOL 203–204 <i>Human Anatomy and Physiology</i>	6
BIOL 220 <i>Introduction to Microbiology</i>	4
ENG W131 <i>Elementary Composition I</i> (or equivalent)	3
FNN 303 <i>Essentials of Nutrition</i>	3
PCTX 201 <i>Introductory Pharmacology</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
CHM 104 <i>Living Chemistry</i>	3
Credits in an elective	3

The following special rules apply to prenursing:

1. Credits in developmental courses (ENG R150, R151, and W130; MA 109) do not apply toward either prenursing or the A.S. program.
2. A minimum grade of C or better in PCTX 201 and all required BIOL and CHM courses is required.
3. Required courses may be repeated only once. If you repeat a required course and again fail to earn the minimum grade, you will

be disqualified from further consideration for admission to the A.S. program. Only the second grade in a repeated course will be used in calculating your prenursing GPA.

4. A grade below C in two courses will disqualify students from further consideration for admission to the A.S. program. Students earning a grade below C in the same science course will be dropped from the nursing program.

5. Courses in biology, nursing, and pharmacology that you completed more than five years before the application deadline; and courses in foods and nutrition and chemistry you completed more than 10 years before you are admitted to the A.S. program are considered outdated. Outdated courses may be used to meet A.S. program admission criteria only after your current knowledge of the subject matter has been validated. Information about validation procedures is available from the prenursing advisor. Outdated courses for which your current knowledge has not been validated must be retaken.

Applications for admission to the A.S. nursing program may be obtained from the Department of Nursing, Neff B50. Completed applications and all other required materials must be received by May 1 (for fall semester) or Dec. 1 (for spring semester).

Applicants must be admitted to IPFW at the time application is made. Applicants must have been seen by an advisor within the last two semesters.

Eligible applicants are ranked according to their prenursing GPAs. Selection for admission is based on both the number of spaces available at each application deadline and each applicant's rank among others who are applying for those spaces. Since the number of eligible applicants typically exceeds the number of spaces available, attaining only the minimum 2.30 pre-nursing GPA provides no assurance that you will be selected for admission to the degree program.

If you are selected for admission, you also must agree to pursue remaining nursing courses immediately and in the order specified in the nursing program brochure. If you are not selected for admission, you must file a new application to be considered for any subsequent admission deadline.

Direct Admission You may be admitted directly to the A.S. program if you meet the general requirements for admission to IPFW (see Part 7), are in one of the following admission categories, and meet the additional criteria specified for that category:

First-Time College Students

1. Your admission application and all other required materials are received on or before March 1 by IPFW Admissions.
2. In addition to satisfying the general IPFW admission requirements (see Part 7), (a) you earned a combined SAT score of 1000 or higher; ACT 21 or higher; and (b) your high-school record shows that you rank in the top 25 percent of your high school graduating class and that you completed a minimum of: 8 units of English; 4 units of biology, chemistry, and/or physics; and 4 units of academic mathematics (algebra preferred).

If you qualify for direct admission to the A.S. program, you must also agree to pursue the degree as a full-time student (as defined in the nursing program brochure). Once admitted, you are expected

to enroll in all nursing courses in sequence and to observe all listed course prerequisites and corequisites.

DEGREE REQUIREMENTS

Note The curriculum for this program is undergoing revision in compliance with the IPFW general education program. Check with your nursing advisor for updated information likely to affect at least your choice of electives.

Course Number and Title	Credits
A.S. Core	38
NUR 113 <i>Communication in the Healthcare Setting</i>	2
NUR 115 <i>Nursing I (Introduction to Nursing)</i>	6
NUR 116 <i>Nursing II (Medical Surgical Nursing of Adults)</i>	6
NUR 224 <i>Nursing III (Medical Surgical Nursing of Adults)</i>	8
NUR 225 <i>Parent-Child Health</i>	6
NUR 240 <i>Neuropsychiatric Nursing</i>	5
NUR 281 <i>Nursing Issues/Manager of Care</i>	4
NUR 295 <i>Advanced Concepts in Critical Thinking</i>	1
Supporting Courses	33–34
BIOL 203–204 <i>Human Anatomy and Physiology</i>	6
BIOL 220 <i>Introduction to Microbiology</i>	4
ENG W131 <i>Elementary Composition I (or equivalent)</i>	3
FNN 303 <i>Essentials of Nutrition</i>	3
PCTX 201 <i>Introductory Pharmacology</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
CHM 104 <i>Living Chemistry</i>	3
Credits in an elective	3
Total	71–72

Advanced Placement for Licensed Practical Nurses LPNs are eligible for 12 additional credits in nursing after having (1) been admitted to the A.S. nursing program, and (2) earned a grade of C or better in NUR 117 and NUR 224. LPNs are not considered transfer students.

B.S. WITH A MAJOR IN NURSING

The Bachelor of Science with a major in nursing helps you prepare for entry-level leadership positions in nursing.

Admission Admission to the B.S. program is available only to graduates of state-approved associate degree in nursing or diploma programs who satisfy IPFW admission requirements (see Part 7) and meet the following additional criteria. Some restrictions apply to applicants who are not licensed RNs. You must consult with a nursing advisor before applying for admission.

1. You must have graduated from a state-approved associate degree or diploma program during which you completed the following and earned a grade of C or better in each applicable course:

- 12 credits in biological and physical sciences
- 30 credits in nursing;
- and the following credits with a grade average of C or better:

- 6 credits in social sciences
- 3 credits in written communication skills
- 9 credits in electives

2. You must have earned a cumulative GPA of 2.30 or higher in your previous nursing program and other academic work.

DEGREE REQUIREMENTS

To earn the B.S. with a major in nursing, you must fulfill the general-education requirements of IPFW (see Part 7) and the School of Health Sciences (see Part 3), those requirements listed below, and complete at least 40 credits in courses numbered 300 and above. You are expected to complete the nursing program within five years after you enroll in the first required nursing course.

Note Meet with your nursing advisor to discuss how the electives fit within the general-education requirements.

Course Number and Title	Credits
Credits from the A.S. in nursing	60
Nursing Core	32
NUR 338 <i>Concepts in Nursing</i>	3
NUR 339 <i>Research in Healthcare</i>	3
NUR 341 <i>Health Assessment</i>	3
NUR 342 <i>Community Health Nursing</i>	5
NUR 434 <i>Advanced Nursing</i>	4
NUR 334 <i>Clinical Pathophysiology</i>	4
NUR 442 <i>Leadership Through the Nursing Process</i>	5
NUR 445 <i>Seminar in Professional Nursing</i>	2
NUR (elective)	3
Supporting Courses	9
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
Credits in Statistics (PSY 201, SOC S351, SPEA K300*, or STAT 125*)	3
<i>*Meets general education requirements</i>	
Electives	24
Credits in behavioral science (psychology, sociology, anthropology, and political science) Three credits must be at the 300–400 level.	6
Credits in humanities (literature, history, philosophy, music, theatre, folklore, foreign languages, film, and visual arts) Three credits must be at the 300–400 level.	6
Credits in public affairs, economics or political science	3
Credits in communications at the 300–400 level	3
Credits in electives	6
Total	125

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN NURSING

Physicals, Immunizations, and Insurance Before you begin your first clinical nursing course, you must provide the nursing department with evidence that you have (1) had a physical examination within six months of beginning nursing courses; (2) obtained required immunizations; (3) obtained required TB testing; (4) acquired liability insurance (available from IPFW); (5) been certified in CPR for infant, child, and adult; and (6) had a criminal record check. All documentation is due in the nursing office by

Dec. 1, prior to your first A.S. clinical. Thereafter, you must annually provide verification of items 3, 4, and 5 by Dec. 1. Documentation for A.S.: Dec. 1, April 1, Aug. 1, see *Nursing Handbook*.

Degree Requirements You are required to complete your degree under the requirements specified in the *Bulletin* in effect at the time you enroll in your first nursing course.

Validating Previous Knowledge and Experience If you have been admitted to prenursing or the A.S. nursing program, you may request that previously acquired knowledge/experience be validated by challenge examination(s). You must contact your nursing or prenursing advisor for specific information.

If you have been admitted to the bachelor's degree program and believe you have sufficient proficiency to challenge a nursing course, you should contact the instructor of that course early in the semester preceding the semester during which you would normally register for that course.

In all cases, your eligibility for a challenge examination; the type of examination; testing procedures, date, time, and location; and evaluation of your performance will be determined by the IPFW Department of Nursing faculty. Decisions made by the department faculty with respect to the above are final. You may attempt an authorized challenge examination only once.

If you are certified by a recognized nursing organization, certification may be applied as a nursing elective. Certain certificates may be used as credit for required nursing courses.

Grades You must earn a grade of C or better in each of the following courses: BIOL 203, 204, 220; CHM 104; ENG W131 or equivalent; NUR 334; PCTX 201; and all required nursing courses.

If you earn a grade of D or F in a required nursing course, (1) you cannot enroll in another nursing course until you have repeated the course and earned a grade of C or better; and (2) you will not be permitted to take more than one clinical course per semester for the remainder of the nursing program.

If you earn a second grade of D or F in any required nursing course, you will be dismissed from the IPFW nursing program. Dismissal from the nursing program may result at anytime if it is determined that an act of a nursing student places clients, other students, staff, faculty, or the university at risk for any potential harm. If you are dismissed for this reason, you may appeal the decision to the Department of Nursing. If you are dismissed for failure to meet the university's minimum academic standards, you may apply for readmission by following the procedures established by the university. The Department of Nursing does provide the Academic Renewal option.

Occupational Therapy

**Program: Transfer Program
School of Health Sciences**

Neff Hall 142 ▼ 260-481-6967

An undergraduate degree in occupational therapy is no longer available. The entry-to-practice degree for the profession is now a master of science in occupational therapy. A bachelor of science in any discipline is required to apply for the master of science in

occupational therapy program, which is offered through IUPUI (Indianapolis). You may earn your bachelor of science at IPFW then apply to the IUPUI graduate program, based on their interests. The M.S., program has no preference about which major you choose for your B.S., as long as you also complete the prerequisite courses found below.

Completion of these requirements does not guarantee admission to the program. Competitive GPAs are generally higher than the stated minimums. The details of the occupational therapy prerequisites should be discussed with an IPFW allied health advisor (260-481-6967). You may also contact the advisor at the Indianapolis campus to discuss the M.S. in occupational therapy by calling 317-274-7238, or by e-mail at reakins@iupui.edu. You should also visit the Web site at www.sahs.iupui.edu/not/.

At IPFW, you may complete a prerequisite B.S. (see above) and must also complete the following courses:

Course Number and Title	Credits
One of the following sequences:	6–8
BIOL 203/204 <i>Anatomy and Physiology</i>	
BIOL 215/216 <i>Basic Human Anatomy/Basic Mammalian Physiology</i>	
HPER P397 <i>Kinesiology (see advisor)</i>	3
NUR 106 <i>Medical Terminology</i>	3
One of the following:	3
PSY 201 <i>Introduction to Quantitative Topics in Psychology</i>	
STAT 301 <i>Elementary Statistical Methods</i>	
SPEA K300 <i>Statistical Techniques</i>	
PSY 350 <i>Abnormal Psychology</i>	3
PSY 369 <i>Life Span Development</i>	3
Total Required Prerequisites	21–23

Organizational Leadership and Supervision

Programs: A.S., B.S., and Minor

Division of Organizational Leadership and Supervision

Neff Hall 288 ▼ 260-481-6420 ▼ www.ipfw.edu/ols

A.S. WITH A MAJOR IN ORGANIZATIONAL LEADERSHIP AND SUPERVISION

This program helps you prepare for entry-level or mid-career supervisory leadership positions, or for advancement in business and service organizations. The A.S. with a major in organizational leadership and supervision is considered of particular benefit to individuals who already possess technical skills and work experience and to students who complete the program along with a bachelor's degree in a technical or behavioral-science area.

To earn the A.S. with a major in organizational leadership and supervision, you must satisfy the requirements of IPFW (see Part 7) and the Division of Organizational Leadership and Supervision (see Part 3); earn a grade of C or better in ENG W131, ENG W232 and each OLS course; and complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 153/168 <i>Algebra and Trigonometry/ Mathematics for Liberal Arts Students</i>	3
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
OLS Core Classes	
OLS 252 <i>Human Relations in Organizations</i>	3
OLS 268 <i>Elements of Law</i>	3
OLS 274 <i>Applied Leadership</i>	3
OLS 375 <i>Training Methods</i>	3
OLS 376 <i>Human Resource Issues</i>	3
OLS elective	6
Technical Support Requirements	
BUS A201 <i>Principles of Financial Accounting</i>	3
ECON E200 <i>Fundamentals of Economics</i>	3
ENG W232 <i>Introduction to Business Writing</i>	3
CS 106 <i>Introduction to Computers</i>	3
OLS 280 <i>Computer Applications for Supervision</i>	3
Unrestricted Elective Courses	
	6
Total	63

B.S. WITH A MAJOR IN ORGANIZATIONAL LEADERSHIP AND SUPERVISION

The bachelor's program focuses on the leadership role and related human-relations concerns of supervisors. The OLS courses that compose this program emphasize current issues such as teamwork and work groups, quality and productivity, employee training and development, individual creativity and innovation, employee health and safety, and overseeing change.

To earn the B.S. with a major in organizational leadership and supervision, you must satisfy the requirements of IPFW (see Part 7) and the Division of Organizational Leadership and Supervision (see Part 3); earn a grade of C or better in ENG W131, ENG W232 (or approved substitute), and each OLS course; and complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
33	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 153/168 <i>Algebra and Trigonometry/ Mathematics for Liberal Arts Students</i>	3
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3

Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
OLS Core and Major Courses	39
OLS 252	<i>Human Relations in Organizations</i> 3
OLS 268	<i>Elements of Law</i> 3
OLS 274	<i>Applied Leadership</i> 3
OLS 375	<i>Training Methods</i> 3
OLS 376	<i>Human Resource Issues</i> 3
OLS 454	<i>Gender and Diversity in Management</i> 3
OLS 474	<i>Conference Leadership</i> 3
OLS 475	<i>Topics: Contemporary Supervisory Training Issues</i> 3
OLS 485	<i>Leadership for Team Development</i> 3
OLS 486	<i>Leadership: Management of Change</i> 3
OLS electives	9
Technical Support Requirements	21
BUS A201	<i>Introduction to Accounting</i> 3
ECON E200	<i>Fundamentals of Economics</i> 3
ENG W232	<i>Introduction to Business Writing</i> 3
COM 324	<i>Introduction to Organizational Communication</i> or 3
COM 323	<i>Business and Professional Speaking</i> or 3
COM 303	<i>Intercultural Communication</i> 3
STAT 301	<i>Elementary Statistical Methods I</i> or 3
SPEA K300	<i>Statistical Techniques</i> or 3
PSY 201	<i>Introduction to Quantitative Topics</i> or 3
BUS A202	<i>Principles of Managerial Accounting</i> 3
Approved statistics course	3
CS 106	<i>Introduction to Computers</i> 3
OLS 280	<i>Computer Applications for Supervision</i> 3
Concentration	21
In consultation with IPFW academic departments, OLS has compiled interdisciplinary career concentrations such as:	
<i>Human Resource Development</i>	
<i>Human Resource Management</i>	
<i>Environmental Health and Safety</i>	
<i>Electrical Engineering Technology</i>	
<i>Government</i>	
<i>Health Services</i>	
<i>Hotel, Restaurant, Tourism Management</i>	
<i>Industrial Engineering Technology</i>	
<i>Interior Design</i>	
<i>Information Systems</i>	
<i>Journalism</i>	
<i>Public Relations</i>	
<i>Quality Control</i>	
<i>Service Industry</i>	
A minor may be substituted for the concentration. See the OLS academic advisor for additional information.	
Unrestricted Electives	9
Total	123

Lists of specific courses required for each career concentration are available at the OLS office (Neff 288). Other options for filling this requirement include using an IPFW-recognized minor as a basis for your concentration area or designing a concentration that reflects your own career goals. Your proposal for an alternative concentration and a formal plan of study must be accepted by an OLS faculty advisor and approved by the OLS chair. If your plan is approved, it will become a formal part of your degree requirements.

MINOR

If you are pursuing a major other than organizational leadership and supervision, you may earn a minor in organizational leadership and supervision by completing the following courses with a grade of C or better in each course:

Course Number and Title	Credits
OLS 252 <i>Human Relations in Organizations</i>	3
OLS 268 <i>Elements of Law</i>	3
OLS 274 <i>Applied Leadership</i>	3
OLS 375 <i>Training Methods</i>	3
OLS 376 <i>Human Resources Issues</i>	3
Additional credits in OLS	3
Total	18

SPECIAL ACADEMIC REGULATIONS FOR ORGANIZATIONAL LEADERSHIP AND SUPERVISION DEGREE PROGRAMS

Transfer students and students planning to change their major to organizational leadership and supervision must have a GPA of 2.00 or higher to be admitted into the program. A cumulative GPA of 2.0 or above is also required to remain in the division.

OLS, business, and technical courses taken more than 10 years ago will not count towards your degree requirements.

If you have not registered for degree-applicable courses as an IPFW OLS major for four consecutive semesters (excluding summer), you must satisfy the degree requirements specified in the IPFW *Bulletin* that includes your year of re-entry.

See Supervisory Leadership for a description of OLS's certificate program.

Paramedic Sciences

Program: Transfer Program School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

You must be an Indiana- or nationally certified EMT with at least 20 hours of documented patient contact in an ambulance to complete this degree in Indianapolis. At IPFW, you may complete one year toward the Associate of Science in paramedic sciences offered at the Indianapolis campus of the Indiana University School of Medicine. The details of your general-education requirements should be discussed with an IPFW allied-health advisor. You may also consult an allied-health advisor at the Indianapolis campus to discuss the Associate of Science, 317-278-4752 or askhpp@iupui.edu.

At IPFW, you may complete the following courses:

Course Number and Title	Credits
BIOL 215 or 203 <i>Basic Human Anatomy</i>	3–4
BIOL 216 or 204 <i>Basic Mammalian Physiology</i>	3–4
CS 106 <i>Introduction to Computers</i>	3
ENG W131 <i>Elementary Composition I</i>	3
MA 109 <i>Elementary Algebra*</i> <i>*or higher</i>	3
PSY 120 <i>Elementary Psychology</i>	3
SOC S161 <i>Principles of Sociology</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
Credits in approved elective (see advisor)	3–5
Total	29

Peace and Conflict Studies

Program: Certificate

School of Arts and Sciences

Classroom-Medical Building 154 ▼ 260-481-6746

A certificate in peace and conflict studies is available to all IPFW students who wish to understand the dynamics of conflict as well as various paths toward peace, from the interpersonal to the global level.

To earn this certificate, you must complete the following 15 credits with a grade of C or higher in each course:

Course Number and Title	Credits
One of the following:	3
PACS P200 <i>Introduction to Peace and Conflict Studies: Humanities Perspectives</i>	
PACS P201 <i>Introduction to Peace and Conflict Studies: Social and Behavioral Sciences Perspectives</i>	
Credits in a social and behavioral sciences course, chosen from a list available in the School of Arts and Sciences office	3
Credits in a humanities course, chosen from a list available in the School of Arts and Sciences office	3
Credits in another course, chosen from either the humanities course list or the social and behavioral sciences course list	3
One of the following senior-project courses:	3
PACS P497 <i>Humanities Readings and Research in Peace and Conflict Studies</i>	
PACS P498 <i>Social and Behavioral Sciences Readings and Research in Peace and Conflict Studies</i>	
PACS P499 <i>Social and Behavioral Sciences Internship in Peace and Conflict Studies</i>	
Total	15

Philosophy

Programs: B.A. and Minor

Department of Philosophy

School of Arts and Sciences

Neff Hall 130 ▼ 260-481-6366

The major in philosophy is a traditional humanities and liberal-arts program covering the principal branches and divisions of philosophy with an emphasis on the history of philosophy. The philosophy major is good preparation for graduate study in philosophy. Some students who major in philosophy do so with the intention of becoming teachers of philosophy. The philosophy major also serves as a preprofessional program for the ministry, law, or health sciences. It is often possible for a student to be a double major in philosophy and something else.

B.A. WITH A MAJOR IN PHILOSOPHY

To earn the Bachelor of Arts with a major in philosophy, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	
<i>See Part 2 General Education Requirements for approved courses</i>	
PHIL 110 <i>Introduction to Philosophy</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area IV	3
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in PHIL)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in PHIL)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	
PHIL 110 <i>Introduction to Philosophy</i>	0
<i>(credits included in Major Courses, below)</i>	
Credits in non-Western culture	3

Core and Concentration (Major) Courses		
PHIL 110	<i>Introduction to Philosophy</i>	3
PHIL 111	<i>Ethics</i>	3
PHIL 150	<i>Principles of Logic</i>	3
PHIL 303	<i>History of Modern Philosophy</i>	3
PHIL 450	<i>Symbolic Logic</i>	3
Credits in two of the following:		6
PHIL 301	<i>History of Ancient Philosophy</i>	
PHIL 302	<i>History of Medieval Philosophy</i>	
PHIL 304	<i>19th-Century Philosophy</i>	
Additional credits in PHIL courses, including one at the 500 level		9
General Elective Courses		
Sufficient additional credits to bring the total to 124.		
Total		124

PHILOSOPHY MINOR

If you are pursuing a major other than philosophy, you may earn a minor in philosophy by completing the following credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW. Substitutions for these courses may be made with the approval of the department.

Course Number and Title	Credits	
PHIL 303 <i>History of Modern Philosophy</i>	3	
One of the following:		
PHIL 110 <i>Introduction to Philosophy</i>	3	
PHIL 111 <i>Ethics</i>		
One of the following:		
PHIL 120 <i>Critical Thinking</i>	3	
PHIL 150 <i>Principles of Logic</i>		
One of the following:		
PHIL 301 <i>History of Ancient Philosophy</i>	3	
PHIL 302 <i>History of Medieval Philosophy</i>		
PHIL 304 <i>19th-Century Philosophy</i>		
Credits in a philosophy elective at the 400 level or above (PHIL 493 and PHIL 590 count toward the minor only with the approval of the department.)		3
Total		15

Physical Therapy

Program: Transfer Program School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

An undergraduate degree in physical therapy is no longer available. The entry-to-practice degree for the profession is now the Doctor of Physical Therapy (D.P.T.), a graduate degree. Students can prepare for the D.P.T. in physical therapy as follows. At IPFW you may earn any baccalaureate degree then apply for the Doctor of Physical Therapy offered by the School of Health and Rehabilitation Sciences at the Indianapolis campus of Indiana University. Courses in statistics, chemistry, anatomy, physiology, and physics must be completed no more than seven years prior to admission to the D.P.T. program. All prerequisite courses must be passed with a grade of C or better. A minimum cumulative GPA of 3.2 and a math/science GPA of 3.2 is required for admission into the IUPUI program. An essay and clinical observations are also required for

admission. Completion of these course requirements does not guarantee admission to the IUPUI program. The details of physical therapy prerequisites should be discussed with an IPFW allied health advisor. You must also consult with an advisor at the Indianapolis campus to discuss the D.P.T., 317-274-7238 or e-mail reakinst@iupui.edu.

Your undergraduate program must include the following:

Course Number and Title	Credits	
BIOL 215 or 203 <i>Basic Human Anatomy with lab</i>	3-4	
BIOL 216 or 204 <i>Basic Mammalian Physiology with lab</i>	3-4	
CHM 115 <i>General Chemistry with lab</i>	4	
CHM 116 <i>General Chemistry with lab</i>	4	
Choose one sequence:		
PHYS 218/219 <i>General Physics</i>	8	
PHYS 220/221 <i>General Physics</i>		
Choose one:		
SPEA K300 <i>Statistical Techniques</i>	3	
STAT 301 <i>Elementary Statistical Methods I</i>		
PSY 120 <i>Elementary Psychology</i>	3	
PSY 369 <i>Development Across the Lifespan</i>	3	
Humanities/social sciences electives	6-8	
Total		39

Physics

Programs: B.S., Minor, and Research Certificate Department of Physics School of Arts and Sciences

Kettler Hall 126B ▼ 260-481-6306 ▼ www.ipfw.edu/physics/

This program helps you prepare for graduate study in physics or for careers in industry. You may also be interested in physical science teaching certification (listed separately in this *Bulletin*).

If you wish to transfer to physics from another degree program, you must have an average of C or better in all physics and mathematics courses you have completed and not more than one grade below C in those courses.

To remain in the degree program, you must maintain a GPA of 2.00 or higher in physics courses. You may take a minor of 24-30 credits in a second science or in engineering. For this minor, a plan of study is developed with your advisor. You may substitute courses in the minor for PHYS 361. Typical minor programs chosen by physics majors are mathematics and electrical engineering.

To earn the B.S. with a major in physics, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), in addition to the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	
ENG W131 <i>Elementary Composition I</i>	3
ENG W140 <i>Elementary Composition—Honors</i>	

MA 165	Analytic Geometry and Calculus I	0
	<i>(credits included in Supporting Courses, below)</i>	
Area II—Natural and Physical Sciences		
CHM 115	General Chemistry	0
	<i>(credits included in Supporting Courses, below)</i>	
PHYS 152	Mechanics <i>(credits included in Major Courses, below)</i>	0
Area III—The Individual, Culture, and Society		
		6
<i>See Part 2 General Education Requirements for approved courses</i>		
Area IV—Humanistic Thought		
		6
<i>See Part 2 General Education Requirements for approved courses</i>		
Area V—Creative and Artistic Expression		
		3
<i>See Part 2 General Education Requirements for approved courses</i>		
Area VI—Inquiry and Analysis (not in PHYS)		
		3
<i>See Part 2 General Education Requirements for approved courses</i>		
School of Arts and Sciences Requirements		
<i>English Writing</i>		
ENG W233	Intermediate Expository Writing	3
	<i>(or other approved writing course)</i>	
<i>Foreign Language</i>		
Requirements in Arts and Sciences Part B		
		8
Core and Concentration (Major) Courses		
PHYS 152	Mechanics	5
PHYS 251	Heat, Electricity, and Optics	5
PHYS 310	Intermediate Mechanics	4
PHYS 322	Optics	3
PHYS 330	Intermediate Electricity and Magnetism	3
PHYS 331	Electricity and Magnetism II	3
PHYS 342–343	Modern Physics and Laboratory	4
PHYS 345	Optics Laboratory I	1
PHYS 346	Advanced Laboratory I	1
PHYS 361	Electronics for Scientists	4
PHYS 515	Thermal and Statistical Physics	3
PHYS 520	Mathematical Physics	3
PHYS 550	Introduction to Quantum Mechanics	3
One of the following:		3
PHYS 325	Computational Physics	
	Additional credits in mathematics	
Supporting Courses		
CHM 115–116	General Chemistry	8
MA 165–166	Analytic Geometry and Calculus I–II	8
MA 261	Multivariate Calculus	4
MA 351	Elementary Linear Algebra	3
MA 363	Differential Equations	3
General Elective Courses		
Sufficient additional credits to bring the total to 124.		
Total		124

MINOR

If you are pursuing a major other than physics, you may earn a minor in physics by completing the following credits with a grade of C or better in each course and earning at least 9 credits as resident credit at IPFW:

Course Number and Title	Credits
PHYS 152 Mechanics	5
PHYS 251 Heat, Electricity, and Optics	5

Credits in two of the following:		6–8
PHYS 310	Intermediate Mechanics	
PHYS 322	Optics	
PHYS 330	Intermediate Electricity and Magnetism	
PHYS 331	Electricity and Magnetism II	
PHYS 342	Modern Physics	
PHYS 361	Electronics for Scientists	

Total	16–18
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The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

B.S. WITH A MAJOR IN PHYSICS TEACHING

This program helps you prepare for teaching physical science in the high schools. You may also be interested in physical science teaching certification (listed separately in this *Bulletin*).

You should work closely with your academic advisor to ensure completion of general-education requirements for teacher certification. To be certified to teach, you must have a GPA of 2.00 or higher in the general-education areas of humanities and social and behavioral sciences. Additionally, you must have a GPA of 2.50 or higher in your major and the professional-education course area. Each professional-education course must be completed with a grade of C or better.

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam in both physics and chemistry must be completed before or during the student-teaching semester, normally in your senior year.

If you wish to transfer to physics teaching from another degree program, you must have an average of C or better in all physics and mathematics courses you have completed, and not more than one grade below C in those courses.

To earn the B.S. with a major in physics teaching, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) in addition to the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114	Fundamentals of Speech Communication 3
One of the following:	3
ENG W131	Elementary Composition I
ENG W140	Elementary Composition—Honors
MA 165	Analytic Geometry and Calculus I 0
	<i>(credits included in Supporting Courses, below)</i>

Area II—Natural and Physical Sciences	
CHM 115	General Chemistry <i>(credits included in Supporting Courses, below)</i> 0
PHYS 152	Mechanics <i>(credits included in Major Courses, below)</i> 0
Area III—The Individual, Culture, and Society	
	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	
	6
<i>See Part 2 General Education Requirements for approved courses</i>	

Area V—Creative and Artistic Expression 3

See Part 2 General Education Requirements for approved courses

Area VI—Inquiry and Analysis (not in PHYS) 3

See Part 2 General Education Requirements for approved courses

School of Arts and Sciences Requirements

English Writing

ENG W233	<i>Intermediate Expository Writing</i>	3
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Core and Concentration (Major) Courses

PHYS 152	<i>Mechanics</i>	5
PHYS 251	<i>Heat, Electricity, and Optics</i>	5
PHYS 310	<i>Intermediate Mechanics</i>	4
PHYS 322	<i>Optics</i>	3
PHYS 330	<i>Intermediate Electricity and Magnetism</i>	3
PHYS 331	<i>Electricity and Magnetism II</i>	3
PHYS 342–343	<i>Modern Physics and Laboratory</i>	4
PHYS 345	<i>Optics Laboratory I</i>	1
PHYS 346	<i>Advanced Laboratory I</i>	1
PHYS 515	<i>Thermal and Statistical Physics</i>	3
PHYS 520	<i>Mathematical Physics</i>	3
PHYS 550	<i>Introduction to Quantum Mechanics</i>	3

Supporting Courses

CHM 115–116	<i>General Chemistry</i>	8
MA 165–166	<i>Integrated Geometry and Calculus I–II</i>	8
MA 261	<i>Multivariate Calculus</i>	4
MA 351	<i>Elementary Linear Algebra</i>	3
MA 363	<i>Differential Equations</i>	3

Course Number and Title	Credits
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Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300	<i>Invitation to Teaching</i>	2
EDUC W200/M101	<i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201	<i>Schools, Society, and Exceptionality</i>	1

GROUP II

EDUC K206	<i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340	<i>Education and American Culture</i>	3
EDUC P250/M201	<i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301	<i>Educational Psychology Secondary Teachers and Lab/Field Experience</i>	3
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
EDUC X401	<i>Critical Reading in the Content Area</i>	3
EDUC M449	<i>Methods of Teaching Science in the Secondary Schools</i>	2–3
EDUC M470	<i>Practicum</i>	4
EDUC M480	<i>Student Teaching in the Secondary School</i>	12

Total	125
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Piano Pedagogy

Program: Certificate

Department of Music

School of Visual and Performing Arts

Classroom-Medical Building G23 ▼ 260-481-6714

If you intend to be a professional piano studio teacher, you may earn the certificate in piano pedagogy by satisfying the requirements of IPFW (see Part 7) and the School of Visual and Performing Arts (see Part 3), completing the following courses, and earning a grade of C or better in each:

Course Number and Title	Credits
MUS E193–E194 <i>Piano Pedagogy I–II</i>	4
MUS E293–E294 <i>Piano Pedagogy III–IV</i>	4
MUS M201–M202 <i>Literature of Music I–II</i>	4
MUS T113–T114 <i>Music Theory I–II</i>	6
MUS T115–T116 <i>Sightsinging and Aural Perception I–II</i>	2
MUS X296 <i>Upper Divisional Piano Examination</i>	0
MUS X299 <i>Piano Proficiency Examination</i>	0
Credits in applied music	8
Credits in ensemble course(s)	2
Total	30

Political Science

Programs: A.A., B.A., and Minor

Department of Political Science

School of Arts and Sciences

Classroom-Medical Building 209 ▼ 260-481-6686 ▼

www.ipfw.edu/pols

Political science includes basic issues in governance; political structures, processes, and controls; social conditions; and intergovernmental relations. This program helps you prepare to be an informed citizen or public servant; to succeed in a wide variety of careers; or to engage in further study of government, politics, or law.

In addition to the Bachelor of Arts and the minor in political science, the department offers specialized advising for prelaw students and teacher preparation in social studies. An Associate of Arts with a concentration in political science is described in the School of Arts and Sciences section of Part 3.

B.A. WITH A MAJOR IN POLITICAL SCIENCE

To earn the B.A. with a major in political science, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), and complete the following courses:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	

Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
POLS Y103 Introduction to American Politics	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in POLS)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
POLS Y205 Elements of Political Analysis	0
<i>(credits included in Major Courses, below)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in POLS)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
POLS Y205 Elements of Political Analysis	3
POLS Y395 Quantitative Political Analysis	3
POLS Y490 Senior Seminar in Political Science	3
POLS Yxxx additional POLS credits, 100 level or above	6
POLS Yxxx additional POLS credits, 200 level or above	15
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

TEACHER CERTIFICATION

You may be certified as a teacher of social studies after fulfilling all requirements for the B.A. with a major in political science and all requirements for teacher certification. Full information on teacher-certification requirements is available from the School of Education.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

MINOR

If you are pursuing a major other than political science, you may earn a minor in political science by completing a minimum of 18 credits, including at least 9 resident credits, in the discipline with a grade of C or better in each course. A maximum of 6 credits may be earned in 100-level courses, and a minimum of 6 credits in courses at or above the 300 level (not including Y398 or Y482). Neither Y398 Internship in Urban Institutions nor Y482 Practicum may count for more than 6 of the 18 credits; these two courses together may not count for more than 9 of the 18 credits.

PRELAW PROGRAM AND ADVISING

Advising for prelaw students is provided by faculty in the political science department. Although no specific major is usually required for admission to law school, prelaw students can benefit greatly from the experience and analytical skills gained from the study of political science.

Power Electronic Systems

Program: Certificate

Department of Electrical and Computer

Engineering Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 221 ▼
260-481-6338 ▼ www.ecet.ipfw.edu*

This certificate program addresses the fundamental principles and main issues in power electronic applications and provides the theoretical and practical knowledge for analysis, design, and implementation of power electronics systems and subsystems. Applications include microprocessor-based subsystem hardware and software, electrical machines (dc and ac motors, and transformers), C programming and real-time embedded systems, characteristics of power semiconductor devices (diodes, rectifiers, power transistors, MOSFETs, thyristors, and IGBT), SPICE circuit simulators, power converters, dc drives, and ac drives.

Upon satisfactory completion of this certificate program, you will be familiar with all aspects of electronic communication and will have a technical background for work in any of the areas.

The ECET department also offers the Associate of Science and Bachelor of Science with a major in electrical engineering technology and Bachelor of Science with a major in computer engineering technology. In addition to the degrees, the department offers a minor in electronics and certificate programs in advanced microprocessors, computer-controlled systems, electronic communications, and computer networking.

To earn the certificate in power electronic systems, you must satisfy the requirements of IPFW (see Part 7), fulfill all course prerequisites, and satisfactorily complete the following courses. This certificate is not available to any student with a major in EET (A.S. and/or B.S.).

Course Number and Title		Credits
ECET 205	<i>Introduction to Microprocessors</i>	4
ECET 231	<i>Electrical Power and Controls</i>	4
ECET 264	<i>C Programming Language Applications</i>	3
ECET 312	<i>Power Electronics</i>	4
ECET 499	<i>Electrical Engineering Technology with Topic: Guided Study in Power Electronics</i>	4
Total		19

Prepharmacy

Program: Transfer Program School of Arts and Sciences

Classroom-Medical Building 153 ▼ 260-481-6160

Because the School of Pharmacy and Pharmacal Sciences at the Purdue University West Lafayette campus does not admit first- or second-year students, you must complete at least 64 credits in the two-year prepharmacy program and apply for admission to the school prior to Jan. 1 of the second year. To complete the prepharmacy program at IPFW, you should apply for admission as a prepharmacy student in the School of Arts and Sciences and complete the requirements listed below. To be considered for admission to the West Lafayette program, you should have at least a B+ average for all courses. If you do not gain admission to the pharmacy school, you may transfer to another program at IPFW. A complete set of degree requirements is available from the School of Pharmacy at West Lafayette.

Course Number and Title	Credits
BIOL 108 <i>Biology of Plants</i>	4
BIOL 109 <i>Biology of Animals</i>	4
BIOL 215 <i>Basic Human Anatomy</i>	4
BIOL 216 <i>Basic Mammalian Physiology</i>	4
BIOL 220 <i>Introduction to Microbiology</i>	4
CHM 115–116 <i>General Chemistry</i>	8
CHM 254–255 <i>Organic Chemistry and Lab</i>	4
CHM 256–258 <i>Organic Chemistry and Lab</i>	4
ECON E200 <i>Fundamentals of Economics</i>	3
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
MA 229–230 <i>Calculus for the Managerial, Social, and Biological Sciences I–II</i>	6
PHYS 220 <i>General Physics</i>	4
Credits in approved electives	9
Total	64

Preveterinary

Program: Transfer Program School of Arts and Sciences

Science Building G54 ▼ 260-481-6316

At IPFW, you may complete the four-semester preveterinary curriculum, which includes the minimum requirements for admission to the School of Veterinary Medicine at the West Lafayette campus of Purdue University.

If you do not gain admission to veterinary medicine, you may use the curriculum below as the basis for continued study toward a degree in the School of Agriculture at West Lafayette. Students should contact the agriculture dean's deputy early in their academic career to discuss degree options. By substitution of certain BIOL courses, you may pursue this option as a biology major and obtain the B.S. with a major in biology rather than in agriculture.

You may complete the following courses at IPFW:

Course Number and Title	Credits
BIOL 117 <i>Principles of Ecology and Evolution</i>	4
BIOL 119 <i>Principles of Structure and Function</i>	4
BIOL 217 <i>Intermediate Ecology</i>	3
BIOL 218 <i>Genetics and Molecular Biology</i>	4
BIOL 219 <i>Principles of Functional Biology</i>	3
CHM 115–116 <i>General Chemistry</i>	8
CHM 254–255 <i>Organic Chemistry and Laboratory</i>	4
CHM 256–258 <i>Organic Chemistry and Laboratory</i>	4
CHM 533 <i>Introduction to Biochemistry</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
MA 229–230 <i>Calculus for Managerial, Social, and Biological Sciences I–II</i>	6
PHYS 220–221 <i>General Physics</i>	8
STAT 301 <i>Elementary Statistical Methods I</i>	3
Credits in an agriculture course	3
Credits in English composition	6
ENG W131 <i>Elementary Composition I</i>	
ENG W233 <i>Intermediate Expository Writing</i>	
Credits from the following areas: anthropology; communication; economics; history; fine arts, music, and theatre (history and appreciation only); foreign language; literature; philosophy; political science; psychology; sociology	12
Credits in one of the following concentrating electives	3
ANSC 101 <i>Animal Agriculture</i>	
ANSC 221 <i>Principles of Animal Nutrition</i>	
Total	81

Professional Writing

Program: Minor Department of English and Linguistics School of Arts and Sciences

Classroom-Medical Building 145 ▼ 260-481-6841

This program is available to all IPFW students except those pursuing the language, teacher-certification, or writing concentration with a major in English.

You may earn a minor in professional writing by completing the following 15 credits, including at least 8 credits completed as resident credit at IPFW, with a grade of C or better in each course.

Course Number and Title	Credits
One of the following:	3
ENG W232 <i>Introduction to Business Writing</i>	
ENG W233 <i>Intermediate Expository Writing (or other approved writing course)</i>	
ENG W234 <i>Technical Report Writing</i>	
Two of the following:	6
ENG W203 <i>Creative Writing</i>	
ENG W331 <i>Business and Administrative Writing</i>	
ENG W365 <i>Theories and Practices of Editing</i>	
ENG W420 <i>Argumentative Writing</i>	

One of the following:	3
ENG W301 <i>Writing Fiction</i>	
ENG W303 <i>Writing Poetry</i>	
ENG W405 <i>Writing Prose-Nonfiction</i>	
ENG W421 <i>Technical Writing Projects</i>	
ENG W462 <i>Studies in Rhetoric and Composition</i>	
Credits in one additional 200-level or above ENG W-prefixed course or one other course related to your professional interests (e.g., graphics, communication, journalism)	3
Total	15

Psychology

Programs: A.A., B.A., Minor, and Research Certificate Department of Psychology School of Arts and Sciences

Neff Hall 388 ▼ 260-481-6403 ▼ www.ipfw.edu/psyc

The Department of Psychology offers a bachelor's degree in psychology. A minor in psychology is also offered for students in other bachelor's degree majors. Many courses are offered in the evenings, and students may attend full or part time.

The Bachelor of Arts with a major in psychology is for the person seeking a career in psychology or a closely related field. The degree program provides a liberal-arts education in psychology as well as preparation for graduate school.

An Associate of Arts with a concentration in psychology is described in the School of Arts and Sciences section of Part 3.

B.A. WITH A MAJOR IN PSYCHOLOGY

To earn the B.A. with a major in psychology, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3), in addition to fulfilling the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
PSY 120 <i>Elementary Psychology</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	

Area VI—Inquiry and Analysis (not in PSY) 3

See Part 2 General Education Requirements for approved courses

School of Arts and Sciences Requirements

<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i>	3
<i>(or other approved writing course)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in PSY)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6

Core and Concentration (Major) Courses

PSY 120	<i>Elementary Psychology</i>	3
PSY 201	<i>Introduction to Quantitative Topics in Psychology I</i>	3
PSY 203	<i>Introduction to Research Methods in Psychology</i>	3
PSY 235	<i>Child Psychology</i>	3
PSY 240	<i>Introduction to Social Psychology</i>	3
PSY 314	<i>Introduction to Learning</i>	3
PSY 329	<i>Psychobiology II: Principles of Psychobiological Psychology</i>	3
PSY 350	<i>Abnormal Psychology</i>	3
PSY 416	<i>Cognitive Psychology</i>	3
PSY 420	<i>Introduction to Personality Theory</i>	3
PSY 540	<i>History of Psychology</i>	3

Additional credits in psychology at the 200 level or above 6

General Elective Courses

Sufficient additional credits to bring the total to 124.

Total	124
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MINOR IN PSYCHOLOGY

If you are pursuing a major other than psychology, you may earn a minor in psychology by completing the following 15 credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW:

Course Number and Title	Credits
PSY 120 <i>Elementary Psychology</i>	3
One of the following:	3
PSY 314 <i>Introduction to Learning</i>	
PSY 329 <i>Psychobiology II: Principles of Psychobiological Psychology</i>	
PSY 416 <i>Cognitive Psychology</i>	
One of the following:	3
PSY 235 <i>Child Psychology</i>	
PSY 240 <i>Introduction to Social Psychology</i>	
PSY 369 <i>Development Across the Lifespan</i>	
One of the following:	3
PSY 350 <i>Abnormal Psychology</i>	
PSY 420 <i>Introduction to Personality Theory</i>	
Additional credits in a psychology course numbered 200 or above	3
Total	15

The research certificate is described under Arts and Sciences in Part 3 of this *Bulletin*.

Public Affairs

Programs: Bachelor of Science in Public Affairs, Minor in Public Affairs, Minor in Criminal Justice Division of Public and Environmental Affairs

Neff Hall 260 ▼ 260-481-6351 ▼ www.ipfw.edu/spea/

BACHELOR OF SCIENCE IN PUBLIC AFFAIRS (B.S.P.A.)

The B.S.P.A. program provides a background in the liberal arts and a focus on public affairs. This degree offers majors in criminal justice, environmental policy, health services administration, legal studies, and public management. In addition, a specialized study major may be developed with the approval of a faculty advisor and the program director to meet special career needs. Internships are available and strongly encouraged so that qualified students have the opportunity to apply classroom theory and techniques to real-life experiences. The internship program is designed for maximum flexibility; work can be full or part time, paid or unpaid, credit or noncredit.

The SPEA curriculum is divided into four categories — general education, public affairs core, a major area, and general electives. The B.S.P.A. requires a minimum of 120 credit hours with a 2.00 or higher cumulative grade-point average and a 2.30 or higher average in core and major courses. A limited number of courses may be transferred from other accredited institutions or be taken through independent study. A maximum of 10 credits may be awarded for military experience; a maximum of 12 credits may be awarded for police academy training. Courses taken to meet specific SPEA degree requirements cannot be used to satisfy any other SPEA degree requirement, but may be double-counted to satisfy the IPFW general-education distribution requirement.

To earn the Bachelor of Science in Public Affairs at IPFW, you must fulfill the requirements of IPFW (see Part 7) and the Division of Public and Environmental Affairs and complete the following requirements:

Course Number/Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
<i>Reading/Writing</i>	3
One of the following:	
ENG W131 <i>Elementary Composition</i>	
ENG W140 <i>Elementary Composition, Honors</i>	
<i>Listening/Speaking</i>	3
COM 114 <i>Fundamentals of Speech Communication</i>	
<i>Quantitative Reasoning</i>	3
<i>See Part 2 General Education Requirements for approved courses.</i>	
Note on double counting	Some courses may be used to fulfill both Quantitative Reasoning and the SPEA Quantitative Methods requirement.
Area II—Natural and Physical Sciences 6	
<i>See Part 2 General Education Requirements for approved courses.</i>	
Note on double counting	Some courses may be used to fulfill both Area II and the SPEA Natural Sciences requirement.
Area III—The Individual, Culture, and Society 6	
<i>See Part 2 General Education Requirements for approved courses.</i>	
Note on double counting	Some courses may be used to fulfill both Area III and SPEA Arts and Humanities or SPEA Social and Behavioral Science requirement.

Area IV—Humanistic Thought

 6

See Part 2 General Education Requirements for approved courses.

Note on double counting Some courses may be used to fulfill both Area IV and the SPEA Arts and Humanities requirement.

Area V—Creative and Artistic Expression

 3

See Part 2 General Education Requirements for approved courses

Note on double counting Some courses may be used to fulfill both Area V and the SPEA Arts and Humanities requirement.

Area VI—Inquiry and Analysis

 3

See Part 2 General Education Requirements for approved courses

Note on double counting Some courses may be used to fulfill both Area VI and the SPEA Social and Behavioral Sciences or Humanistic Thought requirements.

Division of Public and Environmental Affairs

General Distribution Requirements

Communication (3 credits)

One of the following courses: 3

ENG W232 *Introduction to Business Writing*

ENG W233 *Intermediate Expository Writing*

Quantitative Methods (9 credits)

Three credits from the following: 3

CS 106 *Introduction to Computers*

BUS K200, K211, K212, K213

Computer series for BUS

One of the following courses: 3

MA 153 *Algebra and Trigonometry*

MA 168 *Mathematics for the Liberal Arts*

MA 213 *Finite Mathematics*

MA 229 *Calculus for the Managerial Sciences*

One of the following courses: 3

SPEA K300 *Statistical Techniques*

ECON E270 *Intro to Statistical Theory in Business*

SOC S351 *Social Statistics*

STAT 301 *Elementary Statistical Methods*

Arts and Humanities (12 credits)

HIST H105 *American History I* 3

HIST H106 *American History II* 3

Arts and humanities electives 6

Choose two courses from at least two of the following subject areas not used to fulfill another requirement:

classical studies, communication, English literature,

fine arts, folklore, foreign languages, history, honors

(humanities only), music, philosophy, religious studies,

theatre and drama, visual arts.

Natural Science (8 credits)

Select from the following courses:

AST A100, A105, A110; BIOL 100, L100, 108, 109, 203,

204; CHM 111, 112, 115, 116; GEOG G107; GEOL G100, S100,

G103; L100, G104, G108, G111, G112; PHYS 131,

132, 201, 218.

Social and Behavioral Sciences (15 credits)

ECON E201 *Introduction to Microeconomics* 3

ECON E202 *Introduction to Macroeconomics* 3

SPEA V371 *Financing Public Affairs* 3

Two courses from the following areas: 6

anthropology, criminal justice, economics, geography

(selected), journalism, linguistics, political science,

psychology (selected), sociology, women's studies

Public Affairs Core

(must earn a C or better in each of these courses)

SPEA E162	<i>Environment and People</i>	3
SPEA H120	<i>Contemporary Health Issues</i>	3
SPEA J101	<i>The American Criminal Justice System</i>	3
SPEA V170	<i>Introduction to Public Affairs</i>	3

Major

(Choose one major, 27–30 cr.)

Criminal Justice (30 credits)

SPEA J201	<i>Theoretical Foundations of Criminal Justice Policies</i>	3
SPEA J202	<i>Criminal Justice Data, Methods, Resources</i>	3
SPEA J301	<i>Substantive Criminal Law</i>	3
SPEA J306	<i>The Criminal Courts</i>	3
SPEA J321	<i>American Policing</i>	3
SPEA J331	<i>Corrections</i>	3
SPEA J439	<i>Crime and Public Policy</i>	3

Additional approved SPEA courses* 9

*maximum 6 credits in SPEA J380/V380

Environmental Policy (27 credits)

SPEA E272	<i>Introduction to Environmental Sciences</i>	3
<i>or</i>		
BIOL 349	<i>Environmental Science</i>	
SPEA H316	<i>Environmental Science and Health</i>	3
SPEA H416	<i>Environmental Health Policy</i>	3
SPEA E400	<i>Environment and Democracy</i>	3
SPEA V376	<i>Law and Public Policy</i>	3

12 credits from among the following:

AGRY 225	<i>Soil Science</i>	3
ENTM 306	<i>General Applied Entomology</i>	2
FNR 225	<i>Dendrology and Wildland Plants</i>	3
ANTH E320	<i>Indians of North America</i>	3
ANTH E401	<i>Ecology and Culture</i>	3
BIOL 217	<i>Intermediate Ecology</i>	3
COM 316	<i>Controversy in American Society</i>	3
GEOL G300	<i>Environmental and Urban Geology</i>	3
LSTU L240	<i>Occupational Health and Safety</i>	3
PHIL 328	<i>Ethics and Animals</i>	3
POLS Y367	<i>International Law</i>	3
SPEA V365	<i>Urban Development and Planning</i>	3
SPEA V372	<i>Government Finance and Budgets</i>	3
SPEA V380	<i>Internship in Public Affairs</i>	1–6
SPEA V390	<i>Readings in Public and Environmental Affairs</i>	3
SPEA V450	<i>Contemporary Issues in Public Affairs (approved topics)</i>	3
SPEA V465	<i>Geographic Information Systems for Public and Environmental Affairs</i>	3
SPEA V490	<i>Directed Research in Public Affairs</i>	3
SOC S309	<i>The Community</i>	3
SOC S407	<i>Society of the Future</i>	3

Health Services Administration (27 credits)

SPEA H320	<i>Health Systems Administration</i>	3
SPEA H322	<i>Principles of Epidemiology</i>	3
SPEA H352	<i>Health Finance and Budgeting</i>	3

SPEA H402	<i>Hospital Administration</i>	3
SPEA H411	<i>Long-Term Care Administration</i>	3
One of the following:		3

SPEA H371	<i>Human Resources Mgmt in Healthcare</i>	
SPEA V366	<i>Managing Behavior in Pub Organizations</i>	
SPEA V373	<i>Human Resources Mgmt in the Public Sector</i>	

Additional approved SPEA courses* 9

*maximum 6 credits in SPEA J380/V380

Legal Studies (30 credits)

SPEA V376	<i>Law and Public Policy</i>	3
SPEA V377	<i>Legal Process and Contemporary Issues in America</i>	3
SPEA V405	<i>Public Law and the Legislative Process</i>	3
POLS Y211	<i>Introduction to Law</i>	3
POLS Y304	<i>American Constitutional Law I</i>	3
POLS Y305	<i>American Constitutional Law II</i>	3

Two of the following: 6

SPEA J301	<i>Substantive Criminal Law</i>	
SPEA J302	<i>Procedural Criminal Law</i>	
SPEA J304	<i>Correctional Law</i>	
SPEA H441	<i>Legal Aspects of Healthcare Admin</i>	
SPEA V260	<i>Topics in Public Affairs (law-related topics)</i>	
SPEA V406	<i>Public Law and the Electoral Process</i>	
SPEA V407	<i>Public Law and Governmental Relations</i>	
SPEA V456	<i>Topics in Public Law</i>	

Two of the following: 6

BUS L303	<i>Commercial Law II</i>	
ENG W350	<i>Advanced Expository Writing</i>	
HIST A349	<i>Afro-American History</i>	
HIST H260	<i>History of Women in the United States</i>	
JOUR J300	<i>Communications Law or</i>	
COM 352	<i>Mass Communication Law</i>	
OLS 468	<i>Personnel Law</i>	
PHIL 260	<i>Philosophy and Law</i>	
POLS Y328	<i>Women and the Law</i>	
POLS Y367	<i>International Law</i>	
PSY 381	<i>Psychology and Law</i>	

Public Management (27 credits)

SPEA V263	<i>Public Management</i>	3
SPEA V264	<i>Urban Structure and Policy</i>	3
SPEA V348	<i>Management Science</i>	3
SPEA V366	<i>Managing Behavior in Public Organizations</i>	3
SPEA V372	<i>Government Finance and Budgets</i>	3
SPEA V376	<i>Law and Public Policy</i>	3

Three additional approved SPEA courses* 9

*maximum 6 credits in SPEA J380/V380

Specialized Study Major (27 credits)

Four approved SPEA courses* at the 300–400 level 12

*maximum 6 credits in SPEA J380/V380

Five additional approved 300–400 level courses 15

General Electives (25–28 credits)

Select additional courses to equal 120 credits.

Total 120

MINOR IN PUBLIC AFFAIRS

The minor in public affairs offers you the opportunity to become more knowledgeable in the field of public administration and the policy implications of the public sector. It is available to students who are enrolled in baccalaureate programs and can enhance career opportunities for liberal arts and other majors.

Each minor requires 15 hours of specified courses with a 2.00 grade-point average, and none of the courses may be taken by correspondence through the Division of Continuing Studies. DPEA majors may only double-count 6 of the required 15 credit hours in other DPEA major or minor requirements. Students may earn more than one minor from DPEA, but each minor must have at least 9 hours that are not satisfying other major or minor requirements.

Course Number and Title	Credits
SPEA V170* <i>Introduction to Public Affairs</i> <i>*C- or better required.</i>	3
One of the following:	3
SPEA E162 <i>Environment and People</i>	
SPEA E272 <i>Introduction to Environmental Science</i>	
Three of the following:	9
SPEA E272 <i>Introduction to Environmental Science</i>	
SPEA E400 <i>Topics in Environmental Studies</i> <i>(may be repeated)</i>	
SPEA V263 <i>Public Management</i>	
SPEA V366 <i>Managing Behavior in Public Organizations</i>	
SPEA V373 <i>Human Resources Management in the Public Sector</i>	
SPEA V376 <i>Law and Public Policy</i>	
SPEA V450 <i>Contemporary Issues in Public Affairs</i> <i>may be repeated)</i>	
Total	15

MINOR IN CRIMINAL JUSTICE

The minor in criminal justice offers you the opportunity to become more knowledgeable in the field of criminal justice and its policy implications. It is available to students who are enrolled in baccalaureate programs other than the Bachelor of Science in Public Affairs with a major in criminal justice degree program. The minor can enhance the career opportunities for liberal arts and other majors.

Each minor requires 15 credit hours of specified courses with a 2.00 grade-point average, and none of the courses may be taken by correspondence through the Division of Continuing Studies. DPEA majors may only double-count 6 of the required 15 credit hours in other SPEA major or minor requirements. Students may earn more than one minor from DPEA, but each minor must have at least 9 credit hours that are not satisfying other major or minor requirements.

Course Number and Title	Credits
SPEA J101* <i>The American Criminal Justice System</i> <i>*C- or better required.</i>	3
One of the following:	3
SPEA J201 <i>Theoretical Foundations of Criminal Justice Policies</i>	
SPEA J301 <i>Substantive Criminal Law</i>	

Three of the following:

SPEA J201	<i>Theoretical Foundations of Criminal Justice Policies</i>
SPEA J301	<i>Substantive Criminal Law</i>
SPEA J306	<i>The Criminal Courts</i>
SPEA J321	<i>American Policing</i>
SPEA J331	<i>Corrections</i>

Total **15**

Quality

Program: Certificate

Department of Manufacturing Technology

School of Engineering, Technology, and Computer Science

*Engineering, Technology, and Computer Science Building 205 ▼
260-481-6385 ▼ www.mft.ipfw.edu*

This certificate program prepares graduates with skills in techniques related to quality, such as design of experiments, metrology, and statistical process control. The program provides focused study in the techniques of maintaining and improving quality of manufacturing processes.

Credits earned in the certificate program may be applied toward the associate and bachelor's programs in industrial engineering technology.

To earn the certificate, you must fulfill the requirements of IPFW (see Part 7) and complete the following courses, earning a grade of C or better in those courses that serve as prerequisites:

Course Number and Title	Credits
IET 105 <i>Industrial Management</i>	3
IET 204 <i>Techniques of Maintaining Quality*</i>	3
IET 454 <i>Statistical Process Control</i>	3
IET 464 <i>Off-Line Quality Control</i>	3
STAT 301 <i>Elementary Statistical Methods I*</i>	3
One of the following:	5-6
MA 159 <i>Algebra and Trigonometry*</i>	
MA 153-154 <i>Algebra and Trigonometry I-II*</i>	
Total	20-21

**Grade of C or better required*

Radiation Therapy

Program: Transfer Program

School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

At IPFW you may complete two years toward the Bachelor of Science offered at the Indianapolis campus of the Indiana University School of Medicine. The details of your general-education requirements should be discussed with an IPFW allied-health advisor. You must also consult an advisor at the Indianapolis campus to discuss the bachelor's degree, 317-278-4752 or e-mail askhpp@iupui.edu. A minimum cumulative GPA of 2.5 and a minimum GPA of 2.3 for all math and science courses and a minimum grade of C for each prerequisite course is required for admission to the IUPUI program. Remedial courses are not utilized in the cumulative GPA or

math/science GPA index. Observation in a radiation oncology facility is required prior to application. An interview is also required. Completion of these courses requirements does not guarantee admission to the IUPUI program. Further information about the IUPUI program is available by e-mail at dodunn@iupui.edu.

At IPFW you may complete the following courses:

Course Number and Title	Credits
One of the following:	1-3
BIOL 105 <i>Medical Terminology</i>	
NUR 106 <i>Medical Terminology</i>	
BIOL 203 or 215 <i>Basic Human Anatomy</i>	3-4
BIOL 204 or 216 <i>Basic Human Physiology</i>	3-4
PHYS 220 <i>General Physics</i> (201 or 218 are acceptable)	4
CS 106 <i>Introduction to Computers</i>	3
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
One of the following:	5
MA 151 <i>Algebra and Trigonometry</i>	
MA 153-154 <i>Algebra and Trigonometry I-II</i>	
PSY 120 <i>Elementary Psychology</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
Anthropology, psychology, or sociology	3
Biology electives	4
Humanities	3
Selected business electives	6
Total	50

Radiography

Program: A.S.
School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

The radiography program encompasses both university courses and professional education. Professional education in radiography is a combination of classroom instruction and clinical experience. Under the supervision of radiologists and registered radiographers, you will progress from observing to assisting and, subsequently, to conducting radiographic examinations. In this manner, you will immediately utilize the theories and concepts presented in the classroom. The clinical experience associated with the professional-education portion of the program is conducted in the radiology departments of St. Joseph Hospital and Parkview Hospital in Fort Wayne.

All university prerequisite courses must be completed to be eligible for admission into the program. Applicants may be in the process of meeting the criteria when they apply for admission. Prerequisite courses must have been completed within five years of admission to the professional program. Special circumstances will be evaluated by the admissions committee. Students must achieve a grade of C or better in Human Anatomy and Physiology I and II and maintain a cumulative GPA of 2.5 or better in all prerequisite course work. Admission to this program is competitive and based on prerequisite

GPA, personal interview, letters of recommendation, and admission testing. Completion of course work alone does not ensure admission. You must apply directly to the directors of the Radiography Program at the Fort Wayne School of Radiography before March 1 for Summer II admission to the professional program.

To earn the A.S. in radiography, you must fulfill the requirements of IPFW (see Part 7) and the School of Health Sciences (see Part 3) and complete the following courses. Where school or department regulations are stricter than IPFW regulations, the stricter regulations apply. Students are required to maintain a cumulative GPA of 3.00 in the professional-education courses with a minimum grade of C in all courses. You must also consult a program director at the Fort Wayne School of Radiography to discuss admission to the program, 260-425-3990.

Course Number and Title	Credits
Prerequisite Courses (21 credits)	
BIOL 203 <i>Human Anatomy and Physiology</i>	3
BIOL 204 <i>Human Anatomy and Physiology</i>	3
CS 106 <i>Introduction to Computers</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212 <i>Approaches to the Study of Interpersonal Communication</i>	
ENG W131 <i>Elementary Composition I</i>	3
MA 153 <i>Algebra and Trigonometry I</i>	3
PSY 120 <i>Elementary Psychology</i>	3
Professional Education Program (60 credits)	
AHLT R100 <i>Orientation to Radiologic Technology</i>	2
AHLT R101 <i>Radiographic Procedures I</i>	4
AHLT R102 <i>Principles of Radiography I</i>	3
AHLT R181 <i>Clinical Experience in Radiography</i>	5
AHLT R182 <i>Clinical Experience in Radiography</i>	5
AHLT R185 <i>Medical Terminology</i>	1
AHLT R200 <i>Pathology</i>	3
AHLT R201 <i>Radiographic Procedures II</i>	4
AHLT R202 <i>Principles of Radiography II</i>	3
AHLT R205 <i>Radiographic Procedures III</i>	4
AHLT R222 <i>Principles of Radiography</i>	3
AHLT R250 <i>Physics Applied to Radiology</i>	2
AHLT R260 <i>Radiation Biology and Protection in Diagnostic Radiology</i>	2
AHLT R281 <i>Clinical Experience in Radiography</i>	6
AHLT R282 <i>Clinical Experience in Radiography</i>	5
AHLT R283 <i>Clinical Experience in Radiography</i>	5
AHLT R290 <i>Comprehensive Experience</i>	3
Total	81

Respiratory Therapy

Program: Transfer Program
School of Health Sciences

Neff Hall 142 ▼ 260-481-6967

At IPFW you may complete two years toward the Bachelor of Science in respiratory therapy. The Respiratory Therapy Program is part of a hospital- and university-based consortium. The details of

your general-education requirements should be discussed with an IPFW allied-health advisor. You must also consult an advisor at the Indianapolis campus to discuss the bachelor's degree (317-278-4752). A minimum cumulative GPA of 2.5, and a minimum grade of C for each prerequisite course is required for admission to the IUPUI program. Completion of these courses requirements does not guarantee admission to the IUPUI program. Further information about the IUPUI program is also available at www.sahs.iupui.edu/oasa/fadvising.html or by e-mail at askhpp@iupui.edu.

At IPFW you may complete the following courses:

Course Number and Title	Credits
BIOL 215 or 203* <i>Basic Human Anatomy</i>	4
BIOL 216 or 204* <i>Basic Mammalian Physiology</i>	4
BIOL 220 <i>Introduction to Microbiology</i>	4
CHM 115 <i>General Chemistry</i>	4
ENG W131 <i>Elementary Composition I</i>	3
ENG W233 <i>Intermediate Expository Writing</i>	3
One of the following:	5
MA 153–154 <i>Algebra and Trigonometry I–II</i>	
MA 151 <i>Algebra and Trigonometry</i>	
PSY 120 <i>Elementary Psychology</i>	3
One of the following:	3
COM 114 <i>Fundamentals of Speech Communication</i>	
COM 212* <i>Approaches to the Study of Interpersonal Communication</i>	
Life Span Psychology (see advisor)	3
PSY 369 or 235 or 367 or EDUC P249	
One of the following:	3
PHIL 111 <i>Ethics</i>	
PHIL 312 <i>Medical Ethics</i>	
Credits in computer sciences (CS 106 preferred)	3
One of the following:	3
PSY 201 <i>Introduction to Quantitative Topics in Psychology</i>	
STAT 125 <i>Communicating with Statistics</i>	
STAT 301 <i>Elementary Statistical Methods</i>	
SPEA K300 <i>Statistical Techniques</i>	
One of the following:	4–5
PHYS 218 <i>General Physics</i>	
PHYS 220* <i>General Physics</i>	
PHYS 201 <i>General Physics</i>	
Credits in approved electives (to total 55)	6–7
Total	55

*Preferred course

Restaurant, Hotel, Institutional, and Tourism Management

See *Hospitality and Tourism Management*

Retail Management

See *Consumer and Family Sciences*

Secondary Education

Programs: B.S.Ed.

Department of Educational Studies

School of Education

Neff Hall 250 ▼ 260-481-6441

The B.S.Ed. in secondary education is intended to prepare students for successful careers as teachers of children in middle school/junior high and high school settings. The secondary education degree is divided into two concentrations: early adolescence, for middle school/junior high settings, and adolescence/young adulthood, for high school settings. Pre-service teachers must choose one or both concentrations to complete the degree. Upon satisfactory completion of the program, and the other requirements listed under Teacher Licensure in the Special Academic Regulations, you are eligible to apply for an Indiana teaching license.

To earn the B.S.Ed. in secondary education, you must satisfy the requirements of IPFW (see part 7) and the School of Education.

EARLY ADOLESCENCE CONCENTRATION

Course Number and Title	Credits
School Setting: Middle School/Junior High	
General Education Credits	45
School of Education credits	34
Content Area Minors (must select 2)	48*
Language Arts	24
Mathematics	24
Science	24
Social Studies	24

Elective credits variable, but must be at least 124.

*Some content area minor credits will overlap with general education credits.

Course Number and Title	Credits
IPFW General Education Requirements	45
Area I—Linguistic and Numerical Foundations	12
COM 114 <i>Fundamentals of Speech Communication</i> (grade of B or better required)	3
ENG W131 <i>Elementary Composition I</i> (grade of B or better required)	3
ENG W233 <i>Expository Writing</i>	3
Any college-level math including:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Math for the Liberal Arts Student</i>	
STAT 125 <i>Communication with Statistics</i>	
Area II—Natural and Physical Sciences	9
See Part 2 General Education Requirements for approved courses	
Biology	3
Two of the following:	6
ANTH B200 <i>Bioanthropology</i>	
astronomy, chemistry, geology or physics	
Area III—The Individual, Culture, and Society	9
See Part 2 General Education Requirements for approved courses	
One of the following:	3
American history or world history	
or humanities (FWAS H201 or H202)	
One of the following:	3
political science or sociology	

One of the following:	3
anthropology, business, economics, folklore, journalism, linguistics, psychology, or public and environmental affairs	
Area IV—Humanistic Thought	9
<i>See Part 2 General Education Requirements for approved courses</i>	
English literature	3
One of the following:	3
INTR 220 <i>Architecture and Urban Form</i> or fine arts or music	
One of the following:	3
film or philosophy or theatre	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Education Requirements	
<i>Initial Requirements:</i>	
EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education and Lab/Field Experience</i> (a grade of B or better is required)	1/0
EDUC K201 <i>Schools, Society, and Exceptionality</i> PPST (Pre-Professional Skills Test)	1
<i>Block 1: Teacher Education</i>	
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3
EDUC P250 <i>General Education Psychology</i>	3
EDUC M201 <i>Lab/Field Experience</i>	0
<i>Block 2: Professional Education</i>	
EDUC P252/P254 <i>Psychology for Junior High, Middle School, or K–12</i>	3
EDUC M201 <i>Lab/Field Experience</i>	0
EDUC X401 or E340 or E341	3
Sec. Methods in 1 area or Elem. Methods in 2 areas, or S405 EA Meths/M401	3/0
<i>Block 3: Core Content Area Minors</i>	
In addition to the above courses, you must complete 24 credit hours in 2 of 4 core content area minors (See course requirements for core content area minors listed below)	
Student Teaching	
EDUC M480 <i>Student Teaching</i>	12
EDUC M501 <i>Portfolio</i>	0
Optional:	
EDUC M470 <i>Practicum</i> (for an additional endorsement area)	4
<i>Electives (Variable)</i>	
Total	124

Core Content Area Minors (24 credits)

In addition to the above courses, you must complete 24 credit hours in two of four core content area minors.

Language Arts (24 credits)

One of the following:	3
ENG L101 <i>Western World Masterpieces I: Ancient to Renaissance</i>	
ENG L102 <i>Western World Masterpieces II: Renaissance to Modern or multicultural literature</i>	

One of the following:	3
ENG L202 <i>Literary Interpretation</i>	
ENG W233 <i>Intermediate Expository Writing</i>	

One of the following:	3
ENG G205 <i>Introduction to the English Language</i>	
LING L103 <i>Introduction to the Study of Language</i>	
ENG G206 <i>Introduction to the Study of Grammar</i>	

One of the following:	3
JOUR C200 <i>Mass Communication</i>	
COM 250 <i>Mass Communication and Society</i>	

One of the following:	3
ENG L390 <i>Children's Literature</i>	
ENG L391 <i>Literature for Young Adults</i>	

One of the following:	3
EDUC X401 <i>Critical Reading in the Content Area</i>	
EDUC E340 <i>Methods of Teaching Reading I</i>	

British literature elective (300 level or higher)	3
American literature elective (300 level or higher)	3

Mathematics (24 credits)

MA 153 <i>Algebra and Trigonometry I</i> (or waiver)	3
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One of the following:	3
MA 103 <i>Mathematics for Elementary Teachers III</i>	
MA 560 <i>Fundamental Concepts of Geometry</i>	

One of the following:	3–4
MA 227 <i>Calculus for Technology</i>	
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences</i>	

MA 165 <i>Analytic Geometry and Calculus I</i>	
STAT 125 <i>Communicating with Statistics</i> (or higher)	3

Computer science elective	3
Mathematics electives	8–9

Science (24 credits)

BIOL 100 and BIOL 100L <i>Introduction to the Biological World and Lab</i>	4
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CHM 111 <i>General Chemistry</i>	3
GEOL G100 <i>General Geology</i>	3

One of the following:	3
BIOL 349 <i>Environmental Science</i>	
GEOL G300 <i>Environmental and Urban Geology</i>	
GEOG G315 <i>Environmental Conservation</i>	

One of the following:	3
PHYS 131 <i>Concepts in Physics I</i>	
PHYS 152 <i>Mechanics</i>	

One of the following:	3
EDUC Q200 <i>Basic Science Skills</i>	
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	

AST A100 <i>The Solar System</i>	3
Science electives	2

Social Studies (24 credits)

One of the following:	3
ECON E200 <i>Fundamentals of Economics</i>	
ECON E201 <i>Introduction to Microeconomics</i>	
PSY 120 <i>Elementary Psychology</i>	3

One of the following:	3
HIST H232 <i>The World in the 20th Century</i>	
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
American History	3
Sociology	3
Political Science	3
Social Studies electives	6

ADOLESCENCE/YOUNG ADULTHOOD CONCENTRATION

Course Number and Title	Credits
School Setting: High School	
General Education Credits	45
School of Education credits	34
Content Area Majors, variable credits depending on the program	
Elective credits variable, but must be at least 124.	

Course Number and Title	Credits
IPFW General Education Requirements	45
Area I—Linguistic and Numerical Foundations	12
COM 114 <i>Fundamentals of Speech Communication</i>	3
(grade of B or better required)	
ENG W131 <i>Elementary Composition I</i>	3
(grade of B or better required)	
ENG W 233 <i>Expository Writing</i>	3
Any college-level math including:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Math for the Liberal Arts Student</i>	
STAT 125 <i>Communication with Statistics</i>	

Area II—Natural and Physical Sciences	9
See Part 2 General Education Requirements for approved courses	
Biology	3
Two of the following:	6
ANTH B200 <i>Bioanthropology</i>	
astronomy, chemistry, geology, or physics	

Area III—The Individual, Culture, and Society	9
See Part 2 General Education Requirements for approved courses	

One of the following:	3
American history or world history or humanities (FWAS H201 or H202)	
One of the following:	3
political science or sociology	
One of the following:	3
anthropology, business, economics, folklore, journalism, linguistics, psychology, or public and environmental affairs	

Area IV—Humanistic Thought	9
See Part 2 General Education Requirements for approved courses	
English Literature	3
One of the following:	3
INTR 220 <i>Architecture and Urban Form</i>	
or fine arts or music	
One of the following:	3
film or philosophy or theatre	

Area V—Creative and Artistic Expression	3
See Part 2 General Education Requirements for approved courses	

Area VI—Inquiry and Analysis	3
See Part 2 General Education Requirements for approved courses	
School of Education Requirements	

Initial Requirements:	
EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education and Lab/Field Experience</i>	1/0
(a grade of B or better is required)	
EDUC K201 <i>Schools, Society and Exceptionality</i>	1
PPST (Pre-Professional Skills Test)	

Block 1: Teacher Education	
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3
EDUC P250 <i>General Education Psychology</i>	3
EDUC M201 <i>Lab/Field Experience</i>	0

Block 2: Professional Education	
EDUC P253 <i>Educational Psychology for Secondary Teachers</i>	3
EDUC M201 <i>Lab/Field Experience</i>	0
EDUC X401 <i>Critical Reading in the Content Area</i>	3
Sec. Methods	3/0

Block 3: Teaching Major	
In addition to the above courses, you must complete one content area major. See list of majors and courses below	
Student Teaching	
EDUC M480 <i>Student Teaching</i>	12
EDUC M501 <i>Portfolio</i>	0
Optional:	
EDUC M470 <i>Practicum</i>	4
(for an additional endorsement area)	
Electives (Variable)	

Total	124
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Core Content Area Majors

Below is a list of teaching content area majors.

Earth and Space Science Teaching Major (39–40 credits)	
AST A100 <i>The Solar System</i>	3
One of the following:	3–4
GEOL G100 w/ GEOL L100 <i>General Geology w/Lab</i>	
GEOL G103 <i>Earth Science: Materials and Processes</i>	
GEOG G107 w/ GEOL L100 <i>Physical Systems of the Environmental Lab</i>	
GEOL G104 <i>Earth Science: Evolution of the Earth</i>	3
GEOL G210 <i>Oceanography</i>	3
GEOL G211 <i>Introduction to Paleobiology</i>	3
CHM 115 <i>General Chemistry</i>	4
GEOL G221 <i>Introductory Mineralogy</i>	3
GEOL G222 <i>Introduction to Petrology</i>	3
GEOL G334 <i>Principles of Sedimentology and Stratigraphy</i>	3
Two of the following:	6
GEOL G300 <i>Environment and Urban Geology</i>	
GEOG G315 <i>Environmental Conservation</i>	
GEOG G415 <i>Geomorphology</i>	

GEOL G420	<i>Regional Geology Field Trip</i>	2	One of the following in post-1700 British literature:	3	
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3	ENG L302	<i>Critical and Historical Survey of English Literature II</i>	
French Teaching Major (49 credits)			ENG L322	<i>English Literature, 1660–1789</i>	
FREN F111	<i>Elementary French I</i>	4	ENG L332	<i>Romantic Literature</i>	
FREN F112	<i>Elementary French II</i>	4	ENG L335	<i>Victorian Literature</i>	
FREN F203	<i>Second-Year French I</i>	3	ENG L345	<i>20th Century British Poetry</i>	
FREN F204	<i>Second-Year French II</i>	3	ENG L346	<i>20th Century British Fiction</i>	
FREN F213	<i>Second-Year French Composition</i>	2	ENG L347	<i>British Fiction to 1800</i>	
FREN W300	<i>Methods of Research and Criticism</i>	3	ENG L369	<i>Studies in British and American Authors</i>	
FREN F317	<i>French Language Skills I</i>	3	One of the following in contemporary American literature: 3		
FREN F318	<i>French Language Skills II</i>	3	ENG L251	<i>American Literature Since 1865</i>	
FREN F325	<i>Oral French for Teachers</i>	3	ENG L354	<i>American Literature Since 1914</i>	
FREN F3xx-4xx	<i>Literature Electives (300–400 level)</i>	6	ENG L357	<i>20th Century American Poetry</i>	
FREN F3xx-4xx	<i>Electives (300–400 level)</i>	12	ENG L358	<i>20th Century American Fiction</i>	
One of the following:			3	ENG L369	<i>Studies in British and American Authors</i>
FREN F463	<i>Civilisation Francaise I</i>		ENG L372	<i>Contemporary American Fiction</i>	
FREN F464	<i>Civilisation Francaise II</i>		ENG L381	<i>Recent Writing</i>	
German Teaching Major (44 credits)			One of the following in ethnic, minority, or non-Western: 3		
GER G111	<i>Elementary German I</i>	4	ENG L107	<i>Oriental World Masterpieces</i>	
GER G112	<i>Elementary German II</i>	4	ENG L364	<i>Native American Literature</i>	
GER G203	<i>Second-Year German I</i>	3	ENG L369	<i>Studies in British and American Authors</i>	
GER G204	<i>Second-Year German II</i>	3	ENG L379	<i>American Ethnic and Minority Literature</i>	
GER W300	<i>Methods of Research and Criticism</i>	3	ENG L381	<i>Recent Writing</i>	
GER G318	<i>German Language Skills</i>	3	One of the following in Western literature, other than British or American: 3		
GER G325	<i>German for Teachers</i>	3	CLAS C205	<i>Classical Mythology</i>	
GER 3XX	Literature Elective (300 level)	3	CLAS C405	<i>Comparative Mythology</i>	
GER G3xx	Elective (300 level)	3	ENG L101	<i>Western World Masterpieces I</i>	
GER G4xx	Electives (400 level)	12	ENG L362	<i>Modern Drama</i>	
One of the following:			3	One of the following in mass communications, film, or journalism: 3	
GER G362	<i>Deutsche Landeskunde</i>		COM 210	<i>Debating Public Issues</i>	
GER G363	<i>Deutsche Kulturgeschichte</i>		COM 250	<i>Mass Communication and Society</i>	
Language Arts (English) Teaching Major (39 credits)			FILM K101	<i>Introduction to Film</i>	
One of the following in writing:			3	JOUR C200	<i>Mass Communications</i>
ENG L202	<i>Literary Interpretation</i>		JOUR J110	<i>Foundations of Journalism and Mass Communications</i>	
ENG W233	<i>Intermediate Expository Writing</i>		ENG L391	<i>Literature for Young Adults</i>	
Two of the following in language study:			6	ENG W103	<i>Introductory Creative Writing</i>
ANTH L200	<i>Language and Culture</i>		ENG W400	<i>Issues in Teaching Writing</i>	
ENG G205	<i>Introduction to the English Language</i>		One elective in English, linguistics, or mass communications (other than COM 114) 3		
ENG G206	<i>Introduction to the Study of Grammar</i>		Social Studies Teaching Major (51–60 credits)		
ENG G301	<i>History of the English Language</i>		Must complete all course work in 3 content areas plus one course from each of the other two content areas (diversified credit) to complete the major.		
ENG G405	<i>Studies in English Language</i>		Economics (15 credits)		
LING L103	<i>Introduction to the Study of Language</i>		ECON E201	<i>Introduction to Microeconomics</i>	3
LING L303	<i>Introduction to Linguistic Analysis</i>		ECON E202	<i>Introduction to Macroeconomics</i>	3
LING L360	<i>Language in Society</i>		One of the following: 3		
One of the following in pre-1700 British literature:			3	ECON E321	<i>Intermediate Microeconomic Theory</i>
ENG L220	<i>Introduction to Shakespeare</i>		ECON E322	<i>Intermediate Macroeconomic Theory</i>	3
ENG L301	<i>Critical and Historical Survey of English Literature I</i>		Economics elective 3		
ENG L304	<i>Old English Language and Literature</i>		Economics elective (300–400 level) 3		
ENG L305	<i>Chaucer</i>				
ENG L306	<i>Middle English Literature</i>				
ENG L308	<i>Elizabethan Drama and Its Background</i>				
ENG L315	<i>Major Plays of Shakespeare</i>				
ENG L317	<i>English Poetry of the Early 17th Century</i>				
ENG L318	<i>Milton</i>				

<i>Government and Citizenship (15 credits)</i>	
POLS Y103 <i>Intro to American Politics</i>	3
Two of the following:	6
POLS Y105 <i>Introduction to Political Theory</i>	
POLS Y107 <i>Introduction to Comparative Politics</i>	
POLS Y109 <i>Introduction to International Relations</i>	
Political science electives (300–400 level)	6
<i>Historical Perspectives (24 credits)</i>	
American Civilization	
HIST H105 <i>American History I</i>	3
HIST H106 <i>American History II</i>	3
HIST elective (American)	3
HIST elective (American) (300–400 level)	3
World Civilization	
HIST H113 <i>History of Western Civilization I</i>	3
HIST H114 <i>History of Western Civilization II</i>	3
HIST elective (non-American)	3
HIST elective (non-American) (300–400 level)	3
<i>Psychology (15 credits)</i>	
PSY 120 <i>Elementary Psychology</i>	3
One of the following:	3
PSY 235 <i>Child Psychology</i>	
PSY 240 <i>Introduction to Social Psychology</i>	
PSY 369 <i>Development Across the Lifespan</i>	
One of the following:	3
PSY 314 <i>Introduction to Learning</i>	
PSY 329 <i>Psychobiology II</i>	
PSY 416 <i>Cognitive Psychology</i>	
One of the following:	3
PSY 350 <i>Abnormal Psychology</i>	
PSY 420 <i>Introduction to Personality Theory</i>	
PSY elective	3
<i>Sociology (15 credits)</i>	
SOC S161 <i>Principles of Sociology</i>	3
One of the following:	3
SOC S230 <i>Society and the Individual</i>	
SOC S318 <i>Social Change</i>	
SOC elective	3
SOC electives (300–400 level)	6
<i>Diversified Credits</i>	
6	
Spanish Teaching Major (52 credits)	
SPAN S111 <i>Elementary Spanish I</i>	4
SPAN S112 <i>Elementary Spanish II</i>	4
SPAN S203 <i>Second-Year Spanish I</i>	3
SPAN S204 <i>Second-Year Spanish II</i>	3
SPAN S210 <i>Second-Year Spanish Composition</i>	2
SPAN W300 <i>Methods of Research and Criticism</i>	3
SPAN S301 <i>The Hispanic World I</i>	3
SPAN S302 <i>The Hispanic World II</i>	3
SPAN S311 <i>Spanish Grammar</i>	3
SPAN S312 <i>Written Composition in Spanish</i>	3
SPAN S325 <i>Spanish for Teachers</i>	3
SPAN S4xx Elective (400 level)	3
One of the following:	3
SPAN S407 <i>Survey of Spanish Literature I</i>	
SPAN S408 <i>Survey of Spanish Literature II</i>	

One of the following:	3
SPAN S425 <i>Spanish Phonetics</i>	
SPAN S426 <i>Introduction to Spanish Linguistics</i>	
SPAN S428 <i>Applied Spanish Linguistics</i>	
One of the following:	3
SPAN S471 <i>Spanish-American Literature I</i>	
SPAN S472 <i>Spanish-American Literature II</i>	
One of the following:	3
SPAN S411 <i>Spanish Culture and Civilization</i>	
SPAN S412 <i>Latin American Culture and Civilization</i>	
SPAN S4XX Elective (400 level)	3

MINORS

In addition to the content area teaching majors, students can also obtain a teaching minor in one or more of the following areas:

Chemistry Teaching Minor (36 credits)	
MA 153 <i>Algebra and Trigonometry I</i>	3
MA 229 <i>Calculus for the Managerial, Social, and Biological Sciences</i>	3
PHYS 220 <i>General Physics</i>	4
CHM 115 <i>General Chemistry with Lab</i>	4
CHM 116 <i>General Chemistry with Lab</i>	4
CHM 224 <i>Introductory Quantitative Analysis</i>	4
CHM 255 <i>Organic Chemistry</i>	3
CHM 254 <i>Organic Chemistry Lab</i>	1
CHM 256 <i>Organic Chemistry</i>	3
CHM 258 <i>Organic Chemistry Lab</i>	1
CHM 371 <i>Physical Chemistry</i>	3
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	3
Earth and Space Science Teaching Minor (27–28 credits)	
AST A100 <i>The Solar System</i>	3
CHM 115 <i>General Chemistry</i>	4
One of the following:	3–4
GEOL G100/L100 <i>General Geology w/ Lab</i>	
GEOL G103 <i>Earth Science: Materials and Processes</i>	
GEOG G107/L100 <i>Physical Systems of the Environment w/Lab</i>	
One of the following:	3
GEOL G104 <i>Earth Science: Evolution of the Earth</i>	
GEOL G211 <i>Introduction to Paleobiology</i>	
GEOL G221 <i>Introductory Mineralogy</i>	3
GEOL G222 <i>Introduction to Petrology</i>	3
One of the following:	3
GEOL G300 <i>Environment and Urban Geology</i>	
GEOL G315 <i>Environmental Conservation</i>	
GEOL G415 <i>Geomorphology</i>	
GEOL G420 <i>Regional Geology Field Trip</i>	2
EDUC Q400 <i>Man and Environment: Instructional Methods</i>	3
French Teaching Minor (34 credits)	
FREN F111 <i>Elementary French I</i>	4
FREN F112 <i>Elementary French II</i>	4
FREN F203 <i>Second-Year French I</i>	3
FREN F204 <i>Second-Year French II</i>	3
FREN F216 <i>Second-Year French Conversation</i>	2
FREN F317 <i>French Language Skills I</i>	3

FREN F318	<i>French Language Skills II</i>	3	MA 560	<i>Fundamentals Concepts of Geometry</i>	3
FREN F325	<i>Oral French for Teachers</i>	3	One of the following:		3
FREN F3xx-4xx	Language elective (300–400 level)	3	STAT 511	<i>Statistical Methods</i>	
FREN F3xx-4xx	Literature elective (300–400 level)	3	STAT 516	<i>Basic Probability and Application</i>	
One of the following:		3	Mild Intervention Minor (37 credits)		
FREN F463	<i>Civilisation Francaise I</i>		(This minor qualifies a teacher to teach students with mild and emotional disabilities in all school settings.)		
FREN F464	<i>Civilisation Francaise II</i>		EDUC K201	<i>Schools, Society and Exceptionality</i>	1
German Teaching Minor (32 credits)			EDUC K206	<i>Teaching Methods for Students with Special Needs</i>	3
GER G111	<i>Elementary German I</i>	4	EDUC K350/M201	<i>Introduction to Mental Retardation/Field Experience</i>	3/0
GER G112	<i>Elementary German II</i>	4	EDUC K352	<i>Education of Children with Learning Problems</i>	3
GER G203	<i>Second-Year German I</i>	3	EDUC K360	<i>Behavior Characteristics of the Mentally Retarded</i>	3
GER G204	<i>Second-Year German II</i>	3	EDUC K370/M301	<i>Introduction to Learning Disabilities/Field Experience</i>	3/0
GER G318	<i>German Language Skills I</i>	3	EDUC K371	<i>Assessment and Individual Instruction in Reading and Math</i>	3
GER G325	<i>German for Teachers</i>	3	EDUC K400	<i>Computers for Students with Disabilities</i>	3
One of the following:		3	EDUC K410	<i>Trends and Issues in Special Education</i>	3
GER G362	<i>Deutsche Landeskunde</i>		EDUC K453	<i>Management of Academic and Social Behavior</i>	3
GER G363	<i>Deutsche Kulturgeschichte</i>		EDUC K465	<i>Service Delivery Systems and Consultation Strategies</i>	3
GER G3xx-4xx	Electives (300–400 level)	9	EDUC M470	<i>Practicum in Mild Intervention (Final Course)</i>	6
Language Arts (English) Teaching Minor (24 credits)			Physical Science Teaching Minor (62 credits)		
One of the following:		3	(This subject area can be used as a minor teaching area or as a certification-only teaching major.)		
ENG L101	<i>Western World Masterpieces I</i>		CHM 115	<i>General Chemistry</i>	4
ENG L102	<i>Western World Masterpieces II or multicultural literature</i>		CHM 116	<i>General Chemistry</i>	4
One of the following:		3	CHM 224	<i>Introduction to Quantitative Analysis</i>	4
ENG L202	<i>Literary Interpretation</i>		CHM 254	<i>Organic Chemistry Lab</i>	1
ENG W233	<i>Intermediate Expository Writing</i>		CHM 255	<i>Organic Chemistry</i>	3
One of the following:		3	CHM 256	<i>Organic Chemistry</i>	3
COM 250	<i>Mass Communication and Society</i>		CHM 258	<i>Organic Chemistry Lab</i>	1
JOUR C200	<i>Introduction to Mass Communication</i>		MA 153	<i>Algebra and Trigonometry I</i>	3
One of the following:		3	MA 154	<i>Algebra and Trigonometry II</i>	3
ENG G205	<i>Introduction to the English Language</i>		MA 165	<i>Analytic Geometry and Calculus I</i>	4
ENG G206	<i>Introduction to the Study of Grammar</i>		MA 166	<i>Analytic Geometry and Calculus II</i>	4
LING L103	<i>Introduction to the Study of Language</i>		MA 261	<i>Multivariate Calculus</i>	4
ENG L391	<i>Literature for Young Adults</i>	3	PHYS 152	<i>Mechanics</i>	5
EDUC X401	<i>Critical Reading in the Content Area</i>	3	PHYS 251	<i>Heat, Electricity, and Optics</i>	5
British literature elective		3	PHYS 310	<i>Intermediate Mechanics</i>	4
American literature elective		3	PHYS 322	<i>Optics</i>	3
Life Science (Biology) Teaching Minor (29 credits)			PHYS 342	<i>Modern Physics</i>	3
BIOL 117	<i>Principles of Ecology</i>	4	PHYS 343	<i>Modern Physics Lab</i>	1
BIOL 119	<i>Principles of Structure</i>	4	EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
CHM 115	<i>General Chemistry</i>	4	Physics Teaching Minor (46 credits)		
CHM 116	<i>General Chemistry</i>	4	MA 153	<i>Algebra and Trigonometry I</i>	3
BIOL 217	<i>Intermediate Ecology</i>	3	MA 154	<i>Algebra and Trigonometry II</i>	3
BIOL 218	<i>Genetics and Molecular Biology</i>	4	MA 165	<i>Analytic Geometry and Calculus I</i>	4
BIOL 219	<i>Principles of Functional Biology</i>	3	MA 166	<i>Analytic Geometry and Calculus II</i>	4
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3	MA 261	<i>Multivariate Calculus</i>	4
Mathematics Teaching Minor (32 credits)			MA 262	<i>Linear Algebra and Differential Equations</i>	4
MA 153	<i>Algebra and Trigonometry I</i>	3			
MA 154	<i>Algebra and Trigonometry II</i>	3			
MA 165	<i>Analytical Geometry and Calculus I</i>	4			
MA 166	<i>Analytical Geometry and Calculus II</i>	4			
MA 175	<i>Introduction to Discrete Mathematics</i>	3			
MA 305	<i>Foundations of Higher Mathematics</i>	3			
MA 351	<i>Elementary Linear Algebra</i>	3			
One of the following:		3			
CS 160	<i>Introduction to Computer Science</i>				
MA 453	<i>Elements of Algebra</i>				
MA 575	<i>Linear Graph Theory</i>				

PHYS 152	<i>Mechanics</i>	5
PHYS 251	<i>Heat, Electricity, and Optics</i>	5
PHYS 310	<i>Intermediate Mechanics</i>	4
PHYS 330	<i>Intermediate Electricity and Magnetism</i>	3
PHYS 342	<i>Modern Physics</i>	3
PHYS 343	<i>Modern Physics Lab</i>	1
EDUC Q400	<i>Man and Environment: Instructional Methods</i>	3
Spanish Teaching Minor (37 credits)		
SPAN S111	<i>Elementary Spanish I</i>	4
SPAN S112	<i>Elementary Spanish II</i>	4
SPAN S203	<i>Second-Year Spanish I</i>	3
SPAN S204	<i>Second-Year Spanish II</i>	3
SPAN S210	<i>Second-Year Spanish Composition</i>	2
SPAN S301	<i>The Hispanic World I</i>	3
SPAN S302	<i>The Hispanic World II</i>	3
SPAN S311	<i>Spanish Grammar</i>	3
SPAN S312	<i>Written Composition in Spanish</i>	3
SPAN S317	<i>Spanish Conversation and Diction</i>	3
SPAN S325	<i>Spanish for Teachers</i>	3
One of the following:		3
SPAN S411	<i>Spanish Culture and Civilization</i>	
SPAN S412	<i>Latin American Culture and Civilization</i>	
Theatre Teaching Minor (24 credits)		
THTR 134	<i>Fundamentals of Performance</i>	3
THTR 138	<i>Acting I</i>	3
THTR 201	<i>Theatre Appreciation</i>	3
THTR 261	<i>Introduction to Theatre Design</i>	3
THTR 284	<i>Textual Analysis</i>	3
One of the following:		3
THTR 470	<i>Theatre and Society I</i>	
THTR 471	<i>Theatre and Society II</i>	
THTR electives		6

COMPUTER EDUCATION ENDORSEMENT

In addition to the major in secondary education, students may earn a Computer Education Endorsement. This endorsement will have the same school setting coverage as the coverages listed on the license for the secondary degree.

Course Number and Title	Credits
MA 153 <i>Algebra and Trigonometry I</i>	3
One of the following:	3
CS 106 <i>Introduction to Computers</i>	
EDUC W210 <i>Introduction to Computer Based Education</i>	
CS 114 <i>Introduction to Visual Basic</i>	3
CS 160 <i>Introduction to Computer Science I</i>	4
CS 161 <i>Introduction to Computer Science II</i>	4
CS 260 <i>Data Structures</i>	3
EDUC W310 <i>Computer-Based Teaching Methods</i>	3
EDUC W410 <i>Practicum in Computer Education</i>	3
Total	26

Students completing the adolescence/young adulthood concentration may also add additional middle school/junior high teaching areas by completing any of the early adolescence content area minors and completing a middle school practicum.

Other IPFW departments offer degrees that lead to teacher certification. They include art education, biology, chemistry, mathematics, music education, and physics. Please refer to these departments in their appropriate Part 4 sections of this *Bulletin* for more information and course requirements.

SPECIAL ACADEMIC REGULATIONS FOR STUDENTS IN SECONDARY EDUCATION

In addition to the academic regulations of IPFW (see Part 7), the following rules apply to secondary education students.

GPA Requirements Students with a cumulative GPA of 2.50 or higher are automatically admitted to the school. Students with a GPA of 2.00–2.49 who wish to transfer into the school or change their major may be admitted as education premajors. These students will not be eligible for admission to teacher education until they achieve a cumulative GPA of 2.50 or higher.

Developmental Courses No credit toward graduation is awarded for ENG R150, R151, or W130; or MA 109 or 113.

Pass/Not-Pass Option Permission to elect this option must be requested on a form available from the School of Education. Permission will be granted only if the course will not be used to fulfill any degree requirements other than total credits for the degree.

Correspondence Courses The school approves limited numbers of credits earned by correspondence study. You may not use more than 18 credits of correspondence courses toward the degree.

Grades In order to be admitted into Block I you must earn a B or better in the following courses: ENG W131, COM 114, and EDUC W200. You must earn a C or better in the following courses: EDUC K201 and a quantitative reasoning (math) course, and you must pass EDUA F300.

For the bachelor's degree, you must complete each course in the professional education block with a grade of C or better, with an overall GPA in the block of 2.50 or higher. Secondary education students must complete each general education area with a GPA of 2.00 or higher. Grades earned in each teaching major and/or minor must average 2.50 or higher. You must have earned a cumulative GPA of 2.50 or higher to be eligible to receive a B.S.Ed.

Academic Fresh Start The school has an academic fresh start option to assist students who are returning to college after an absence of five or more years. The policy permits students' recent college performance to determine the GPA required for admission into teacher education.

You must apply for this option after the completion of 12 credits following admission/readmission to IPFW. For further information, consult with your academic advisor or visit the School of Education Licensing and Advising Center, Neff 243.

Upper-Division Courses You must complete at least 35 credits at the 300–400 level.

Deadlines Before you student teach, you must satisfactorily complete a speech and hearing examination prescribed by the School of Education. During the senior year, you must file an application for your degree.

Resident Study You must complete your final 32 credits at IPFW, with at least 12 of these credits in professional education courses.

Teacher Licensure To be eligible for initial teacher licensure, you must complete the secondary education requirements for a bachelor's degree, pass the Praxis I and Praxis II exams, complete a criminal history report, submit a satisfactory portfolio (see below), and apply for the license.

Early Field Experience Program If you are pursuing a B.S. in secondary education, you are required to participate in the prescribed field-experience program. Field-experience courses are numbered M101, M201, M301, and M401 and must be taken as shown in the degree-requirements listings.

This distinctive program provides an organized series of courses designed to integrate all professional education courses with field experiences. The program allows you repeated opportunities to participate with teachers/pupils in classrooms.

In the early part of your field-experience program, you are introduced to teaching, educational concerns, goal setting, and professionalism.

Student Teaching All students expecting to student teach should schedule an appointment and file a completed application in the Office of Student Teaching, Neff 243, one year before you plan to student teach. Appointments are available between October to December for students who plan to student teach in the fall semester, or January to March for students who plan to student teach in the spring semester. Please do not submit an application unless you actually intend to complete your student teaching during the coming school year. Exact dates are available by contacting the Office of Student Teaching (Neff 243, 260-481-6449).

Portfolio All students seeking initial teacher certification must complete and submit a portfolio for assessment. The portfolio is based upon the Interstate New Teachers Assessment and Support Consortium (INTASC) Standards and is used to assess a teacher candidate's knowledge and mastery of the standards. Portfolio checkpoints are seen throughout the program of study with a final assessment taken during the student teaching semester.

Sociology

Programs: B.A. and Minor

Department of Sociology and Anthropology School of Arts and Sciences

Classroom-Medical Building 241 ▼ 260-481-6842 ▼
www.ipfw.edu/soca/socahome.htm

Courses in sociology provide an understanding of society and of the relationship between the individual and society. Studies in sociology help you prepare for careers and graduate study in the social services, law, industrial relations, government, education, mass media, and the ministry. If you elect to major in sociology, you also must choose one of the specialization areas described later in this section. An internship is required in each specialization area. Internship placements are intended to provide you with applied educational experience in career-related settings. You

should complete the sociology core requirements before declaring a specialization area. To plan a program that will best meet your educational and career objectives, you should consult with your advisor before you select your specialization area.

Although a minor is not required, study in an outside area is recommended. Anthropology, computer science, economics, history, labor studies, political science, psychology, supervision, and women's studies support the major well.

B.A. WITH A MAJOR IN SOCIOLOGY

To earn a B.A. with a major in sociology, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and satisfactorily complete the following courses. One of the S30X, S31X, or 32X courses may count toward fulfilling the specialization requirements.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
MA 153 <i>Algebra and Trigonometry I</i>	3
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
<i>See Part 2 General Education Requirements for approved courses</i>	
SOC S161 <i>Principles of Sociology</i>	0
<i>(credits included in Major Courses, below)</i>	
Additional credits in Area III	3
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in SOC)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
SOC S260 <i>Analysis of Social Issues</i>	0
<i>(credits included in Major Courses, below)</i>	
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in SOC)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Requirements in Arts and Sciences Part D	6
Core and Concentration (Major) Courses	
SOC S161 <i>Principles of Sociology</i>	3
SOC S230 <i>Society and the Individual</i>	3
SOC S260 <i>Analysis of Social Issues</i>	3
SOC S351 <i>Social Statistics</i>	3
SOC S352 <i>Methods of Social Research</i>	3
One of the following deviance courses:	3
SOC S320 <i>Deviant Behavior and Social Control</i>	
SOC S324 <i>Mental Illness</i>	
SOC S325 <i>Criminology</i>	
SOC S328 <i>Juvenile Delinquency</i>	

One of the following social-organizational courses:	3
SOC S300 <i>Race and Ethnic Relations</i>	
SOC S303 <i>Industrial Sociology</i>	
SOC S306 <i>Urban Society</i>	
SOC S308 <i>Introduction to Comparative Sociology</i>	
SOC S309 <i>The Community</i>	
SOC S313 <i>Religion and Society</i>	
SOC S314 <i>Social Aspects of Health and Medicine</i>	
SOC S315 <i>Sociology of Work</i>	
SOC S316 <i>The Family</i>	
SOC S317 <i>Inequality</i>	
SOC S318 <i>Social Change</i>	
One of the following theory courses:	3
SOC S340 <i>Social Theory</i>	
SOC S348 <i>Introduction to Social Theory</i>	
Specialization Area (see below)	12
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

CRIME AND DEVIANCE SPECIALIZATION AREA

This area focuses on the causes and kinds of crime and deviance (e.g., substance abuse, mental illness), the modes of social control involved, and the proposed solutions to these problems in society. This specialization helps you prepare for careers in the criminal-justice system and in rehabilitation counseling.

Course Number and Title	Credits
SOC S494 <i>Field Experience in Sociology</i> (Crime and Deviance Placement)	3
One of the following:	3
SOC S320 <i>Deviant Behavior and Social Control</i>	
SOC S325 <i>Criminology</i>	
Two of the following:	6
SOC S320 <i>Deviant Behavior and Social Control</i>	
SOC S324 <i>Mental Illness</i>	
SOC S325 <i>Criminology</i>	
SOC S328 <i>Juvenile Delinquency</i>	
SOC S360 <i>Topics in Social Policy (with approved topic)</i>	
SOC S420 <i>Topics in Deviance (may be taken more than once under different approved topics)</i>	
SOC S425 <i>Violence and Society</i>	
SOC S429 <i>Crime and Community</i>	
Total	12

FAMILY AND COMMUNITY STUDIES SPECIALIZATION AREA

This area emphasizes the study of family and community life and the interrelations between these and other levels of the social structure (e.g., political and economic processes). This specialization area helps you prepare for careers in social-service agencies as a social worker, researcher, policy analyst, or community organizer.

Course Number and Title	Credits
SOC S494 <i>Field Experience in Sociology</i> (Family and Community Placement)	3

One of the following:	3
SOC S309 <i>The Community</i>	
SOC S316 <i>The Family</i>	
Two of the following:	6
SOC S164 <i>Marital Relations and Sexuality</i>	
SOC S298 <i>Colloquium in Sociology and Women's Studies (with approved topic)</i>	
SOC S300 <i>Race and Ethnic Relations</i>	
SOC S306 <i>Urban Society</i>	
SOC S309 <i>The Community</i>	
SOC S316 <i>The Family</i>	
SOC S331 <i>Sociology of Aging</i>	
SOC S338 <i>Sociology of Gender Roles</i>	
SOC S360 <i>Topics in Social Policy (with approved topic)</i>	
SOC S403 <i>Industry, Labor, and Community</i>	
SOC S410 <i>Topics in Social Organization (with approved topic)</i>	
SOC S429 <i>Crime and Community</i>	
SOC S431 <i>Topics in Social Psychology (Gender Sexuality)</i>	
Total	12

ORGANIZATION AND SOCIAL CHANGE SPECIALIZATION AREA

This area focuses on formal and informal organization in social life and those factors that encourage as well as impinge on social change in organizational structures. This specialization helps you prepare for careers in public and private organizations as a researcher, policy analyst, change analyst, community organizer, or human-resources developer.

Course Number and Title	Credits
SOC S494 <i>Field Experience in Sociology</i> (Organization and Social Change Placement)	3
One of the following:	3
SOC S317 <i>Inequality</i>	
SOC S318 <i>Social Change</i>	
Two of the following:	6
SOC S298 <i>Colloquium in Sociology and Women's Studies (with approved topic)</i>	
SOC S300 <i>Race and Ethnic Relations</i>	
SOC S303 <i>Industrial Sociology</i>	
SOC S306 <i>Urban Society</i>	
SOC S313 <i>Sociology of Religion</i>	
SOC S314 <i>Social Aspects of Health and Medicine</i>	
SOC S315 <i>Sociology of Work</i>	
SOC S317 <i>Social Stratification</i>	
SOC S360 <i>Topics in Social Policy (with approved topic)</i>	
SOC S407 <i>Society of the Future</i>	
SOC S410 <i>Topics in Social Organization (may be taken more than once under different approved topics)</i>	
SOC S413 <i>Sex Inequality in Society</i>	
SOC S415 <i>Revolution of Education</i>	
SOC S419 <i>Revolutions and Social Movements</i>	
SOC S447 <i>Theories of Social Change</i>	
Total	12

SOCIOLOGY MINOR

If you are pursuing a major other than sociology, you may earn a minor in sociology by completing 15 credits with a grade of C or

better in each course including at least 8 credits as resident credit at IPFW, a minimum of 9 credits at the 300 level or above, and no more than 3 credits of SOC S495 or directed study.

TEACHER CERTIFICATION

You may be certified as a teacher of social studies after fulfilling all requirements for the B.A. with a major in sociology and all requirements for teacher certification. Full information on teacher-certification requirements is available from the School of Education.

Prior to your junior year, the School of Education requires that you successfully complete EDUA F300, EDUC W200/M101, and EDUC K201 and the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year.

Spanish

Programs: A.A., B.A., B.A. with Teacher Certification, Minor, and Teaching Minor
Department of Modern Foreign Languages
School of Arts and Sciences

Classroom-Medical Building 267 ▼ 260-481-6836 ▼
www.ipfw.edu/mfl/

The Department of Modern Foreign Languages offers majors in Spanish for the B.A. and B.A. with teaching certification, a minor and a teaching minor in Spanish, and study-abroad opportunities as well as similar programs in French and German and limited courses in other languages. An Associate of Arts with a concentration in Spanish, offered by the School of Arts and Sciences, is described in Part 3 of this Bulletin.

Spanish is the language of nearly 300 million of the world's people, including many millions in the United States. It is the official language of Spain as well as most of the countries of the western hemisphere. Increasingly, Spanish is a language of commercial, cultural, and political importance in the world. The Department of Modern Foreign Languages offers a full curriculum in the culture, language, and literature of Latin America and Spain. A major in Spanish may be combined with a major in another field, a business minor, or a teaching certificate. With a major in Spanish and a degree, in particular a B.A., you may continue your education in languages or expand into other fields at a graduate school, or you may pursue a career in business or teaching.

B.A. WITH A MAJOR IN SPANISH

To earn the B.A. with a major in Spanish, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and satisfactorily complete the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	

One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	

Area II—Natural and Physical Sciences 6

See Part 2 General Education Requirements for approved courses

Area III—The Individual, Culture, and Society

LING 103 <i>Introduction to the Study of Languages</i>	3
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One of the following: 3

INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	

Area IV—Humanistic Thought

One of the following: 3

FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	

Additional credits in Area IV 3

Recommended: FINA H415 Art of Pre-Columbian America

Area V—Creative and Artistic Expression 3

See Part 2 General Education Requirements for approved courses

Area VI—Inquiry and Analysis (not in SPAN) 3

Recommended: ANTH E335, ANTH P370, LING L360, or WOST W301

School of Arts and Sciences Requirements

English Writing
 (requirement is satisfied by SPAN W300, listed below) 0

Foreign Language (10–14 credits)
 One of the following: 4–8

SPAN S111–S112 <i>Elementary Spanish I–II</i> (8 credits)	
SPAN S113 <i>First-Year Spanish in One Semester</i> (4 credits)	

SPAN S203–S204 *Second-Year Spanish I–II* 6

Distribution (not in SPAN)

Requirements in Arts and Sciences Part C 9

Cultural Studies
 Credits in Western tradition 3
 Non-Western culture requirement may be satisfied with SPAN S412, S471, S472, S479, or S480 0

Core and Concentration (Major) Courses

SPAN S210 *Second-Year Spanish Comp* 2–3
(normally taken concurrently with S204)

SPAN W300 *Methods of Research and Criticism* 3
(taught in fall semester; should be taken concurrently with S301 or S302)

SPAN S301–S302 *The Hispanic World I–II* 6

SPAN S311 *Spanish Grammar* 3

SPAN S312 *Written Composition in Spanish* 3

SPAN S317 *Spanish Conversation and Diction* 3

One of the following courses in Spanish linguistics: 3

SPAN S425 <i>Spanish Phonetics</i>	
SPAN S426 <i>Introduction to Spanish Linguistics</i>	
SPAN S428 <i>Applied Spanish Linguistics</i>	

One of the following courses in Spanish literature: 3

SPAN S407 <i>Survey of Spanish Literature I</i>	
SPAN S408 <i>Survey of Spanish Literature II</i>	

One of the following courses in Spanish-American literature:	3
SPAN S471 <i>Spanish-American Literature I</i>	
SPAN S472 <i>Spanish-American Literature II</i>	
Additional credits in 400-level Spanish civilization, language, or literature courses	6
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

B.A. WITH A MAJOR IN SPANISH WITH TEACHER CERTIFICATION

Students pursuing a B.A. with a major in Spanish with teacher certification must fulfill the requirements of IPFW (see Part 7), the School of Arts and Sciences (see Part 3), and the School of Education (see Part 3) and satisfactorily complete the following requirements.

Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The National Teachers Examination (NTE) Specialty Area Tests must be completed before or during the student-teaching semester, normally in your senior year.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
LING 103 <i>Introduction to the Study of Languages</i>	3
One of the following:	3
INTL I200 <i>Introduction to International Studies: Emerging Global Visions</i>	
HIST H232 <i>The World in the 20th Century</i>	
Area IV—Humanistic Thought	6
One of the following:	3
FWAS H201 <i>Humanities I: The Ancient World</i>	
FWAS H202 <i>Humanities II: Foundations of the Modern Western World</i>	
Additional credits in Area IV	3
<i>Recommended: FINA H415 Art of Pre-Columbian America</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in SPAN)	3
<i>Recommended: ANTH E335, ANTH P370, LING L360, or WOST W301</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
(requirement is satisfied by SPAN W300, listed below)	0
<i>Foreign Language (10–14 credits)</i>	
One of the following:	4–8
SPAN S111–S112 <i>Elementary Spanish I–II</i> (8 credits)	
SPAN S113 <i>First-Year Spanish in One Semester</i> (4 credits)	

SPAN S203–S204 <i>Second-Year Spanish I–II</i>	6
<i>Distribution (not in SPAN)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
Credits in Western tradition	3
Non-Western culture requirement may be satisfied with SPAN S412, S471, S472, S479, or S480	0
Core and Concentration (Major) Courses	
SPAN S210 <i>Second-Year Spanish Composition</i> (normally taken concurrently with S204)	2–3
SPAN W300 <i>Methods of Research and Criticism</i> (taught in fall semester; should be taken concurrently with S301 or S302)	3
SPAN S301–S302 <i>The Hispanic World I–II</i>	6
SPAN S311 <i>Spanish Grammar</i>	3
SPAN S312 <i>Written Composition in Spanish</i>	3
SPAN S317 <i>Spanish Conversation and Diction</i>	3
SPAN S325 <i>Spanish for Teachers</i>	3
One of the following courses in Spanish linguistics:	3
SPAN S425 <i>Spanish Phonetics</i>	
SPAN S426 <i>Introduction to Spanish Linguistics</i>	
SPAN S428 <i>Applied Spanish Linguistics</i>	
One of the following courses in Spanish literature:	3
SPAN S407 <i>Survey of Spanish Literature I</i>	
SPAN S408 <i>Survey of Spanish Literature II</i>	
One of the following courses in Spanish-American literature:	3
SPAN S471 <i>Spanish-American Literature I</i>	
SPAN S472 <i>Spanish-American Literature II</i>	
One of the following culture/civilization courses:	3
SPAN S411 <i>Spanish Culture and Civilization</i>	
SPAN S412 <i>Latin-American Culture and Civilization</i>	
Additional credits in 400-level Spanish civilization, language, or literature courses	3
Professional Education	
Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.	
GROUP I	
EDUA F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1
GROUP II	
EDUC K206 <i>Teaching Methods for Students with Special Needs</i>	3
EDUC H340 <i>Education and American Culture</i>	3
EDUC P250/M201 <i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301 <i>Educational Psychology Secondary Teachers and Lab/Field Experience</i>	3
EDUC X401 <i>Critical Reading in the Content Area</i>	3
EDUC M445 <i>Methods of Teaching Foreign Languages</i>	3
EDUC M480 <i>Student Teaching in the Secondary School</i>	10

Middle School Certification (Recommended)	
EDUC M470 Practicum	4
Total	125-134

SPANISH TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a Spanish teaching minor by completing the following 37–38 credits with a grade of C or better in each course.

Course Number and Title	Credits
SPAN S111–S112 Elementary Spanish I–II	8
SPAN S203–S204 Second-Year Spanish I–II	6
SPAN S210 Second-Year Spanish Composition (normally taken concurrently with S204)	2–3
SPAN S301–S302 The Hispanic World I–II	6
SPAN S311 Spanish Grammar	3
SPAN S312 Written Composition in Spanish	3
SPAN S317 Spanish Conversation and Diction	3
SPAN S325 Spanish for Teachers	3
One of the following culture/civilization courses:	3
SPAN S411 Spanish Culture and Civilization	
SPAN S412 Latin-American Culture and Civilization	
Total	37–38

MINOR

If you are pursuing a major other than Spanish, you may earn a minor in Spanish by completing the following credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW:

Course Number and Title	Credits
SPAN S210 Second-Year Spanish Comp (normally taken concurrently with S204)	2–3
SPAN S311 Spanish Grammar	3
SPAN S312 Written Composition in Spanish	3
One of the following 300-level literature courses	3
SPAN S301 The Hispanic World I	
SPAN S302 The Hispanic World II	
Additional 300- or 400-level Spanish civilization, language, or literature course	3
Total	14–15

Study Abroad Both majors and nonmajors are encouraged to study abroad. For those who wish to study Spanish, Indiana University administers and cosponsors an academic-year program in Madrid, Spain; semester programs in Spain (Alicante, Madrid, and Seville) and Chile (Santiago); and summer programs in Spain (Salamanca) and Mexico (Cuernavaca and Guanajuato).

Speech and Hearing Therapy

Program: B.S.
Audiology and Speech Sciences
School of Arts and Sciences

Neff Hall 279 ▼ 260-481-6410 ▼ www.ipfw.edu/aus

This preprofessional degree helps you prepare to pursue the master's degree in speech-language pathology or audiology and

the following professional credentials: the Indiana Schools Standard Services-Specialist License, the license from the Indiana Speech-Language Pathology and Audiology Board, and the Certificate of Clinical Competence from the American Speech-Language-Hearing Association. With full academic preparation, including a master's degree in speech-language pathology or audiology, you may begin human-service careers working with children, adults, and/or older persons who have speech, language, or hearing disorders. You will offer professional assistance to enhance our most distinctive human ability — communication.

The curriculum offers courses and practical experiences that prepare you to work with communicatively disabled individuals in such settings as schools, hospitals, agencies, rehabilitation centers, clinics, and private practices. Clinical practicum courses may be completed in the IPFW Speech-Language and Hearing Clinic.

To earn the B.S. with a major in speech and hearing therapy, you must fulfill the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) in addition to the following requirements:

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 Fundamentals of Speech Communication	3
One of the following:	3
ENG W131 Elementary Composition I	
ENG W140 Elementary Composition—Honors	
One of the following:	3
MA 153 Algebra and Trigonometry I	
MA 168 Mathematics for the Liberal Arts Student	
STAT 125 Communicating with Statistics	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
BIOL 203 required; BIOL 204 recommended as second course	
Area III—The Individual, Culture, and Society	6
LING L103 required; select one course from	
SOC S161 or S163 or PSY 120	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
PHIL 111 or 120 recommended	
Area V—Creative and Artistic Expression	3
Select one: ENG W103, JOUR J210, or MUS L153 recommended	
Area VI—Inquiry and Analysis (not in AUS)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 Intermediate Expository Writing (or other approved writing course)	3
<i>Foreign Language (111 and 112)</i>	8
Core and Concentration (Major) Courses	
AUS 115 Introduction to Communicative Disorders	3
AUS 302 Acoustic Bases of Speech and Hearing	3
AUS 304 Anatomy and Physiology of the Speech and Hearing Mechanism	4
AUS 306 Introduction to Phonetics	3
AUS 309 Language Development	3
AUS 420 Introduction to Developmental Speech and Language Disorders	3

AUS 460	Introduction to Assessment Audiology	4
AUS 516	Foundations of Assessment in Communication Disorders	3
AUS 521	Phonetic and Phonological Disorders in Children	2

Credits from the following courses: **12**
 Students intending to pursue graduate studies are urged to select AUS 449 and should also consider completion of AUS 549. If 549 is not selected, then 590 should be the selection.

AUS 181	First Course in American Sign Language (3 credits)	
AUS 182	Second Course in American Sign Language (3 credits)	
AUS 399	Directed Study in Audiology and Speech Sciences (1–3 credits)	
AUS 405	Augmentative and Computer Applications in Speech and Language (3 credits)	
AUS 430	Speech-Language Disorders in Healthcare Settings (3 credits)	
AUS 449	Introduction to Clinical Practice in Speech-Language Pathology (2–3 credits)	
AUS 549	Clinical Practice in Speech Language Pathology I (2–4 credits)	
AUS 550	Rehabilitative Audiology for Adults (4 credits)	
AUS 551	Rehabilitative Audiology for Children (4 credits)	
AUS 590	Directed Study of Special Problems (1–6 credits)	

General Elective Courses

Sufficient additional credits to bring the total to 124. Recommended: PSY 120, PSY 235, PSY 350, EDUC K201, K206. SOC S161 and S163, COM 303, BIOL 204, PHIL 312. You may wish to consider elective courses that fulfill requirements for a minor that supports preparation of AUS majors.

Total	124
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Supervisory Leadership

Program: Certificate

Division of Organizational Leadership and Supervision

Neff Hall 288 ▼ 260-481-6420

This certificate program helps you prepare for supervisory leadership positions in any industry. The classes can later be applied toward an associate degree with a major in organizational leadership and supervision. Interested individuals must apply for the program before completing 9 hours of applicable course work.

The certificate option is available to community members who enter as non-degree seeking students and to students in good academic standing who are enrolled in non-OLS plans of study. OLS-degree-seeking students are not eligible to enter the certificate program.

To earn the certificate, you must fulfill the requirements of IPFW (see Part 7) and the Division of Organizational Leadership and Supervision (see Part 3), complete the following courses, and earn a grade of C or better in each course:

Course Number and Title		Credits
ENG W131	Elementary Composition I	3
COM 114	Fundamentals of Speech Communication	3
OLS 252	Human Relations in Organizations	3
OLS 268	Elements of Law	3
OLS 274	Applied Leadership	3
OLS 375	Training Methods	3
	OLS Elective	3
Total		21

Teaching English as a New Language

Programs: Certificate

Department of English and Linguistics

Classroom-Medical Building 145 ▼ 260-481-6841 ▼ www.ipfw.edu/engl

The Certificate in Teaching English as a New Language (TENL) is an 18-hour program intended primarily for students working toward an IPFW degree, especially education majors who wish to be trained in teaching English to non-native speakers. It will also serve those who wish to facilitate their employment abroad and those who have technical or business experience and wish to work with non-native speakers in professional settings. The required courses will familiarize students with the major theoretical foundations of teaching English as a second and foreign language and acquaint them with the relevant pedagogy. Students will acquire experience in teaching non-native speakers in appropriate classrooms. The certificate can stand alone as a separate credential or be integrated with the requirements of the B.A. program in English.

Program Restrictions No course with a grade below C may be applied toward the certificate.

Course Number and Title		Credits
<i>Grammar*</i>		3
ENG G302	Structure of Modern English	
<i>Methods</i>		6
LING L321	Methods and Materials for TESOL I	
LING L322	Methods and Materials for TESOL II	
<i>Language Acquisition</i>		3
ENG G432	Second Language Acquisition	
<i>Sociolinguistics</i>		3
LING L360	Language in Society	
<i>Practicum</i>		3
LING L470	TESOL Practicum	

*SPAN S428 may, in conjunction with other linguistics courses, meet the grammar requirement.

Theatre

Programs: B.A. and Minor

Department of Theatre

School of Visual and Performing Arts

Williams Theatre 128 ▼ 260-481-6551 ▼ www.ipfw.edu/vpa

Degree programs offered by the Department of Theatre provide comprehensive training for the theatre profession and explore theatre's 2,000-year history and literature. Through its programs,

the department seeks to provide the finest in undergraduate education by providing a professional curriculum that embodies defined objectives and comprehensive performance/production training. Students study both content (dramatic literature, theory and criticism, and theatre history) and process (acting, directing, playwriting, designing, and production).

The department offers a Bachelor of Arts with a major in theatre or theatre teaching. Emphases are available in acting, design/technology, directing, and playwriting. An individually customized emphasis is also available.

Minors in theatre, dance, and theatre teaching are available to students who are interested in theatre, but who are pursuing IPFW bachelor's degrees in other subjects.

B.A. WITH A MAJOR IN THEATRE

To earn the B.A. with a major in theatre, you must satisfy the requirements of IPFW (see Part 7) and the School of Visual and Performing Arts (see Part 3), complete the following courses, earn a grade of C or better in each theatre course, and fulfill additional requirements specified in the theatre student handbook:

Course Number and Title	Credits
IPFW General Education Requirements (36 credits)	
Area I—Linguistic and Numerical Foundations	
Reading/Writing	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
HIST H113–H114 <i>History of Western Civilization</i>	6
May not use THTR-prefixed course to fulfill requirement.	
Area IV—Humanistic Thought	
One of the following:	
FINA H101 <i>Art Appreciation</i>	3
MUS Z101 <i>Music for the Listener</i>	3
May not use THTR-prefixed course to fulfill requirement.	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
May not use THTR-prefixed course to fulfill requirement.	
Area VI—Inquiry and Analysis	
<i>See Part 2 General Education Requirements for approved courses</i>	
Writing Requirements	
ENG W233 <i>Intermediate Expository Writing</i>	3
Theatre Core Courses (43 credits)	
THTR 138 <i>Acting I</i>	3
THTR 158 <i>Stagecraft</i>	3
THTR 201 <i>Theatre Appreciation</i>	3
THTR 213 <i>Voice for the Actor</i>	2
THTR 261 <i>Introduction to Theatrical Design</i>	3
THTR 284 <i>Textual Analysis</i>	3
THTR 351 <i>Costume Techniques</i>	3
THTR 440 <i>Beginning Directing</i>	3
THTR 470/471 <i>Theatre and Society I–II</i>	6
THTR 499 <i>Senior Performance Project</i>	2
THTR 501 <i>Stage Management</i>	3
One of the following:	
THTR 355 <i>American Musical Theatre</i>	3
THTR 583 <i>American Theatre History and Drama</i>	3

One of the following: 3

THTR 360 *Scenic Design*

THTR 361 *Costume Design*

THTR 362 *Light Design*

Credits in dramatic literature 3

Choose from among the following: ENG L220, L315, L362, or any dramatic-literature course

THTR 168 *Theatre Production* 1

Must take 6 semesters of this course 6 credits total.

Emphasis Area 15–16

Credits from emphasis area below

Elective Courses 23

Sufficient elective credits to bring total to 124

Total 124

EMPHASIS AREAS

Course Number and Title	Credits
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Acting (17 credits)

THTR 323 <i>Movement for the Actor</i>	2
THTR 238 <i>Acting II</i>	3
THTR 338 <i>Acting III</i>	3
THTR 413 <i>Advanced Voice for the Stage</i>	3
THTR 438 <i>Acting IV</i>	3
THTR 536 <i>Advanced Problems In Acting</i>	3

Design and Technology (18 credits)

Two of the following: 6

THTR 264 <i>Rendering Techniques</i>	3
THTR 360 <i>Scenic Design</i>	3
THTR 361 <i>Costume Design</i>	3
THTR 362 <i>Light Design</i>	3
THTR 365–366 <i>Period Styles for the Theatre I–II</i>	6

One of the following: 3

THTR 560 <i>Advanced Scenic Design</i>	3
THTR 561 <i>Advanced Costume Design</i>	3
THTR 562 <i>Advanced Light Design</i>	3

Directing (17 credits)

THTR 323 <i>Movement for the Actor</i>	2
THTR 362 <i>Light Design</i>	3
THTR 365 <i>Period Style for the Theatre I</i>	3
THTR 366 <i>Period Style for the Theatre II</i>	3
THTR 540 <i>Advanced Directing</i>	3
THTR 542 <i>Advanced Problems in Theatre Directing</i>	3

Playwriting (15 credits)

ENG W103 <i>Introduction to Creative Writing</i>	3
THTR 376 <i>Introduction to Playwriting</i>	3
THTR 576 <i>Playwriting</i>	3

Writing Elective 3

(Selected from ENG W203 Creative Writing,

ENG W310 *Language and the Study of Writing*, **COM 436** *Script Writing*, or THTR 576 [repeated].)

Dramatic literature elective 3

(Selected from ENG L sequence courses or THTR electives with significant dramatic literature content.)

Individualized Emphasis (15 credits)

Choose 15 credits with advisor; must be approved by faculty.

THEATRE MINOR

You may earn a theatre minor by completing the following courses and earning a grade of C or better in each:

Course Number and Title	Credits
THTR 134 <i>Fundamentals of Performance</i>	3
THTR 138 <i>Acting I</i>	3
THTR 201 <i>Theatre Appreciation</i>	3
THTR 261 <i>Introduction to Theatrical Design</i>	3
THTR 284 <i>Textual Analysis</i>	3
THTR 168 <i>Theatre Production I</i>	1
THTR 368 <i>Theatre Production II</i>	2
One of the following:	3
THTR 470 <i>Theatre and Society I</i>	3
THTR 471 <i>Theatre and Society II</i>	3
Theatre electives	3
Total	24

SPECIAL ACADEMIC REGULATIONS

Probation You must earn a grade of C or better in each required theatre course and maintain a GPA of 2.5 or higher over all theatre courses you have completed. You are placed on academic probation if you do not meet this requirement.

Dismissal and Readmission If you are on probation and do not correct academic deficiencies during your next semester of enrollment, you will be dismissed from the theatre program.

If you are dismissed from the theatre program, you may seek readmission under the university guidelines specified in Part 7 of this *Bulletin*.

Time Limit You must complete the degree requirements specified in the *Bulletin* in effect at the time you were regularly admitted to the university. However, to ensure that you will be professionally competitive with other members of your graduating class, you may be required to satisfy the degree requirements specified in the most current *Bulletin* if you have not completed all requirements for your degree within seven years from the date of your admission.

Degree Requirements You may not use a single course to fulfill more than one Department of Theatre requirement.

Department Handbook Detailed information regarding requirements, policies, and practices of the department is included in a theatre student handbook available in the department office. All theatre majors must comply with the requirements specified in the handbook.

Theatre Teaching

Programs: B.A. and Minor

Department of Theatre

School of Visual and Performing Arts

Williams Theatre 128 ▼ 260-481-6551 ▼ www.ipfw.edu/vpa

Degree programs offered by the Department of Theatre provide comprehensive training for the theatre profession and explore theatre's 2,000-year history and literature. Through its programs, the department seeks to provide the finest in undergraduate education by providing a professional curriculum that embodies defined objectives and comprehensive performance/production training. Students study both content (dramatic literature, theory and criticism, and theatre history) and process (acting, directing, playwriting, designing, and production).

The department offers a Bachelor of Arts with a major in theatre or theatre teaching. Minors in both theatre and theatre teaching are available to students who are interested in theatre or preparing to teach at the secondary-school level, but who are pursuing IPFW bachelor's degrees in other subjects.

BACHELOR OF ARTS WITH A MAJOR IN THEATRE TEACHING

To earn a B.A. with a major in theatre teaching, you must satisfy the requirements of IPFW (see Part 7) and the School of Visual and Performing Arts (see Part 3), complete the following courses, and earn a grade of C or better in required theatre courses:

Course Number and Title	Credits
IPFW General Education Requirements (36 credits)	
Area I—Linguistic and Numerical Foundations	
Reading/Writing	3
COM 114 <i>Fundamentals of Speech Communication</i>	3
Quantitative Reasoning	3
Area II—Natural and Physical Sciences	
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	
HIST H113-H114 <i>History of Western Civilization</i>	6
May not use THTR-prefixed course to fulfill requirement.	
Area IV—Humanistic Thought	
One of the following:	
FINA H101 <i>Art Appreciation</i>	3
MUS Z101 <i>Music for the Listener</i>	3
May not use THTR-prefixed course to fulfill requirement.	
Area V—Creative and Artistic Expression	
<i>See Part 2 General Education Requirements for approved courses</i>	
May not use THTR-prefixed course to fulfill requirement.	
Area VI—Inquiry and Analysis	
<i>See Part 2 General Education Requirements for approved courses</i>	
Writing Requirements	
ENG W233 <i>Intermediate Expository Writing</i>	3
Theatre Core Courses (40 credits)	
THTR 134 <i>Fundamentals of Performance</i>	3
THTR 136 <i>Rehearsal and Performance I</i>	1
THTR 138 <i>Acting I</i>	3
THTR 158 <i>Stagecraft</i>	3
THTR 168 <i>Theatre Production</i>	1
THTR 213 <i>Voice for the Actor</i>	2
THTR 238 <i>Acting II</i>	3
THTR 261 <i>Introduction to Theatrical Design</i>	3
THTR 284 <i>Textual Analysis</i>	3
One of the following:	
THTR 360 <i>Scenic Design</i>	3
THTR 361 <i>Costume Design</i>	3
THTR 362 <i>Light Design</i>	3
THTR 440 <i>Beginning Directing</i>	3
THTR 470/471 <i>Theatre and Society I-II</i>	6
Additional theatre courses	
6	
Professional Education (32 credits)	
<i>Group I</i>	
EDUC F300 <i>Invitation to Teaching</i>	2
EDUC W200/M101 <i>Microcomputers for Education: An Introduction and Lab/Field Experience</i>	1
EDUC K201 <i>Schools, Society, and Exceptionality</i>	1
PPST (Pre-Professional Skills Test)	

Group II

EDUC K206	<i>Teaching Methods for Students with Special Needs</i>	3
EDUC P250/M201	<i>General Educational Psychology and Lab/Field Experience</i>	3
EDUC P253/M301	<i>Educational Psychology for Secondary Teachers and Lab/Field Experience</i>	3
EDUC H340	<i>Education and American Culture</i>	3
EDUC X401	<i>Critical Reading in the Content Area</i>	3
EDUC M480	<i>Student Teaching in the Secondary School</i>	10
One of the following:		3
EDUC M447	<i>Methods of Teaching High School English</i>	
EDUC M478	<i>Methods of Teaching High School Speech</i>	
Electives		24
Credits in electives (see note, below)		
Total		128

Note: The following teacher-certification concentration in English is highly recommended in partial fulfillment of the degree requirements. Specific courses should be selected in consultation with your advisor or an advisor in the Department of English and Linguistics. Courses used to fulfill IPFW general education requirements cannot be used.

Course Number and Title	Credits	
Credits in two additional courses in literature, 200 level or higher	6	
Credits in one additional course in language study	3	
Credits in one course in writing (students should complete one course in expository writing or composition theory and one course in creative writing)	3	
Credits in one course in ethnic, minority, or non-Western literature	3	
Credits in one course in Western literature other than British or American	3	
Credits in one course in mass communication, including journalism and film	3	
Total		21

MINOR IN THEATRE TEACHING

A theatre-teaching minor may be earned by completing the following courses and earning a grade of C or better in each required theatre course:

Course Number and Title	Credits	
THTR 134	<i>Fundamentals of Performance</i>	3
THTR 138	<i>Acting I</i>	3
THTR 158	<i>Stagecraft</i>	3
THTR 201	<i>Theatre Appreciation</i>	3
THTR 261	<i>Introduction to Theatrical Design</i>	3
THTR 440	<i>Beginning Directing</i>	3
One of the following:		3
THTR 470	<i>Theatre and Society I</i>	
THTR 471	<i>Theatre and Society II</i>	
Additional theatre course		3
Total		24

SPECIAL ACADEMIC REGULATIONS

Probation and Dismissal You must earn a grade of C or better in each required theatre course and maintain a GPA of 2.5 or higher over all theatre courses you have completed. You are placed on academic probation if you do not meet this requirement.

If you are on probation and do not correct academic deficiencies during your next semester of enrollment, you will be dismissed from the theatre program.

Readmission If you are dismissed from the theatre program, you may seek readmission under the university guidelines specified in Part 7 of this *Bulletin*.

Degree Requirements You may not use a single course to fulfill more than one Department of Theatre requirement.

Time Limit You must complete the degree requirements specified in the *Bulletin* in effect at the time you were regularly admitted to the university. However, to ensure that you will be professionally competitive with other members of your graduating class, you may be required to satisfy the degree requirements specified in the most current *Bulletin* if you have not completed all requirements for your degree within seven years from the date of your admission.

Departmental Handbook Detailed information regarding policies and practices of the department is included in a theatre student handbook available in the department office.

Visual Communication and Design

See *Fine Arts (Visual Communication and Design Program)*

Women's Studies

Programs: B.A., Minor, and Certificate
School of Arts and Sciences

Classroom-Medical Building 272 ▼ 260-481-6711

Women's studies is based on the premise that the study of women's experiences, concerns, social roles, and creativity is essential to our knowledge of humankind and society. Feminist scholarship and theory provide the knowledge and analytical tools necessary for a gender-balanced perspective on our world, both past and present. The women's studies program affords you the opportunity to pursue feminist scholarship on women and gender through a variety of interdisciplinary courses.

In addition to the B.A. program listed here, an Associate of Arts with a concentration in women's studies is available at IPFW. See School of Arts and Sciences in Part 3 for further information.

B.A. WITH A MAJOR IN WOMEN'S STUDIES

To earn the Bachelor of Arts with a major in women's studies, you must satisfy the requirements of IPFW (see Part 7) and the School of Arts and Sciences (see Part 3) and complete the following courses. Only women's studies courses in which you have earned a grade of C or better can be applied to the degree or used to satisfy prerequisites.

Course Number and Title	Credits
IPFW General Education Requirements	
Area I—Linguistic and Numerical Foundations	
COM 114 <i>Fundamentals of Speech Communication</i>	3
One of the following:	3
ENG W131 <i>Elementary Composition I</i>	
ENG W140 <i>Elementary Composition—Honors</i>	
One of the following:	3
MA 153 <i>Algebra and Trigonometry I</i>	
MA 168 <i>Mathematics for the Liberal Arts Student</i>	
STAT 125 <i>Communicating with Statistics</i>	
Area II—Natural and Physical Sciences	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area III—The Individual, Culture, and Society	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area IV—Humanistic Thought	6
<i>See Part 2 General Education Requirements for approved courses</i>	
Area V—Creative and Artistic Expression	3
<i>See Part 2 General Education Requirements for approved courses</i>	
Area VI—Inquiry and Analysis (not in WOST)	3
<i>See Part 2 General Education Requirements for approved courses</i>	
School of Arts and Sciences Requirements	
<i>English Writing</i>	
ENG W233 <i>Intermediate Expository Writing</i> (or other approved writing course)	3
<i>Foreign Language</i>	
Requirements in Arts and Sciences Part B	14
<i>Distribution (not in WOST or cross-listed courses)</i>	
Requirements in Arts and Sciences Part C	9
<i>Cultural Studies</i>	
WOST W301 <i>International Perspectives on Women</i> (credits included in Major Requirements, below)	0
Additional credits in Western tradition	3
Core and Concentration (Major) Courses	
WOST W210 <i>Introduction to Women's Studies</i>	3
WOST W301 <i>International Perspectives on Women</i>	3
WOST W400 <i>Topics in Women's Studies</i>	3
Credits in WOST or cross-listed humanities/visual arts	6
Credits in WOST or cross-listed social science/science	6
Additional credits in WOST or cross-listed courses	9
General Elective Courses	
Sufficient additional credits to bring the total to 124.	
Total	124

A thematic focus of at least three courses (9 of the 30 credits in Major Requirements) must be selected in consultation with your women's studies advisor. The thematic focus provides coherence within this interdisciplinary major and can be defined in several ways: geographically (e.g., women in America, women in Western Europe); chronologically (e.g., women in antiquity, women of the Renaissance); by a category or issue (e.g., women and peace, women of color), and so on.

If you major in women's studies, you are also required to have a second major or one or more minors in other arts and sciences disciplines. If you elect to double-major in women's studies and another arts and sciences discipline, women's studies will be considered your second major.

You may count the courses taken to fulfill this major toward arts and sciences distribution requirements wherever possible. However, no more than two courses may be applied to both majors.

If you elect to combine a women's studies major with one or more minors in other arts and sciences disciplines, you may count only two courses toward both the women's studies major and School of Arts and Sciences distribution requirements. Only one course may be counted toward both the women's studies major and any other minor.

MINOR

If you are pursuing a major other than women's studies, you may earn a minor in women's studies by completing the following 15 credits with a grade of C or better in each course and earning at least 8 credits as resident credit at IPFW.

Course Number and Title	Credits
WOST W210 <i>Introduction to Women's Studies</i>	3
Credits from cross-listed courses in humanities or visual arts	3
Credits from cross-listed courses offered in social science or natural science	3
Additional credits in cross-listed or WOST-prefixed courses	6
Total	15

CERTIFICATE

The Women's Studies Certificate is designed for students majoring in academic programs outside the School of Arts and Sciences who are interested in a concentration of course work in women's studies. This program is also appropriate for community members who wish to augment or update past academic studies in a field that has relevance for today's more diverse workforce and society. The required 21 credits are allocated as follows and must be completed with a grade of C or higher in each course:

Course Number and Title	Credits
WOST W210 <i>Introduction to Women's Studies</i>	3
WOST W301 <i>International Perspectives on Women</i>	3
WOST W400 <i>Topics in Women's Studies</i> (the capstone course)	3
One cross-listed course from the student's department, division, or school to be counted in the student's major as well as in the certificate, or any other WOST-prefixed or cross-listed course	3
WOST-prefixed or cross-listed course in science or social science	3
WOST-prefixed or cross-listed course in visual arts or humanities	3
WOST-prefixed or cross-listed course	3
Total	21



Part 5 contains course descriptions in an alphabetical order parallel to the one used in the *Schedule of Classes*. Because of certain groupings of courses by sponsoring departments, you will find some cross references, such as *Afro-American Studies (AFRO)*, see *History*.

Standard information for each course includes the number, title, and credits (sometimes called credit hours or semester hours). For some courses, you will find information on the hours of class, laboratory, or studio for which the course is scheduled in each week of a regular semester; these weekly hours are expanded during summer sessions. Fees for courses are assessed on the basis of credits and other factors.

The course-numbering system generally suggests levels of difficulty and appropriateness. Courses at the 100 and 200 levels comprise introductory offerings and those are most commonly taken by freshmen and sophomores. Courses at the 300 and 400 levels are primarily for juniors and seniors. In some Purdue programs, undergraduates take courses at the 500 level, but generally courses numbered 500 and above are for graduate students.

Preparation for courses is indicated as follows:

P: indicates a prerequisite that must precede your enrollment in the course described. You may find one or more specific course numbers, the number of credits you should already have in a subject, a placement-test level, or other conditions.

C: indicates a corequisite that must be taken no later than the same semester in which you take the course described.

R: indicates a recommendation concerning conditions to be met for enrollment in the course.

When no subject code is shown for prerequisites, corequisites, and recommended courses, they are in the same subject area as the course being described. If you lack a prerequisite or corequisite, or if you wish to take a course numbered at a higher level than your present status, you should seek the department's or instructor's consent to enroll in the course.

V.T. means Variable Title and is shown for courses for which the title may be changed to specify the topic or other special focus of each offering.

Session indicators (fall, spring, summer) suggest the times at which courses are generally offered. Scheduling patterns may, however, vary.

IPFW reserves the right to add, withdraw, or change courses without notice.

Afro-American Studies,
see History

Agriculture and Forestry (ANSC, ENTM, FNR, HORT, VM)

Animal Sciences

ANSC 101 Animal Agriculture Cr. 3. Importance of livestock in the field of agriculture, and the place of meats and other animal products in the human diet.

ANSC 221 Principles of Animal Nutrition Cr. 3. P: CHM 112 or equivalent. Classification and function of nutrients, deficiency symptoms, digestive processes, characterization of feedstuffs, and formulation of diets for domestic animals.

Entomology

ENTM 306 General Applied Entomology

Cr. 2. A general course on insect structure, function, biology, ecology, and population management. Designed with the ENTM 307 laboratory series for all agricultural students who want a basic course in entomology.

ENTM 307 General Applied Entomology Laboratory Lab. 2, Cr. 1.

This laboratory series complements ENTM 306 by providing either exercises parallel to class topics or special focus laboratories on insects of economic importance in several major production areas of agriculture. It is recommended that students who enroll in 306 and 307 concurrently consider subsequent enrollment in any other appropriate laboratories of this series.

Forestry and Natural Resources

FNR 103 Introduction to Environmental Conservation Class 3, Cr. 3.

Introduction to ecological principles, history of conservation, natural resource management, human impacts on the environment, and environmental ethics. For all students interested in an introductory natural resource/environmental science elective.

Horticulture

HORT 101 Fundamentals of Horticulture

Class 2, Lab. 2, Cr. 3. Biology and technology involved in the production, storage, processing, and marketing of horticultural plants and products. Laboratories include experiments demonstrating both the theoretical and practical aspects of horticultural plant growth and development.

Veterinary

VM 102 Careers in Veterinary Cr. 1.

Pass/not pass basis. Overview of the field of veterinary medicine presently and as anticipated for the future. Presentations will include descriptions and discussions of the nature of the professional activity, organization of veterinary medicine, career opportunities, issues confronting the profession, and the admission requirements of the profession.

Allied Health (AHLT), see Health Information Technology, Medical Technology, and Radiography

American Studies (AMST)

AMST A301 The Question of American Identity Cr. 3. Is American culture unified, or does it consist of a potpourri of more or less distinct cultures? Beginning with the 1600s, but emphasizing the 19th and 20th centuries, this course explores classic texts in American culture, seeking to locate the terms of American unity in the midst of obvious diversity.

AMST A440 Senior Seminar in American Studies Cr. 3.

Animal Science (ANSC), See Agriculture and Forestry

Anthropology (ANTH)

ANTH A200 Topics in Anthropology Cr. 3 (V.T.) Course is geared to the nonmajor and emphasizes the development of skills in the use of anthropological approaches to the study of human behavior and belief.

ANTH E310 Introduction to the Cultures of Africa Cr. 3 (V.T.) The vitality and diversity of African cultures today testifies to the tenacity and creativity of human societies who have faced severe ecological, political, and social pressures throughout their histories. During the semester, we will explore African cultures in depth through reading ethnographies that explore a broad spectrum of social situations across the continent.

ANTH E400 Undergraduate Seminar Cr. 3 (V.T.) Intensive examination of selected topics in anthropology. Emphasis upon analytic investigation and critical discussion. Topics will vary. ANTH E400 may be taken twice with different topics.

ANTH A460 Topics in Anthropology Cr. 1–3. (V.T.)

ANTH A495 Individual Readings in Anthropology Cr. 1–4. (V.T.) P: consent of instructor. Eligible for graduate credit. Maximum of 4 credits. (fall, spring)

ANTH A496 Field Study in Anthropology Cr. 3–8. P: consent of instructor and

department chair. Planning of research project during year preceding summer in field. Time spent in research must amount to at least one week for each credit hour granted. Research paper must be presented by end of semester following field study. Maximum of 8 credits.

ANTH B200 Bioanthropology Cr. 3. An introduction to the biological nature of mankind. The evolution of human beings. An examination of speciation, race, and racial groups. The future evolution of humans. (fall, spring)

ANTH E102 Anthropology of America Cr. 3. Anthropological analysis of American society: marriage, descent, kinship organization, religion, social stratification, and economic basis of social structure.

ANTH E105 Culture and Society Cr. 3. An introduction to the variations and diversities of living human groups. Social structure, religion, ecology, marriage, and personality variations of peoples of the world. Emphasis on preliterate cultures. (fall, spring, summer)

ANTH E200 Social and Cultural Anthropology Cr. 3. Intermediate survey of theories and problems in social and cultural anthropology. Historical development, methods of inquiry, focal problems, and contemporary theoretical perspectives.

ANTH E301 Plain People of Indiana Cr. 3. Introduction to two representative groups of Plain People: Old Order (house) Amish and Old German Baptist Brethren. Topics include their beliefs and practices, societal structure, sense of community (in language, dress, architecture, transportation, schooling, demography), and the special problems that beset them as traditional societies in a technocratic age.

ANTH E320 Indians of North America Cr. 3. P: E105. An examination of the political, economic, ecological, religious, kinship, and warfare patterns of representative Native American groups before and at the time of European contact. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E321 Peoples of Mexico Cr. 3. P: E105. Surveys modern Indian groups, peasant societies, and problems of acculturation and urbanization in

contemporary Mexico. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E330 Indians of South America Cr. 3. P: E105. The cultural development and contemporary life of aboriginal societies in the tropical and marginal areas of the continent. Ethnic relationship and characteristics of major cultural groups are examined through detailed study of representative tribal units. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E335 Ancient Civilizations of Mesoamerica Cr. 3. P: E105. The cultural development of the great pre-Columbian civilizations in Mexico and Guatemala, especially the Aztec, Toltec, Olmec, and Maya. Emphasis on the social life, cultural achievements, religion, world view, and political systems to illustrate the diversity and richness of Amerindian life before the Spanish conquest. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E341 Culture of China Cr. 3. P: junior class standing and consent of instructor. Survey of Chinese culture and society. Geography, history, linguistic and ethnic groups, social and political organizations, education, religion, etc. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E350 European Ethnography Cr. 3. P: E105 or consent of instructor. European peoples and cultures. Emphasis on comparison of cultural assumption and social organization of selected European cultures; techniques for anthropological research in European societies.

ANTH E400 Undergraduate Seminar Cr. 3. (V.T.) P: E105. Intensive examination of selected topics in anthropology. Emphasis upon analytic investigation and critical discussion.

ANTH E401 Ecology and Culture Cr. 3. P: E105. How human beings, nature, and culture interrelate. Examination of the varied approaches used in hunting, agricultural, and industrial societies for adapting to the physical environment. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E402 Gender in Cross-Cultural Perspective Cr. 3. This course considers the meaning and social implications of gender in human society. Cultural definitions of "male" and "female" gender categories as well as associated behavioral and structural differentiation of gender roles will be analyzed using current anthropological concepts and theories.

ANTH E420 Economic Anthropology Cr. 3. P: E105. Comparative study of technologies and economic systems of selected non-Western peoples. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E445 Medical Anthropology Cr. 3. An examination of the cross-cultural properties of disease and curing. Focus on investigations into the ideology and meaning of illness, the relationship between patient and healer, and how responsibility for illness is assigned. Medical anthropology is concerned with knowledge about sociocultural contexts of disease and healing and with how such knowledge might inform the management of our own health problems. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit. (spring)

ANTH E455 Anthropology of Religion Cr. 3. Critical evaluation of current approaches to the analysis of religious myth, ritual, and symbolism. Problems in understanding religious beliefs of other cultures. Modern development of the anthropology of religion. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

ANTH E462 Anthropological Folklore Cr. 3. P: E105. Function, forms, and interpretations of folklore in traditional societies. Folklore as an expression of continuity and change. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH E470 Psychological Anthropology Cr. 3. P: E105. The similarity and diversity of human personalities. How culture forms personalities and is formed by them. Focus on individual variation within a cultural framework. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

ANTH E479 Indian Cultures of Peru Cr. 3. P: consent of instructor. Detailed examination of past and present of one of the largest Indian populations in Latin America. Emphasis on the role of Indians in contemporary society.

ANTH H445 History and Theory of Anthropology Cr. 3. P: E105 and B200. An examination of the historical development of the field of anthropology concentrating upon the intellectual roots and context that surrounded its emergence as well as contemporary problems, perspectives, methods, and theories.

ANTH L200 Language and Culture Cr. 3. An introduction to the study of language and its relations to the rest of culture.

ANTH L400 Seminar in the Ethnography of Communication Cr. 3. (V.T.) Current issues in linguistic anthropology, designed to acquaint the student with readings and points of view not covered in the introductory courses. Topics such as (1) languages of the world, (2) variation in language, (3) problems in linguistic structure, and (4) culture and communication. May be repeated once for credit with a different topic.

ANTH P200 Introduction to Prehistoric Archaeology Cr. 3. World archaeology in the framework of major prehistoric cultural innovations. History, techniques, methods, and significance of archaeological research. (fall, spring)

ANTH P220 Rise and Fall of Ancient Civilizations Cr. 3. P: P200. Focus on how societies develop from band and tribal level to state-level social organization. Special emphasis on the continuing evolution of the state.

ANTH P300 Topics in Prehistory Cr. 3. World archaeology in the framework of major cultural stages. The methods, analysis, and significance of archaeological research.

ANTH P310 Old World Archaeology Cr. 2-3. Prehistoric cultures of Europe, Asia, and Africa from Old Stone Age through Iron Age. Maximum of 3 credits.

ANTH P360 Archaeology of North America Cr. 3. Introduction to antiquity of the American Indian, principal culture areas, and field methods and techniques incident to recovery of archaeological data and materials. *Approved by Arts and*

Sciences for the Cultural Studies (Non-Western Culture) requirement.

ANTH P361 Prehistory of Eastern North America Cr. 3. P: P200 or P360 and consent of instructor. Survey of prehistoric cultural developments in eastern North America from man's first occupation of this area until European contact, set primarily within the framework of changing ecological adaptations. Eligible for graduate credit.

ANTH P370 Ancient Cultures of South America Cr. 3. P: P200 or consent of instructor. Evidence for successive migrations into the continent, the subsequent development of local cultures, and civilization in the central Andes. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ANTH P376 Archaeology of Death Cr. 3. P: P200. Examination of mortuary behavior using archaeological and biological data. Methods of studying variation in mortuary practices. Identification of skeletal remains in laboratory setting.

ANTH P382 Archaeological Research Design Cr. 3. Construction and implementation of archaeological research design using a graphics-oriented computer simulation model. Computer displays sites, features, and artifacts located by student using various methods of survey and excavation. Hypothesis testing, sampling strategies, and budget constraints are emphasized.

ANTH P399 Undergraduate Seminar Cr. 3. (V.T.) P: P200 or consent of instructor. Intensive examination of selected topics in archaeology. Development of skills in analysis and criticism. Topic varies. May be repeated once for credit.

ANTH P400 Archaeological Methods and Techniques Cr. 2–4. P: consent of instructor. Methods and mechanics of archaeology in field and laboratory. Use of survey instruments, drawing tools, and photographic equipment, treatment of recovered materials leading to printed report. Eligible for graduate credit. Maximum of 4 credits.

ANTH P405 Fieldwork in Archaeology Cr. 1–8. Archaeological work directed toward field techniques: excavation and

preservation of materials, surveying, photography, cataloguing. One credit hour per full week of fieldwork. Eligible for graduate credit. Maximum of 8 credits.

Architectural Engineering Technology (ARET)

ARET 123 Construction Graphic Communication Class 2, Lab. 4–6, Cr. 4. An introduction to graphic communication in the architectural, engineering, and construction (AEC) industry. Manual drafting, technical sketching, and CAD software are utilized in the production of working drawings. Project emphasis is distributed among architectural, civil engineering, and interior design topics.

ARET 124 Architectural Engineering Construction I Class 1, Lab. 4–6, Cr. 3. P: 123 and 167. A study of residential building and the graphic and written documents required for its construction. CAD familiarity is required and a model may be required.

ARET 167 Construction Systems and Materials Cr. 3. Properties of construction materials and components and an introduction of their use in various construction systems.

ARET 222 Architectural Engineering Construction II Class 1, Lab. 4–6, Cr. 3. P: 124. Preparation of graphic and written documents to construct an intermediate-sized commercial or institutional building. A model may be required. Computer applications.

ARET 281 Environmental Equipment for Buildings I Cr. 3. P: 124, MA 151. A survey of basic environmental control parameters of heating, ventilating, air conditioning, plumbing, lighting, electricity, and their equipment (size and shapes) and the physiological effects on mankind. Emphasis placed on definitions, types of systems, and physical characteristics of equipment.

ARET 282 Environmental Equipment for Buildings II Class 2, Lab. 2, Cr. 3. P: 281. Continuation of ARET 281 with emphasis on calculation and basic design for heating, ventilating and air conditioning, plumbing, lighting, electrical, and other equipment with laboratory practice applying concepts

and calculations to a term project. Term project is the development of mechanical, plumbing, lighting, and power plans for a light commercial building or residence. Computer application.

ARET 291 Architectural Technology Cooperative I Cr. 1. P: admission to the Cooperative Education program. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

ARET 292 Architectural Technology Cooperative II Cr. 1. P: 291. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work is required.

ARET 321 Architectural Presentation Techniques I Class 1, Lab. 6, Cr. 3. P: 123 and 124. Professional office-oriented project presentation techniques. Can include model building, sketching, perspective, and rendering with a variety of media.

ARET 324 Architectural Engineering Construction III Class 1, Lab. 6, Cr. 3. P: 222; must be in CNTB program/CNET major. Continuation of ARET 222 with emphasis on space planning and more complex structures. A model may be required. Computer application.

ARET 354 Principles of Land Use Cr. 3. P: Must be in CNTB program/CNET major. Comprehensive study of how land is used by human communities in the context of planners, architects, engineers, and constructors. Case studies will be examined in conjunction with problems and procedures in land use planning.

ARET 355 Techniques of Land Utilization Class 2, Lab. 3, Cr. 3. P: Must be in CNTB program/CNET major. Lectures and projects in land analysis and planning techniques for use in assessment of land development. Subjects will cover building location, grading, drainage, roads, parking requirements, and utilities. Computer application.

ARET 384 Environmental Equipment for Buildings III Cr. 3. P: 282; must be in CNTB program/CNET major. Course covers the advanced study of plumbing, HVAC, lighting, electrical, and sprinkler and alarm

systems for buildings. This course builds on material and calculations presented in ARET 281 and ARET 282. Students are required to present a research paper, written and orally.

ARET 391 Architectural Technology Cooperative III Cr. 1. P: 292. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

ARET 392 Architectural Technology Cooperative IV Cr. 1. P: 391. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

ARET 491 Architectural Technology Cooperative V Cr. 1 P: 392. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

ARET 499 Architectural Engineering Technology Class 1–4, Lab. 0–6, Cr. 1–4. (V.T.) P: Must be in CNTB program/CNET major. As determined by CAET faculty. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

Astronomy (AST)

AST A100 The Solar System Cr. 3. Celestial sphere, measurement of time, earth as a planet, moon, eclipses, planets and their satellites, comets, meteors, theories on origin of solar system. (fall, spring, summer)

AST L100 Solar System Laboratory Lab. 2, Cr. 1. C: A100. Laboratory studies to accompany A100. Study of planetary motions, orbits, shape of planets. Study of moon and Earth's gravity. Some of the laboratories may be held off campus. For Arts and Sciences students, A100–L100 may count as one course. (fall, summer)

Audiology and Speech Sciences (AUS)

AUS 115 Introduction to Communicative Disorders Cr. 3. Nature, symptoms, and

causes of communicative disorders and the principal methods used for remediation.

AUS 181 First Course in American Sign Language Cr. 3. Basic manual communication skill including the American manual alphabet, approximately 550 basic signs, and the history and place of manual communication in society. Designed to give the students minimum vocabulary and skills in communicating with individuals who are dependent on this form of communication.

AUS 182 Second Course in American Sign Language Cr. 3. P: 181 or equivalent. Development of conversational skills, vocabulary, and basic grammar of sign language.

AUS 302 Acoustic Bases of Speech and Hearing Class 2, Lab. 2, Cr. 3. The physical characteristics of speech sounds and the psychophysical processes involved in hearing.

AUS 304 Anatomy and Physiology of the Speech and Hearing Mechanism Class 3, Lab. 2, Cr. 4. P: BIOL 203 or consent of instructor. An introduction to the anatomical and physiological bases of normal and abnormal voice, articulation, and hearing. Lab includes demonstrations and exercises to support lecture materials.

AUS 306 Introduction to Phonetics Class 3, Cr. 3. An introduction to articulatory phonetics, speech sounds in languages of the world, and principles and symbols of the International Phonetic Alphabet. Extensive practice in phonetic transcription.

AUS 309 Language Development Cr. 3. Specific nature, sequence, and pattern of oral language development from birth through adolescence. Nature of language acquisition and approaches to the study of children's language are presented. Linguistic and psychological explanations of the sequence of development are discussed.

AUS 399 Directed Study in Audiology and Speech Sciences Cr. 1–3. Special projects such as directed readings, independent and/or cooperative research on professionally relevant topics under the guidance of an AUS faculty member.

AUS 405 Augmentative and Computer Applications in Speech and Language Cr. 3 P: one disorders course (AUS 420,

430, 521). An introductory overview with emphasis on potential application in assessment, treatment, research, and administrative functions related to communication disorders.

AUS 420 Introduction to Developmental Speech and Language Disorders Cr. 3. P: 115, 306, 309. Introduction to disorders of speech and language in children. Characteristics of these disorders, methods of evaluation, and intervention procedures are discussed.

AUS 430 Speech-Language Disorders in Healthcare Settings Cr. 3 P: 5 semester credits in speech pathology or consent of instructor. Presents speech-language disorders across the lifespan encountered in a variety of healthcare settings. Discusses the etiology, evaluation, and management of these disorders. Addresses administrative structures, team approaches, and reimbursement issues in healthcare settings.

AUS 449 Introduction to Clinical Practice in Speech-Language Pathology Class 2–4, Cr. 2–3. P: 115, 304, 306, 309; one of the following with a minimum grade of B: AUS 420, 430; and consent of instructor. The first in a series of practicum courses designed to provide instruction and practical experience in basic diagnostic procedures and therapeutic approaches to speech and language disorders.

AUS 460 Introduction to Assessment Audiology Class 3, Lab. 2, Cr. 4. P: 302 and 304 or equivalent. Authorized equivalent courses or consent of instructor may be used in satisfying course prerequisites. History of audiology, normal and abnormal processes of hearing, basic methods of audiological assessment, and introduction to the development and management of hearing-conservation programs. Laboratory provides practical instruction in the procedures discussed in class.

AUS 516 Foundations of Assessment in Communication Disorders Cr. 3. P: 115, 302, 304, 306, and 309. An introduction to general principles of evaluation and assessment of communication disorders and to specific assessment tests.

AUS 521 Phonetic and Phonological Disorders in Children Cr. 2. P: 306 and 309. A detailed study of phonetic and phonological aspects of speech sound disorders in children. Recent research

findings dealing with normal and disordered development are reviewed. Advanced procedures for diagnosis and intervention are discussed.

AUS 549 Clinical Practice in Speech/Language Pathology I Class 1, Lab. 1–8, Cr. 1–8. P: 420, 449 or equivalents, with a grade of B or better in each course. R: 430 or equivalent. May be repeated for credit. The second in a series of practicum courses designed to provide instruction and practical experience in fundamental diagnostic and therapeutic approaches to speech and language disorders.

AUS 550 Rehabilitative Audiology for Adults Class 3, Lab. 2, Cr. 4. P: 450, 460 or consent of instructor. Theoretical and clinical implications associated with the rehabilitation of hearing loss in adults and geriatric adults. Discussion centers on a family-centered team approach, built upon the effective use of amplification and other assistive devices.

AUS 551 Rehabilitative Audiology for Children Class 3, Cr. 3. P: 450, 460 or equivalent. An overview of the effects of hearing impairment on language, speech, academic, and psychosocial development. Topics also include communication modalities, and principles and current practices for assessment and intervention.

AUS 590 Directed Study of Special Problems Cr. 1–6. (V.T.) P: consent of instructor. May be repeated for credit.

Biology, Pharmacology, and Toxicology (BIOL, PCTX)

BIOL 091 Professional Practice I Cr. 0.

BIOL 092 Professional Practice II Cr. 0.

BIOL 093 Professional Practice III Cr. 0.

BIOL 094 Professional Practice IV Cr. 0.

BIOL 095 Professional Practice V Cr. 0.

BIOL 100 Introduction to the Biological World Cr. 3. Principles of biological organization from molecules through ecosystems. Emphasis on processes common to all organisms and on concepts related to problems of current importance. No credit towards a degree in IU Allied Health. Credit given for only one of the

following: BIOL 100, BIOL 250, or BIOL N200. (fall, spring, summer)

BIOL 100L Introduction to the Biological World Laboratory Lab 2, Cr. 1. P or C: BIOL 100. Laboratory exercises and experiments that illustrate selected principles of biology.

BIOL 105 Medical Terminology Cr. 1. Emphasis on learning the meanings of the more common word elements associated with medicine and applying that knowledge to define medical terms. (fall, spring)

BIOL 108 Biology of Plants Class 3, Lab. 2, Cr. 4. P: placement at or above ENG W131 and MA 153 (or equivalents) and exemption from or completion of ENG R150. Introduction to growth, functioning, structure, heredity, and diversity of plants and their interactions with the environment. Designed for agriculture and prepharmacy majors. (fall)

BIOL 109 Biology of Animals Class 3, Lab. 2, Cr. 4. P: placement at or above ENG W131 and MA 153 (or equivalents) and exemption from or completion of ENG R150. Introduction to the structure, functioning, heredity, development, classification and evolution of animals, and their interactions with the environment. Designed for agriculture and prepharmacy majors and certain options in Allied Health. (spring)

BIOL 117 Principles of Ecology and Evolution Class 3, Lab. 3, Cr. 4. P: placement at or above ENG W131 and MA 153 (or equivalents) and exemption from or completion of ENG R150. Principles of organismic and evolutionary biology; a phylogenetic synopsis of the major groups of organisms from viruses to vertebrates; an introduction to genetic, evolutionary, and ecological processes; population biology; community ecology; and behavior. This course is open only to science majors. Instructor's permission required for non-biology majors. (fall)

BIOL 119 Principles of Structure and Function Class 3, Lab. 3, Cr. 4. P: placement at or above ENG W131 and MA 153 (or equivalents) and exemption from or completion of ENG R150. Introduction to the structure and function of biological organisms at the cellular and organismal levels. Principles of cell structure, function, and information; energy flow within cells; structure of function of plants and animals; integration of

physiological processes; development of plants and animals. This course is open only to science majors. Instructor's permission required for non-biology majors. (spring)

BIOL 200 Pathology Cr. 3. P: 203–204. A survey of the changes that occur in the diseased state to include general concepts of disease, causes of disease, and their clinical presentation. The course will emphasize the study of disease processes in the whole organism and include specific systemic pathology. (fall, spring)

BIOL 203 Human Anatomy and Physiology Class 2, Lab. 2, Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. One year high school biology and/or one year high school chemistry or equivalent. A survey of normal structure and function of the human organism. The human is treated as an open system with the capacity to transport material, transform energy, and maintain a homeostatic state. The capacities and limitations of the human to cope with changes in the environment are emphasized. All major systems of the human body and their functions are examined in relation to the living organism. Integrated into the study of the human organism are laboratory exercises that emphasize the essentials of human anatomy and physiology. (fall, spring, summer)

BIOL 204 Human Anatomy and Physiology Class 2, Lab. 2, Cr. 3. P: 203. Continuation of BIOL 203. (fall, spring, summer)

BIOL 209 Microbiology for Dental Hygiene Students Class 3, Lab. 2, Cr. 4. P: one semester of biology and one semester of chemistry. An introductory foundation in general and medical microbiology with emphasis on dental microbiology. Host-parasite relationships between humans and microbes (bacteria, viruses, protozoa, and fungi) are explored with emphasis on epidemiologic principles of disease transmission, treatment, and prevention. In the laboratory, sterile techniques and methods for isolating microbes are learned, the structure and function of microbes isolated from the human body (e.g., oral cavity) are studied, and disinfection and sterilization principles are explored. (spring)

BIOL 215 Basic Human Anatomy Class 2, Lab. 4, Cr. 4. P: placement at or above ENG W131 and MA 153 (or equivalent) and exemption from or completion of ENG R150. Introduction to anatomy using cadavers and anatomical models for investigations. Emphasis is given to the interrelationships of bones, muscles, nerves, and blood vessels from a regional approach. Specifically designed for students for whom BIOL 203–204 is not accepted. (fall)

BIOL 216 Basic Mammalian Physiology Class 3, Lab. 3, Cr. 4. P: one semester of chemistry. R: 215. Introduction to physiology emphasizing homeostasis and interrelationships of body functions, cells to systems. Includes selected functional anatomy. Specifically designed for students in IU Allied Health programs, nursing, and physical education for whom BIOL 203–204 is not accepted. (spring)

BIOL 217 Intermediate Ecology Class 2, Lab. 3, Cr. 3. P: 117 and 119 or equivalent. Ecological principles of populations, communities, and ecosystems; interaction of biotic and abiotic factors regulating population and community structure; case studies, field studies, and simulation models of life history attributes, competition, predation, parasitism, and mutualism. This course is open only to science majors. Instructor's permission required for non–biology majors. (fall)

BIOL 218 Genetics and Molecular Biology Class 3, Lab. 3, Cr. 4. P: 117, 119, and CHM 116 or permission of instructor. The course will cover the principles of classical and molecular genetics. Mendelian inheritance, linkage, gene interaction and chromosomal aberrations, nucleic acids structure, gene function (replication, transcription, and translation), mutation and repair, regulation of gene expression, genetic engineering. The laboratory experiments include linkage mapping in *Drosophila*, allozyme variation in fish, DNA extraction, electrophoresis, restriction enzyme analysis, gene isolation by polymerase chain reaction (PCR). This course is open only to science majors. Instructor's permission required for non–biology majors. (spring)

BIOL 219 Principles of Functional Biology Class 2, Lab. 3, Cr. 3. P: 117, 119, and CHM 116 or permission of instructor. This course will cover selected topics in

both plant and animal physiology: photosynthesis, respiration, nutrition, solute and water transport, plant and animal hormones, neural control in animals, osmoregulation, and reproduction. Some laboratory time will be devoted to small-group discussions. This course is open only to science majors. Instructor's permission is required for non–biology majors. (spring)

BIOL 220 Microbiology for Allied Health Professionals Class 3, Lab. 2, Cr. 4. P: 203, CHM 104 or 111. The biology of microorganisms (bacteria, viruses, fungi, protozoa, and algae) and their interactions with humans. Emphasis on microbes with medical and/or public health significance. Specific areas of study include characteristics, metabolism, and genetics of bacteria; host-parasite interactions; factors affecting human health and disease states; principles of disinfection and sterilization; epidemiology of infectious disease with emphasis on transmission, prevention, and treatment; and nosocomial infection risks and prevention. This course is designed for nursing and Allied Health students. (fall, spring, summer)

BIOL 250 Women and Biology Cr. 3. P: sophomore standing. For nonmajors. An examination of modern concepts in biology. The scientific method will be examined and feminist criticisms of science will be discussed. The topics of reproduction and development, heredity, and ecology will be used as focal points for an in-depth discussion of the conceptual framework of biology and feminist criticism thereof. Cannot be used for Group A or B elective for biology majors. Credit given for only one of the following: BIOL 100, BIOL 250, or BIOL N200.

BIOL 295 Special Assignments Class 0–3, Lab. 0–6, Cr. 1–3 (V.T.) Special work such as directed reading, library research, and laboratory or field research. The field in which studies are performed will be indicated on the student's record. The substance of the project must be agreed upon by the student and a faculty member and approved by the chair. (fall, spring, summer)

BIOL 304 Major Ideas in Biology Cr. 3 P: an introductory course in biology. Major ideas in biology such as immunization, spontaneous generation, inheritance, evolution, genetic engineering, and ecology will be examined. Students will analyze the

methodology and results that lead to understanding these ideas. Small-group discussion, oral presentations, and written papers will be used to study the impact of these ideas on other areas such as economics, politics, or religion. Cannot be used as a group A or B elective for biology majors.

BIOL 315 Developmental Anatomy Class 2, Lab. 4, Cr. 4. P: 119 or 109. Comparative study of the vertebrate embryology and adult anatomy of selected vertebrates, including humans. (spring)

BIOL 326 Heredity: A Human Perspective Cr. 3. P: 100, junior standing, and completion of General Education Area I or instructor's permission. Advances in genetics will be examined using diverse topics such as cloning and alteration of human genes and/or embryos, genetic screening, and genetic manipulation of other organisms. Students will gain understanding of basic methods utilized by geneticists and learn to critically analyze published data. Reading the discussions related to ethical, social, political, and economic issues will help assess the impact of current developments in genetics. Research on a selected topic leading to an oral presentation and a term paper will provide opportunities for synthesis. Some hands-on laboratory experience will also be an integral part of this course. Cannot be used as a group A or B elective for biology majors.

BIOL 327 Biology of Aging Cr. 3. This course presents a basic understanding of how the human body ages from the biological standpoint. The student will gain an understanding of biological and physiological changes associated with aging in various organ systems. Discussions of potential intervention strategies and ways to extend the quality of life during aging will be presented. The course is primarily geared toward the student interested in obtaining a certificate in gerontology; it cannot be used as a biology elective for biology majors.

BIOL 334 Clinical Pathophysiology Cr. 4. P: 203–204 or equivalent. A functional study of pathophysiology of major physiological systems of a human with special emphasis on clinical applications for baccalaureate nursing and allied health professionals. Major topics to be covered include fluid and electrolyte balance,

medical genetics, and the pathophysiology of the cardiovascular, respiratory, digestive, hepatic, endocrine, immune, renal, and neural systems.

BIOL 335 Animal Behavior Cr. 3. P: 117, 119, or equivalent. Instinct vs. learning; genetics and development of learning; neurobiology; behavioral ecology: habitat selection, mating systems, foraging behavior; sociobiology and human behavior.

BIOL 336 Animal Behavior Lab Lab. 3, Cr. 1. C: 335 or permission of instructor. Discussion of methods for collecting and assessing behavioral data; experiments examining learning, thermoregulation, foraging, and habitat use. Experiments will be conducted as group projects.

BIOL 345 Vertebrate Biology Class 3, Lab. 3, Cr. 4. P: 117, 119. Vertebrate diversity and the manner in which species are designed for their particular lifestyles, the relatedness and origins of the major vertebrate taxa, the basic vertebrate body plan, adaptations for feeding and locomotion, natural history of selected vertebrates, current conservation issues regarding vertebrates. Field experiences will include two weekend day trips.

BIOL 349 Environmental Science Cr. 3. P: junior or senior class standing. Examines current major environmental issues through an investigation of the scientific and political aspects of human population growth, degradation of natural resources, and environmental regulations. Cannot be used as a Group A or B elective for biology majors. (spring)

BIOL 350 Plant Physiology Class 3, Lab. 3, Cr. 4. P: 108 and one semester of general chemistry. Basic physiological processes and their relationship to plant structure and function. Laboratory experiments provide personal experience with a broad range of psychological phenomena.

BIOL 381 Cell Biology Cr. 3. P: 119. R: one semester of organic chemistry or permission of instructor. Details of cell structure and function, biochemical aspects of energy and information flow in eukaryotic and prokaryotic cells, cellular differentiation and function of specialized eukaryotic cells. Course open only to science majors. (fall)

BIOL 382 Laboratory in Cell Biology Lab. 3, Cr. 1. C: 381. Experimental methods in cell biology with emphasis on biochemical methods for exploring cell structure and function. Cell division and differentiation will also be addressed. (fall)

BIOL 434 Marine Community Ecology Class 2, Lab. 1, Cr. 3. P: one year of college biology; second semester may be taken concurrently. Lecture involves a survey emphasizing tropical marine communities including coral reefs, mangrove estuaries, turtle grass, and hard and soft substrate intertidal communities. Community processes such as predation, competition, mutualism, zonation, and behavior are discussed as well as physical-chemical factors such as tides, currents, waves, and salinity. Course includes a required field trip to a marine biological station over spring break for the lab portion. Student required to pay for expenses associated with field trip. Prerequisite for field trip: swimming/snorkeling ability; use of scuba gear is optional. (spring)

BIOL 437 General Microbiology Class 3, Lab 3, Cr. 4. P: 117 and 119 or equivalents; P or C: CHM 255. An examination of microbial diversity that emphasizes the interrelationship between bacteria and their environments. Special emphasis is given to metabolic diversity, control of microbial growth and interactions of pathogenic microorganisms with their hosts. The laboratory is designed to complement the lecture and emphasizes pure culture techniques, isolation and identification of unknown organisms, measurement and control of microbial growth and studies of human commensal organisms.

BIOL 445 Aquatic Biology Class 2, Lab. 3, Cr. 3. P: 117 and one year of general chemistry. Introduction to the roles of physical and chemical factors, predation, and competition in determining the abundance of freshwater organisms and regulating the productivity of lake ecosystems. Laboratories emphasize field work and group or individual projects at the Crooked Lake Biological Station. (fall)

BIOL 455 Animal Physiology Cr. 3. P: 219 and CHM 255. Analysis of selected vertebrate and invertebrate physiological systems as an introduction to animal physiology. Neural and hormonal mechanisms of cellular communication

and the roles played by these mechanisms in the action of specialized tissues; systemic and comparative physiology of respiration, circulation, muscle contraction, osmo-regulation, and sensory transduction. Emphasis on relationships between system function and underlying cellular mechanisms. Students also must enroll in BIOL 456. (spring)

BIOL 456 Laboratory in Animal Physiology Lab. 3, Cr. 1. C: 455. P: CS 106. Laboratory exercises stress the mechanisms of physiological processes and the analysis of these processes in quantitative terms. (spring)

BIOL 491 Senior Biology Seminar Cr. 1. Students critique and discuss seminar presentations. Each student must select a topic and give an oral presentation on it. Open only to senior biology majors. (fall, spring)

Dual Level, Undergraduate-Graduate

BIOL 502 Conservation Biology Cr. 3. P: 217 and 218. An investigation of the foundations of conservation biology and emergent topics within the field: conservation ethics, the Endangered Species Act, island biogeography, effective population size, minimum viable populations, edge effects, managing for threatened species, and refuge design.

BIOL 505 Biology of Invertebrate Animals Class 2, Lab. 3, Cr. 3. P: 109 or 117 and 119. A survey of the invertebrate animals, their morphology, physiology, ecology, and phylogeny.

BIOL 506 Human Molecular Genetics Cr. 3. P: 218; one semester of organic chemistry or biochemistry or signature of instructor. A molecular characterization of the human genome, cloning human disease genes, the molecular basis of human genetic disorders that are due to biochemical defects and chromosomal abnormalities, molecular approaches in diagnosis of human disorders, mapping of human genes, and gene therapy. (spring)

BIOL 509 Molecular Biology and Applications Cr. 3. P: 218, and CHM 254 or CHM 533, or consent of instructor. Up-to-date recombinant DNA methods will be covered; how molecular biology methods have enhanced our understanding of basic

biological functions and structures; the applicability of molecular biology in pharmaceuticals, vaccine production, agriculture, bioremediation, and synthesis of commercial products. (fall)

BIOL 515 Molecular Genetics Cr. 3.

P: 218, 381, and one semester of organic chemistry. A molecular approach to the problems of structure, duplication, mutation, and phenotypic expression of genetic material.

BIOL 516 Molecular Biology of Cancer Cr. 3.

P: 218, 381 or graduate student standing. A detailed course examining the molecular mechanisms controlling the growth of animal cells. Emphasis will be placed on current experimental approaches to defining the molecular basis of growth regulation in developing systems and the uncontrolled proliferation of cells in metabolic disorders, such as cancer.

BIOL 533 Medical Microbiology Cr. 3.

P: 437. Host-parasite relationships, immunology, bacteria, and viruses associated with infectious diseases.

BIOL 537 Immunobiology Cr. 3.

P: 437. Readings and discussion in the structural, cellular, and genetic basis of the immune response.

BIOL 540 Biotechnology Cr. 3. P: 217 and 381 or consent of instructor. Examines research, techniques, and applications for several technologies situated at currently recognized biological frontiers, including recombinant DNA technology, hybridoma technology, protein engineering, agricultural research, and microbiological engineering.

BIOL 543 Population Ecology Class 3,

Lab. 2, Cr. 4. P: 217, 218, and 219. A statistics course is recommended. Interactions that determine the dynamics, abundance, and persistence of natural populations. Topics include competition, predation and disease, metapopulations, computer simulation and data analysis, discussions of classical and current literature. (spring)

BIOL 544 Principles of Virology Cr. 3.

P: 218. Introduction to the molecular biology of animal, plant, and bacterial viruses. Interaction of viruses and the host cell, viral replication, mechanisms of viral pathogenesis, immunology, chemotherapy, viral genetics, oncology, and vaccines.

BIOL 546 Principles of Virology

Laboratory Lab. 3, Cr. 1. P or C: 544. Basic experimental techniques applied for selected bacteriophages; cultivation and manipulation of animal viruses including animal cell cultures, cell fusion, cytopathic effects, kinetics of replication, viral genetics, immunology, interferon, cell transformation, macromolecules, and ultra structure.

BIOL 556 Physiology I Cr. 3.

General and comparative physiology. Principles of physiology. Nerve and muscle, temperature regulation, ion and water balance. The critical evaluation of original research papers.

BIOL 558 Laboratory in Physiology

Lab. 6, Cr. 2. P or C: 556. The laboratory exercises are designed to illustrate fundamental physiological principles and to introduce the student to important physiological techniques.

BIOL 559 Endocrinology Cr. 3.

The study of hormone function. Consideration will be given to the role of hormones in growth, development, metabolism, homeostasis, and reproduction.

BIOL 565 Immunobiology Laboratory

Lab 3, Cr. 1. P or C: 537. A survey course in laboratory experiments and demonstrations using classical immunological techniques and modern immunoassays with up-to-date technological equipment. The laboratory supplements the lecture portion of BIOL 537 but is not required. Typical assays include immuno-double diffusion Ouchterlony methodology, immuno-fluorescence identification of cell surface antigens, cytokine and mitogen stimulated proliferation of immune cells, ELISA assays, and PAGE with Western blotting.

BIOL 566 Developmental Biology Cr. 3.

P: 218. Principles of development with emphasis on concepts and experimental evidence for underlying mechanisms, including molecular, cellular, and supracellular approaches.

BIOL 567 Laboratory in Developmental

Biology Lab. 2, Cr. 1. P or C: 566 or consent of instructor. Descriptive and experimental study of the development of animals. Laboratories do not necessarily follow lecture material.

BIOL 569 Cellular Neurobiology Cr. 3.

P: 219 and CHM 116. A study of the nerve cells and their interactions. Includes discussions of the cellular basis of the integral function of the nervous system. The main topics are nervous excitation, synaptic transmission, nervous plasticity, development of neuronal interactions, transmitter receptors including opiate receptors, sensory transduction, and the cellular basis of brain function.

BIOL 579 Fate of Chemicals in the

Environment Class 3, Lab 2, Cr. 4. P: 217 and a course in organic chemistry. An investigation of the fate and transport of chemicals in the environment, including air, soil/sediment, and water. Special consideration will be given to the degradation of chemicals by microorganisms and to methods to maximize their activities (bioremediation).

BIOL 580 Evolution Cr. 3.

P: 217 or equivalent. A study of evolution as a basic concept of the biological sciences; an examination of current methods of experimentation within areas, as well as evidences for the possible mechanisms of evolutionary change.

BIOL 582 Ecotoxicology Cr. 3.

P: 217, 218, and 219. An investigation into the effects of environmental pollutants on ecosystem structure and function. The fate of pollutants in the environment is considered as it relates to the direct and indirect effects of chemicals on biota. Also considered are regulatory aspects of ecotoxicology. (spring)

BIOL 584 Molecular Biology and

Applications Laboratory Lab. 3, Cr. 1. P or C: 509. A lab consisting of mini-projects that emphasize the applications of several molecular biological techniques, such as Southern blotting, DNA-DNA hybridization, purification and cloning of genes into plasmid vectors, genetic engineering and PCR amplification. Applications emphasized include DNA fingerprinting in humans, evolution, and systematics by comparing 18S and 16S rDNA from different species, and genetic engineering of yeast with genes encoding beta carotene.

BIOL 586 Topics in Behavior and Ecology

Cr. 3. P: an ecology course or consent of instructor. May be repeated for credit with a different topic. In-depth examination of topics in ecology and behavior not treated

extensively in other courses, e.g., behavioral ecology of reproduction, foraging ecology and behavior, and the behavioral ecology of defense against predators.

BIOL 592 *The Evolution of Behavior* Cr. 3.

P: 580 or equivalent or consent of instructor. An investigation of behaviors as adaptations: specializations of sensory and motor mechanisms involved in behavior, animal communication systems, behavioral ecology, patterns of behavior as solutions to ecological problems such as predator avoidance and resource exploitation. Emphasis will be on theoretical principles; examples will be broadly comparative.

BIOL 595 *Special Assignments*

Class 2–8, Lab. 0–12, Cr. 1–4. (V.T.)

P: consent of instructor; open only to science majors. Independent study or research or presentation of material not available in the formal courses of the department. The field in which work is offered will be indicated on the student's record. Research projects must be agreed upon by the student and a faculty member and approved by the chair. May be repeated for credit.

BIOL 598 *Biology of Fish* Class 3, Lab. 3, Cr. 4.

P: 217, 218, and 219. A comprehensive study of fish biology that covers topics from physiology to ecology to fisheries management. Lectures include discussions of controversial issues and current research from primary literature. Additionally, the class will participate in several field collecting trips, sometimes in association with state fish biologists, and complete an independent student research project. (fall)

Pharmacology and Toxicology

PCTX 201 *Introductory Pharmacology*

Cr. 3. P: BIOL 203 or equivalent; CHM 104 or equivalent. C: BIOL 204 or equivalent; all course equivalencies are to be determined by the instructor. An introduction to the pharmacological basis of therapeutics. This course involves an integration of knowledge of anatomy, physiology, microbiology, and chemistry with the biological and selected chemical and physical actions and reactions of drugs. Primarily for students in nursing and other paramedical programs. (fall, spring, summer)

Business and Economics (BUFW, BUS, ECON)

Undergraduate courses are listed below in three sections: academic courses in business, academic courses in economics, and technical business courses.

Enrollment in business (BUS) courses numbered 301 and above is restricted to students who meet established criteria (see business degrees section of Part 3).

Students enrolled in programs other than business and economics may not enroll in business and economics courses that would encompass more than 25 percent of their degree programs.

Academic Courses in Business

BUS A201 *Principles of Financial*

Accounting Cr. 3. P: sophomore class standing or permission of the department. Introduction to concepts and issues of financial reporting for business entities; analysis and recording for business entities. Required for business majors and others who expect to take more than one semester of accounting.

BUS A202 *Principles of Managerial*

Accounting Cr. 3. P: A201. Introduction to concepts and issues of management accounting; budgeting, variance analysis, cost determination, and standard costs. Required for all business majors.

BUS A311 *Intermediate Accounting I*

Cr. 3. P or C: A317; admission to degree program. Theoretical framework and application of generally accepted accounting principles to the preparation of financial statements, with emphasis upon the assets and liabilities of an enterprise.

BUS A312 *Intermediate Accounting II*

Cr. 3. P: A311. A continuation of the work begun in A311. Theoretical framework and application of generally accepted accounting principles to the preparation of financial statements, with emphasis upon owners' equity and special topics such as earnings per share, pensions, leases, income tax allocation, and cash flow statement.

BUS A314 *Financial Statement Analysis*

Cr. 3. P: A311. Analysis of financial statements to provide basis from which

informed decisions concerning investments, financing opportunities, and appropriate financing instruments can be made.

BUS A317 *Computer-Based Accounting*

Systems Cr. 3. P: admission to degree program. This course presents a framework for students to help them think in innovative ways about providing accounting user support through the use of technology. The focus of the course is on understanding organizations (their activities, processes, and objectives) in order to understand how technology can be used as an enabler of organization activities and objectives. Topics covered include modeling business processes, revenue and expenditure cycles, information systems architecture, systems analysis and design, internal control systems, and EDP controls.

BUS A325 *Cost Accounting* Cr. 3.

P: admission to degree program. Conceptual and procedural aspects of management and cost accounting. Product costing, cost control over projects and products; decision-making emphasis; profit planning; quantitative modeling; and computer applications.

BUS A328 *Introduction to Taxation* Cr. 3.

P: A202; admission to the business B.S. or P.B.A. program. A comprehensive study of the federal income tax structure. Individual taxation will be emphasized with an exposure to business taxation.

BUS A331 *Taxation of Business Entities*

Cr. 3. P: admission to degree program. An introduction to the income taxation of business entities including C corporations, partnerships, S corporations, limited liability companies, and some overlapping material of individual taxation. This course will include the basic topics of tax research, gross income, business deductions, property transactions, and special entity formation rules.

BUS A332 *Taxation of Individuals* Cr. 3.

Federal individual taxation will be emphasized with an exposure to business taxation. Basic tax concepts will be examined through discussions on filing status, exemptions, gross income, exclusions, deductions, employee expenses, alternative minimum taxes, tax credits, and computations leading to the preparation of individual tax returns. Open to majors and nonmajors.

BUS A335 Fund Accounting Cr. 3.

P: A312. Introduction to fund accounting for governmental units, colleges/universities, hospitals, voluntary health and welfare, and other nonprofit organizations.

BUS A336 Internship in Accounting

Cr. 1–6. P: senior B.S. business majors in accounting concentration or permission of the department. Qualified students approved by accounting faculty may be placed with cooperating firms to receive experience in accounting. Work experience is supervised by faculty; research and written reports are required.

BUS A339 Advanced Income Tax Cr. 3.

P: A328. A comprehensive study of the federal income tax structure with emphasis on taxation of business and tax-planning for individuals.

BUS A422 Advanced Financial

Accounting Cr. 3. P: A312. Theory and problems of business combinations, foreign currency transactions, and partnerships.

BUS A424 Auditing Cr. 3.

C or P: A312; senior class standing. Public accounting organization and operation; review of internal control systems, verification of balance sheet and operating accounts; the auditor's opinion.

BUS A425 Contemporary Accounting

Theory Cr. 3. P: A312; senior class standing. Analyzes and evaluates the rationale for and implications of underlying financial accounting procedures and concepts. Extensive consideration is given to the effects of alternative accounting principles on the measurement of a firm's earnings and financial position.

BUS A437 Advanced Management

Accounting Cr. 3. Strategic cost management practices including activity-based management, activity-based budgeting and activity-based costing, target costing, theory of constraints, quality costs, the cost of capacity, the balanced scorecard, and performance measures for automated factories. Learn enhanced problem-solving skills and tools, increased critical-thinking skills, and improved presentation and speaking skills.

BUS A439 Advanced Auditing Cr. 3.

P: A424. Development of audit skills in planning, account analysis, workpaper techniques. Issues of legal liability. Case studies involving various audit issues.

BUS A490 Independent Study in

Accounting Cr. 1–3. (V.T.) P: senior class standing, consent of faculty. Cannot be substituted for required course(s). Supervised individual study and research in student's special field of interest. Written report required.

BUS D300 International Business

Administration Cr. 3. P: junior class standing, ECON E201–E202. Economic and cultural environments for overseas operations. Governmental policies and programs that affect international business. International dimensions of marketing, finance, accounting, taxation, and human resources with emphasis on management decisions and implementation. No credit for both D300 and D320.

BUS D490 Special Studies in International Business Administration

Cr. 1-3. P: D300, senior class standing, consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

BUS F260 Personal Finance Cr. 3.

Financial problems encountered in managing individual affairs. Topics may include personal budgeting, installment buying, insurance, home ownership, and investments. No credit toward B.S. in business if taken during junior or senior year.

BUS F301 Financial Management Cr. 3.

P: junior class standing; admission to business B.S. program. An overview of the theory of the essentials of corporate finance needed to compete effectively in an increasingly global environment. Topics include time value of money, forecasting, stock and bond analysis, project analysis, cost of capital, short-term asset analysis, global financial markets, and ethical considerations.

BUS F303 Intermediate Finance Cr. 3.

P: F301. Advanced treatment of corporate financial management. Covers all major areas of corporate financial decisions: capital budgeting, dividends, capital structure, cash-flow projections, mergers, and acquisitions.

BUS F310 Financial Statement Analysis—Finance Perspective Cr. 3.

P: F301. Analysis of financial statements to provide basis from which informed decisions concerning investments,

financing opportunities, and appropriate financing instruments can be made.

BUS F345 Money/Banking/Capital Markets Cr. 3

P: junior class standing; admission to business B.S. program. An analysis of the interrelated financial systems of central banks, private banks, and other sources and users of financial capital. Theoretical, empirical, policy, and institutional issues are analyzed using economics and finance. Topics include the theory of money demand and supply, monetary policy and central banks, interest rate determination, financial intermediaries, and international financial markets.

BUS F350 Futures and Options Markets

Cr. 3. P: F301; admission to business B.S. program. An introduction to futures and options contracts. Theory of contract prices, market structure, and funding mechanisms. Hedging, arbitrage, and speculation in contracts.

BUS F420 Equity and Fixed Income

Investments Cr. 3. P: F303. Conceptual and analytical framework for formulating investment policies, analyzing securities, and portfolio strategies for the individual and corporate investor.

BUS F446 Management of Commercial Banks and Other Financial Institutions

Cr. 3. P: F301, F345; senior class standing. Management policy and strategy decisions including asset, liability, and capital management within the legal, competitive, and economic environment.

BUS F480 Professional Practice in

Finance Cr. 3–6. P: admission to B.S. program and approval of department. Work experience in cooperating firms or agencies. Comprehensive written reports required. Grade of S or F assigned by faculty. Cannot be substituted for required course(s).

BUS F490 Independent Study in Finance

Cr. 1–3. (V.T.) P: F303, F420; senior class standing; faculty consent. Cannot be substituted for required course(s). Supervised individual study and research in student's special field of interest. Written report required.

BUS F494 International Finance Cr. 3.

P: F303. An introduction to international capital budgeting and cash management, investing, multinational transfer pricing,

exchange rate risk, hedging techniques, international trade practices, and other issues that will provide an overview of global financing practices.

BUS G300 Introduction to Managerial Economics Cr. 3. P: junior class standing; admission to business B.S. program. Applications of concepts developed in microeconomic theory as regards the solution of business problems. Development of a conceptual framework for business decision-making under conditions of uncertainty.

BUS J300 Business Forum—Current Topics in Competitiveness, Quality, and Professionalism Presented by Business Leaders Cr. 0. P: Admission to business B.S. program. Students will attend three of four seminars in one year. A series of seminars featuring a speaker from the business community to address topics of concern to business students. Themes include competitiveness, quality, and professionalism. The purpose of the course is to introduce students to prominent business leaders, the problems they face, their successes, and challenges of leadership.

BUS J401 Policy and Strategy Cr. 3. P: F301, M301, P301, Z302; senior class standing - 90 credit hours. The capstone business course integrating, via case analysis, functional areas of study into a comprehensive real-world experience. Emphasis on critical thinking, analysis, strategic planning, and implementation of astute, ethical plans to gain a competitive advantage in the global marketplace.

BUS K200 Computer Literacy Concepts for Business Cr. 0. Orientation to microcomputer hardware, software markets, and operating systems. Emphasis on end-user computer responsibilities for managers.

BUS K211 Spreadsheets for Business Cr. 1. P: K200 or successful completion of SBMS computer literacy placement test. Orientation to spreadsheet design and use from end-user/manager perspective. Topics include cell addressing through macro development.

BUS K212 Introduction to Database Management Cr. 1. P: K211. Orientation to database design from end-user/manager perspective. The distinction between “flat-file” and “relational” database

management systems is explored with the commercial software packages.

BUS K213 Internet Access and Data Analysis for Business Cr. 1. P: K211. Provide conceptual foundations on Internet/WWW technologies, and creation and management of business Web sites. The hands-on topics include Web browsers, search engines, and creation and maintenance of business Web pages using popular Web authoring tools and HTML.

BUS K214 Introduction to Word Processing Cr. 1. P: K200. Orientation to word processing for business. Course focuses on use of word processing from the basics of text entry through advanced features of macros and desktop publishing. (Irregular offering)

BUS K215 Basic Programming for Business Cr. 1. P: K200. Orientation to structured program design and development for business applications. Topics will stress logic development via Microsoft BASIC at the microcomputer level. (Irregular offering)

BUS K216 Business Graphics Cr. 1. P: K211. Orientation to graphic software for business applications. Course will compare graphic capabilities of spreadsheets with those of a dedicated package, such as PowerPoint. (Irregular offering)

BUS K321 Information Systems and Technology for Management Cr. 3. P: K212; P or C: F301, P301; junior class standing. An introduction to information systems and technology and their role in the modern business enterprise. Topics include computer-based information systems; managers' role in use, acquisition, and control of information systems and technology for a competitive advantage; ethical use of information; global information systems; and emerging information technologies.

BUS K327 Deterministic Models in Operations Research Cr. 3. P: P301; MA 229; Junior class standing. Philosophy and techniques of operations research and management science as they relate to business decision making. Topics include behavioral model building, optimization techniques, sensitivity analysis, and dynamic analysis.

BUS K490 Independent Study in Decision Sciences Cr. 1–6. (V.T.) P: senior class standing, consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

BUS L200 Elements of Business Law Cr. 1. P: sophomore class standing. This course introduces the various legal rules governing contracts, their formation, performance, breach, and legal and equitable remedies. The primary focus will be on legal rules applicable to business.

BUS L303 Commercial Law II Cr. 3. P: L200; admission to business B.S. or P.B.A. program. Emphases on Uniform Commercial Code (sales, negotiable instruments, and secured transactions), business organizations and relationships, bankruptcy, and the law of ownership, custody, and possession. Required for business B.S. majors in the accounting concentration.

BUS M301 Marketing Management in a Competitive Environment Cr. 3. P: junior class standing; admission to business B.S. program. Overview of marketing management in a dynamic competitive environment. Examines marketing principles and tools for decision-making, from both the firm's and the consumer's viewpoint. Applications to global markets and other business disciplines. Provides a firm foundation in marketing theory and marketing lexicon.

BUS M303 Marketing Research Cr. 3. P: M301. Focuses on the role of research in marketing decision-making. Topics include defining research objectives, syndicated and secondary data sources of marketing information, exploratory research methods, survey research design, experimental design, and data analysis.

BUS M405 Buyer Behavior Cr. 3. P: M303. Behavior of the buyer relevant to marketing decision. Logic of market segmentation and recognition of customer heterogeneity. Buyer behavior analyzed in terms of customer's decision-making process, and models of individual and aggregate behavior. Specific attention to consumer behavior in retail markets and procurement behavior in industrial markets. (Irregular offering)

BUS M408 Quantitative Methods for Marketing Management Cr. 3. P: M303. Application of key quantitative tools to marketing management problems. Emphasis given to application of quantitative methods to basic marketing problems and the role of quantitative methods in marketing management. (Irregular offering)

BUS M415 Advertising and Promotion Management Cr. 3. P: M301. Basic concepts applicable to the use of advertising and sales promotion. Addresses the overall planning, management, and integration of the firm's promotional strategy. Public policy aspects and the role of advertising in marketing communications as they may relate to different cultures.

BUS M420 New Product Management Cr. 3. P: M301. This course covers the marketing of new products from idea generation through commercialization. Emphasis is on creativity, while at the same time discussing the practical aspects of marketing management necessary to improve the product's probability of success. (Irregular offering)

BUS M426 Sales Management Cr. 3. P: M301. Management of the field sales force. Basic sales management concepts including organization and staffing, allocation of effort, control, and evaluation. A portion of the course is devoted to the special problems of selling in the nonconsumer market.

BUS M450 Marketing Strategy and Policy Cr. 3. P: M303; senior class standing. Ideally taken during student's last semester. Provides a capstone to marketing course sequence by drawing on and integrating concepts previously studied. Focuses on management decision problems in marketing-strategy design and the application of analytical tools for optimizing marketing decisions.

BUS M490 Independent Study in Marketing Cr. 1-3. (V.T.) P: senior class standing and consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

BUS P301 Managing Operations in a Competitive Environment Cr. 3. P: junior class standing; admission to business B.S. program. An introduction to the principles

of production and operations management that provides an integrated overview of the role of the operations function in gaining competitive advantage in a global environment. Topics include demand forecasting, product design, process materials management, planning and control, scheduling, and project management.

BUS P421 Operations Planning and Control Cr. 3. P: P301, MA 230. Design of information, planning, and control systems for allocating resources and scheduling activities in manufacturing firms. Topics include operations information systems, forecasting, aggregate output planning, inventory control, materials requirements planning, and scheduling. (Irregular Offering)

BUS P490 Independent Study in Operations Management Cr. 1-3. (V.T.) P: senior class standing; consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

BUS W100 Principles of Business Administration Cr. 3. An introduction to functional areas of business, tracing the evolution of business, business forms, the role of government and society, relationships between administrators and employees, ethical issues, and the globalization of world markets. Ideal for prebusiness students or students of any major desiring a basic understanding of business.

BUS W204 Social, Legal, and Ethical Implications of Business Decisions Cr. 3. P: ECON E200 or E201; sophomore class standing. The interaction of business and society beyond objective of profit maximization. Issues addressed include the interplay of social, political, legal, economic, global, and ethical variables as they influence the firm and its conduct of business operations. Such analysis will stress the historical, current, and projected role of business in society.

BUS W311 Small Business Entrepreneurship Cr. 3. P: admission to business B.S. program. Primarily for those interested in creating a new business venture or acquiring an existing business. Covers such areas as choice of a legal form, problems of the closely held firm, sources of funds, preparation of a business plan, and negotiation. (Irregular offering)

BUS W430 Leadership, Teamwork, and Group Dynamics in Organizations Cr. 3. P: Z302. An in-depth study of theories of leadership and their impact on organizational effectiveness. Special emphasis on leadership and its interaction with teamwork and group dynamics as well as its special role in managing organizational change in business. The course utilizes a case approach with attention to problem solving.

BUS W490 Independent Study in Business Administration Cr. 1-3. (V.T.) P: senior class standing; consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

BUS X394 Practicum in Business Cr. 6. "Laboratory" experience of learning with practicing entrepreneurs. Shadowing and coinvesting experiences with the clientele of the Northeast Indiana Innovation Center and the Center for Entrepreneurial Excellence. Experience in taking vision to reality.

BUS Z302 Management of Organizations and People Cr. 3 P: admission to business B.S. program. An introduction to organizational behavior and management systems, the history and functions of management, and an analysis of the dynamic environment under which organizations operate. Topics include managerial functions, measures of organizational effectiveness, individual and group behavior, leadership, motivation, and strategies for developing teamwork.

BUS Z440 Personnel: Human Resources Management Cr. 3. P: Z302. Nature of human resource development and utilization in the American society and organization; government programs and policies, labor force statistics; personnel planning, needs forecasting; selection, training and development of human resources, integration of governmental and organizational programs.

BUS Z444 Personnel Research and Measurement Cr. 3. P: Z440. Personnel research through review and evaluation of contemporary studies in appropriate journals; opportunity to master personnel-measurement techniques, job analysis, evaluation; wage curve computation; predictor validation; morale measurement; personnel auditing. (Irregular offering)

BUS Z490 Independent Study in Personnel Management and Organizational Behavior Cr. 1–3. (V.T.)

P: senior class standing, consent of faculty. Supervised individual study and research in student's special field of interest. Written report required.

Academic Courses in Economics

ECON E200 Fundamentals of Economics

Cr. 3. Study of the basic institutions of market economy and the role they play in defining and pursuing economic goals in the U.S. economy. Emphasis is placed upon the effects of existing economic institutions; current economic policy alternatives as they affect both the individual and the society. No credit toward B.S. in business; no credit for both E200 and E201.

ECON E201 Introduction to

Microeconomics Cr. 3. P: sophomore class standing and MA 153 or placement beyond MA 153. An analysis of evolution of market structure using the analytical concepts of supply and demand, opportunity cost, and marginal analysis. Applications include a variety of concurrent microeconomic issues. (fall, spring, summer)

ECON E202 Introduction to

Macroeconomics Cr. 3. P: E200 or E201. Measurement and explanation of total economic performance; money and monetary and fiscal policy as an analytical core. Individual sections apply this core to a variety of current economic problems such as inflation, recession, and unemployment. (spring, summer)

ECON E270 Introduction to Statistical Theory in Economics and Business I Cr. 3.

P: MA 229; sophomore class standing. Describing populations and samples; introduction to inference, including confidence intervals and hypothesis testing; correlation and simple and multiple regression; Chi-square, nonparametric, test of independence. Uses a popular statistical package for demonstrating and solving statistical problems.

ECON E306 Undergraduate Seminar in Economics Cr. 3

P: E202; junior class standing. Discussion and analysis of contemporary economic problems and policies. Different topics may be offered each semester. May be repeated twice for

credit if topics differ. Papers and other written and oral assignments required.

ECON E321 Intermediate

Microeconomic Theory Cr. 3. P: E201; junior class standing. Intermediate-level microeconomics; theoretical basis of demand; production; pricing under conditions of competition and monopoly; allocation and pricing of resources; partial and general equilibrium analysis; welfare economics.

ECON E322 Intermediate

Macroeconomic Theory Cr. 3. P: E202; junior class standing. Intermediate-level macroeconomics. National income accounting; theories of income, employment, and price level. Counter-cyclical and other public-policy measures.

ECON E323 Urban Economics Cr. 3.

P: E202; junior class standing. Introduction to basic concepts and techniques of urban economic analysis to facilitate understanding of current urban problems; urban growth and structure, public provision of urban services, housing, employment, transportation, relationship between public and private sectors.

ECON E340 Introduction to Labor

Economics Cr. 3. P: E202; introductory statistics; junior class standing. Examines theories of wage and employment determination. Analysis of the impact of unions and other institutional factors on these theories; labor market imperfections; labor mobility; impact of government policies on labor behavior.

ECON E350 Money and Banking Cr. 3.

P: E202; junior class standing. Monetary and banking system of the United States. The supply and control of money and its impact on the U.S. economy. Topics in the application of Federal Reserve System monetary policy. Analytical treatment of the Federal Reserve System and the commercial banking industry.

ECON E360 Public Finance: Survey Cr. 3.

P: E202; junior class standing. Study of the role and scope of government expenditures and taxation. Topics include public goods, externalities, income redistribution programs, and major elements of taxation.

ECON E385 Economics of Industry Cr. 3.

P: E201; junior class standing. Analysis of market structure and behavior. Location, technology, economies of scale, vertical

integration, conglomerates; barriers to entry, and competitive practices. Economic assessment of production performance and environmental impact.

ECON E420 History of Economic

Thought Cr. 3. P: E201, E202 or instructor's permission. Examination of main theoretical developments since the beginning of the systematic study of economics. Theoretical propositions and structures of the earlier writers will be interpreted and evaluated in terms of modern economic analysis.

ECON E430 International Economics

Cr. 3. P: E202; junior class standing. Gains from trade; relation between factor rentals and goods prices, distributional effects of trade, tariff policy and quantitative inferences; trade problems of developing countries, discrimination, and customs unions; balance of payments adjustments via prices and incomes, exchange rate policy; role of international reserves.

ECON E445 Collective Bargaining;

Practice and Problems Cr. 3. P: E201 and junior class standing. Collective bargaining in contemporary economy: economic, social, and legal problems involved in negotiating; administration of collective bargaining agreement through grievance procedure and arbitration.

ECON E446 Public Policy in Labor

Relations Cr. 3. P: E201; E202; junior class standing. Current labor relations law as contained in Taft-Hartley and Landrum-Griffin Acts. NLRB and court decisions.

ECON E472 Introduction to

Econometrics Cr. 3. P: E270; E321. Emphasis on formulation and computer estimation methods for single and multiple equation classical regression models using economic and business data. Attention is given to the assumptions required for testing a single coefficient, sets of coefficients, and the complete regression model. Special topics include heteroscedasticity, multicollinearity, errors in variables, autocorrelation, time series problems, and system identification and analysis.

ECON S103 Introduction to Microeconomics—Honors Cr. 3.

Introductory microeconomics course for students admitted to Honors program. No credit for both S103 and E201.

Technical Business Courses

BUFW X295 Practicum in Business

Cr. 0–1. P: sophomore through senior students who have been admitted to a business degree program (A.S. or B.S.); permission of department. Practical problems/projects in area business and nonprofit organizations. May be repeated up to four times.

BUFW X380 Professional Practice in Business Cr. 0–1. (V.T.)

P: admission to co-op program. A supervised cooperative education experience integrating academic studies with relevant work experience. Alternates a semester of full-time study with a semester of full-time employment. Maximum of 3 credits may be applied toward graduation. Cannot be substituted for required course.

BUFW X381 Professional Practice in Business Cr. 0–1. (V.T.)

P: admission to co-op program. A supervised cooperative education experience integrating academic studies with relevant work experience. Part-time employment concurrent with study. Maximum of 3 credits may be applied toward graduation. Cannot be substituted for required course.

CDFS (Child Development and Family Studies), see Consumer and Family Sciences

CE (Civil Engineering), see Engineering

CFS, see Consumer and Family Sciences

Chemistry (CHM)

If you are majoring in this discipline, you may want to consider the Science and Engineering Research Semester. See information under Arts and Sciences (Part 3).

CHM 091 Cooperative Work Experience I Cr. 0.

For Cooperative Education program students only. P: must be accepted for the program by the Cooperative Education program coordinator.

CHM 092 Cooperative Work Experience II Cr. 0.

P: 091

CHM 093 Cooperative Work Experience III Cr. 0.

P: 092

CHM 094 Cooperative Work Experience IV Cr. 0.

P: 093

CHM 095 Cooperative Work Experience V Cr. 0.

P: 094

CHM 101 Lectures in Chemical Science for Engineers Cr. 4.

P: one year of high-school chemistry or CHM 100 or CHM 111 with a grade of C or better taken in the previous four years; and MA 113 with a grade of C or better or placement at the level of MA 153 or higher. A nonlaboratory course for engineers whose program of study does not require more than one year of chemistry. Stoichiometry and chemical nomenclature are stressed as are chemical principles applied thereto.

CHM 102 Lectures in Chemical Science for Engineers Cr. 3.

P: 101 or equivalent. Continuation of CHM 101.

CHM 104 Living Chemistry Cr. 3.

P: MA 109 with a grade of C or better or placement at the level of MA 113 or higher. An introductory chemistry course that focuses upon the biomolecules of living systems. General chemistry topics include chemical bond, solutions, acid/bases, and buffers. The study of organic chemistry is given as a preamble to the structure, function, and metabolism of biomolecules such as proteins, lipids, carbohydrates, and nucleic acids. No credit toward any chemistry degree or a chemistry minor. Not acceptable as a prerequisite for CHM 115.

CHM 111 General Chemistry Class 2, Lab. 3, Cr. 3.

P: MA 109 with a grade of C or better or placement at the level of MA 113 or higher. A basic introduction to the principles of chemistry including matter and energy, nomenclature, measurement, atomic structure, nuclear chemistry, chemical bonding, stoichiometry, classification of chemical reactions, kinetics, equilibria, gas laws, liquids, and solids.

CHM 112 General Chemistry Class 2, Lab. 3, Cr. 3.

P: 111. A continuation of CHM 111: Solutions, acid/base chemistry, and a survey of organic chemistry and biochemistry including functional groups, nomenclature and reactions, amino acids, proteins, carbohydrates, lipids, and nucleic acids.

CHM 115 General Chemistry Class 3, Lab. 3, Cr. 4.

P: one year of high-school

chemistry or CHM 100 or CHM 111 with a grade of C or better taken in the previous four years; and MA 113 with a grade of C or better, or placement at the level of MA 153 or higher. Required of all students majoring in biology, chemistry, geology (B.S.), medical technology, physics, chemical and metallurgical engineering, pre dentistry, premedicine, and prepharmacy. Introduction to fundamental laws and principles of chemistry, including unit systems and unit conversions; precision evaluation; atomic theory; stoichiometry; symbols; formulas; equations; mass, mole, gas volume relationships; ideal gas law; thermochemistry; atomic structure; chemical periodicity; chemical bonds and their relation to physical properties; properties of the liquid and solid states. Numerical problems and relationships are introduced wherever quantitative treatment is possible.

CHM 116 General Chemistry Class 3, Lab. 3, Cr. 4.

P: 115 with a grade of C or better. P or C: MA 154 or higher. A development of the concepts introduced in CHM 115. Introduction to phase changes, vapor pressure, solutions and solubility; colligative properties. Introductory thermodynamic treatments of equilibrium conditions of oxidation-reduction, electrochemistry, complexation, and acids and bases. Kinetics of chemical change, simple rate laws and reaction mechanisms. Descriptive chemistry of the “representative” elements (“s” and “p” block elements) with emphasis on periodic relationships. Numerical problems and relationships are introduced whenever quantitative treatment is possible.

CHM 213 Chemical Literature Cr. 1.

A survey of the tools employed for the effective and efficient search and retrieval of chemical information including online databases, chemical abstracts, patents, handbooks, encyclopedias, and comprehensive works.

CHM 218 Introduction to Inorganic Chemistry Cr. 3.

P: 116 and MA 165. Descriptive inorganic chemistry of the elements including structure and bonding of inorganic materials, acid-base theory, oxidation-reduction, and coordination chemistry.

CHM 224 Introductory Quantitative Analysis Class 2, Lab. 6, Cr. 4.

P: 116. Introduction to titrimetric, gravimetric, and

instrumental methods of analysis; principles of separation processes, including chromatography; recognition and evaluation of possible sources of error. Required of students majoring in biology who do not take CHM 321.

CHM 254 Organic Chemistry Laboratory Lab. 3, Cr. 1. C: 255. Laboratory experiments to accompany CHM 255 illustrating methods of separation and the more common techniques and methods for preparing various types of organic compounds.

CHM 255 Organic Chemistry Cr. 3. P: 116. Recommended for biology majors and premedical students who do not take CHM 261. A study of aliphatic and aromatic hydrocarbons and their simple derivatives in terms of (a) structure, bonding, etc., (b) general syntheses and reactions, and (c) a logical modern rationale for fundamental phenomena as supported by relative reaction rates, orientation effects, and stereochemistry.

CHM 256 Organic Chemistry Cr. 3. P: 255. An extension of CHM 255 to include various functional groups such as the carboxyl, carbonyl, amino, etc., and polyfunctional natural products including carbohydrates and peptides.

CHM 258 Organic Chemistry Laboratory Lab. 3, Cr. 1. P: 254; C: 256. A continuation of CHM 254 but emphasizing methods for identifying organic compounds, including simple "unknowns."

CHM 261 Organic Chemistry Cr. 3. P: 116. Required for students majoring in chemistry or chemical engineering; recommended for other science majors and premedical and pre dental students. A comprehensive study of the chemical principles underlying aliphatic and aromatic compounds. Emphasis is placed on the commercial and laboratory syntheses of these materials as well as their uses. Mechanisms, stereochemistry, and spectroscopy are stressed to illustrate the logic inherent in the subject matter and to demonstrate the predictability of many of the chemical transformations discussed.

CHM 262 Organic Chemistry Cr. 3. P: 261. A continuation of CHM 261, but with a broader scope. The chemistry of a variety of functional groups is discussed. Included are discussions of some compounds and reactions of biological significance.

CHM 265 Organic Chemistry Laboratory Lab. 6, Cr. 2. C: 261. Similar to CHM 263 except that a larger number of and more sophisticated organic syntheses are required. The preparations are designed not only to illustrate the classical reactions discussed in 261, but also to allow for wider application of the principles involved.

CHM 266 Organic Chemistry Laboratory Lab. 6, Cr. 2. P: 265; C: 262. A continuation of CHM 265. A substantial portion of the course is devoted to the methods employed in organic qualitative analysis. The student is expected to identify "unknowns" and mixtures and is introduced to some modern instrumental techniques.

CHM 290 Selected Topics in Chemistry for Lower Division Students Cr. 1–4. (V.T.) P: consent of instructor. May be repeated for credit.

CHM 321 Analytical Chemistry I Class 2, Lab. 6, Cr. 4. P: 218 and one year of organic chemistry. Required of students majoring in chemistry. Quantitative measurements on complex chemical systems that show matrix effects or require isolation of a compound prior to its determination; general approaches to quantitative problems at the trace level; critical comparisons of competitive procedures with emphasis upon principles of separation process, including chromatography; recognition and evaluation of possible sources of error; approaches for optimizing conditions so as to minimize time and/or effort required to attain prescribed levels of accuracy and precision.

CHM 342 Inorganic Chemistry Cr. 3. P: 218; C: 384. Interpretation and correlation of the physical and chemical properties of inorganic compounds in terms of their electronic configurations and molecular structures. A development of the earlier treatment of the representative elements and the transition elements including magnetic and spectral properties of coordination compounds.

CHM 343 Inorganic Chemistry Laboratory Lab. 3, Cr. 1. C: 342.

CHM 371 Physical Chemistry Cr. 3. P: 116 and MA 229. An introductory course in physical chemistry. Not open to chemistry majors, but suitable for other science majors. Topics to be covered

include states of matter, thermodynamics, physical equilibrium, solutions, chemical equilibria, electrochemistry, and kinetics.

CHM 376 Physical Chemistry Laboratory Lab. 6, Cr. 2. C: 384.

CHM 383 Physical Chemistry Cr. 4. P: 116, MA 261, and PHYS 251. Kinetic theory of gases, gas equations of state, Maxwell-Boltzmann distribution. Classical thermodynamics including the first, second, and third laws, spontaneity, chemical potential, phase equilibria. Introduction to quantum mechanics: postulates of quantum theory, linear operators, Heisenberg indeterminacy principle, Pauli principle, orbital and spin angular momentum. Simple quantum systems such as particle-in-a-box, harmonic oscillator, hydrogen atom. Symmetry. Atomic and molecular spectroscopy.

CHM 384 Physical Chemistry Cr. 2. P: 383. Basic kinetics and chemical reactions: first, second, third order reactions, elementary steps, macroscopic view in terms of concentrations and activities, calculation of equilibrium constants, thermodynamic interpretation of transition state theory. Solution thermodynamics: pure solutions, mixtures, ideal solutions (Raoult's law), ideally dilute solutions (Henry's law), Debye-Hückel theory, colligative properties. Electrochemistry: relationship to thermodynamics and chemical equilibrium. Photochemistry, nuclear magnetic resonance spectroscopy, electrical and magnetic properties of matter.

CHM 385 Physical Chemistry Cr. 2. P: 383. Statistical mechanics: partition function and ensembles, translational, vibrational, rotational, and electronic partition functions, microscopic view of thermodynamics. Kinetics and reaction rate theories: collision theory, conventional and variational transition state theory, RRKM theory. Reaction dynamics: quantum scattering and classical trajectories. Surface chemistry and solid state chemistry.

CHM 424 Analytical Chemistry II Class 2, Lab. 6, Cr. 4. P: 321; C: 384. Principles and application of optical and electrical methods of chemical analysis, including topics in instrumentation.

CHM 490 Selected Topics in Chemistry for Upper Division Students Cr. 1–4. (V.T.) May be repeated for credit.

CHM 495 Seminar in Chemistry Cr. 1.

Discussion of topics in analytical, inorganic, organic, and physical chemistry and biochemistry. Students are required to select a topic from the primary literature, which must be approved by the coordinator of the seminar series. Students must make an oral presentation of the topic and submit a written report. Open to juniors and seniors majoring in chemistry. May be repeated for credit.

CHM 496 Advances in Chemistry I Cr. 0.

P: two years of college chemistry. Seminars on recent developments or topics not normally covered in regular courses. Attendance at all departmental seminars is required and students must submit a brief synopsis of each seminar attended.

CHM 497 Advances in Chemistry II Cr. 1.

P: 496. Continuation of 496. No credit for 497 unless 496 has been completed. Attendance at all departmental seminars is required and students must submit a brief synopsis of each seminar attended. In addition, students are required to submit a written report on a topic chosen from the primary literature and approved by the coordinator of the seminar series. The 496–497 sequence may be repeated for credit.

CHM 499 Special Assignments

Lab. 3–15, Cr. 1–5 (V.T.) Undergraduate research. Students will participate in an original research project with a faculty member. Students are required to submit a written report and make a short oral presentation of their research project. May be repeated for credit.

Dual Level, Undergraduate-Graduate**CHM 502 Modern Chemistry in the High School Class 2, Lab. 3, Cr. 3.**

A critical discussion of the means by which the fundamentals of modern chemistry can best be introduced at the high school level. The laboratory will deal with the manufacture and use of lecture demonstration equipment; the use of special teaching devices such as computers, films, tapes, etc.; and the problems involved in organizing and running a high school chemical laboratory.

CHM 505 Advanced Chemistry for Teachers I Cr. 3.

P: one year of college chemistry and college mathematics. Topics include atomic structure, modern theories of the chemical bond, a structured study of the Periodic Table, the chemical properties of the main group and transition elements, and chemical calculations. Modern concepts of inorganic chemistry will be introduced whenever possible. Designed primarily for junior or senior high-school teachers. Credit in this course may not be used toward a graduate degree in chemistry.

CHM 506 Advanced Chemistry for Teachers II Cr. 3.

P: one year of college chemistry, and college mathematics. Topics include chemical thermodynamics, chemical equilibria, electrochemistry, chemical kinetics, and nuclear chemistry presented from a physical/analytical perspective. Designed primarily for junior or senior high-school teachers. Credit in this course may not be used toward a graduate degree in chemistry.

CHM 525 Intermediate Analytical Chemistry Cr. 3.

P: introductory analytical chemistry and 384. A critical review of physical and chemical methods of analysis.

CHM 528 Principles and Practice of NMR Class 2, Lab 2, Cr. 3.

P: 256 or 262 and PHYS 221 or 251 or 261 or consent of the instructor. Designed for biology, chemistry, and technology majors. The theory of modern NMR is taught and demonstrated by hands-on access and computer labs. Topics include theory and experimental applications of multinuclear NMR spectroscopy, as needed for the structural elucidation of biomolecules, polymers and inorganic materials; H-NMR in one or more dimensions.

CHM 533 Introductory Biochemistry Cr. 3

P: 224 and 256 or equivalent. A rigorous one-semester introduction to biochemistry.

CHM 534 Introductory Biochemistry

Cr. 3. P: 533 or equivalent. Continuation of 533 with emphasis on enzymatic catalysis and metabolic transformations.

CHM 535 Biochemistry Laboratory

Lab. 3, Cr. 1. Laboratory work to accompany CHM 534.

CHM 542 Inorganic Chemistry Cr. 3.

P: 342, 384. A survey of the chemistry of main group and transition elements in which descriptive chemistry is wedded to qualitative theories of bonding and structure.

CHM 548 Radiochemistry Cr. 3.

P or C: 384 or equivalent. Nuclear properties, structure, and reactions; radioactive decay; interaction of radiation with matter; radioactivity in the environment; nuclear applications in chemistry.

CHM 561 Fundamental Organic Chemistry Cr. 3.

A general survey of synthetic organic chemistry including some discussion of current organic theory.

CHM 563 Organic Chemistry Cr. 3.

P: 256 or 262. Ionic and free-radical reactions are discussed critically, with emphasis on the synthetic and mechanistic aspects of the reaction studied.

CHM 577 Physical Chemistry Cr. 3.

P: 115, 116; MA 261; PHYS 152, 251; or the equivalents. A general treatment of physical chemistry with attention to the classical and statistical nature of energy, entropy, and free energy in chemical systems. Heat and work, thermochemistry, and chemical equilibrium.

CHM 578 Physical Chemistry Cr. 3.

P: 115, MA 261, PHYS 152, 251; or the equivalents. A continuation of 577 with emphasis on phase equilibria, electrolytic solutions, electrochemical cells, atomic and molecular structure, chemical bonding, spectroscopy, and chemical kinetics.

CHM 599 Special Assignments Cr. 1–4.

(V.T.) P: consent of instructor. Directed reading or special work not included in other courses. May be repeated for credit.

Child Development and Family Studies (CDFS), see Consumer and Family Sciences**Chinese (EALC)****EALC C101–102 Elementary****Chinese I–II Class 4–4, Lab. 0–1, Cr. 4–4.**

Introduction to Chinese language, grammar, and sentence patterns. Emphasis on comprehension and oral expression. Stress will shift steadily from spoken to written language. (C101 fall, C102 spring)

EALC C201–C202 Second-Year**Chinese I–II Class 3–3, Lab. 0–1, Cr. 3–3.**

P: C101–C102 or equivalent proficiency. Both spoken and written aspects stressed. (C201 fall, C202 spring)

Civil Engineering Technology (CET)

CET 104 Elementary Surveying Class 2, Lab. 3, Cr. 3. C: MA 154 or MA 159 or equivalent or consent of instructor. Fundamental concepts and practical applications related to the measurement of vertical and horizontal distances and angles utilizing steel tapes, automatic levels and theodolites. Computations of grades, traverses, and area. Basic concepts of topography and its uses.

CET 108 Route Surveying and Design Class 1, Lab. 4-6, Cr. 3. P: 104, ARET 123, and a C or better in MA 159. C: computer science elective. Preliminary and construction surveys for route location. Calculation and field work for simple and easement curves, grade lines, and slope stakes. Preparation of plans, profiles, and cross-sections from field survey data earthwork estimates. Computer applications.

CET 181 Applied Structures I Class 2, Lab. 3, Cr. 3. P: PHYS 218. Introduction to fundamentals of applied mechanics, including equilibrium of structures under the influence of forces (statics).

CET 209 Land Surveying and Subdivision Class 1, Lab. 6, Cr. 3. P: 108. Subdivision planning, calculations and plotting, water-main layouts, storm and sanitary sewer calculations and layouts. Street plans and profiles. Computer applications.

CET 253 Hydraulics and Drainage Cr. 3. C: 181. Basic hydrostatics, Bernoulli's equation, flow in water and sewer lines, overland and ditch drainage determination.

CET 266 Materials Testing Class 1, Lab. 4-6, Cr. 3. P: STAT 301, C: 283. Testing of construction materials to determine physical and mechanical properties. Preparation of reports from data secured from such tests.

CET 283 Applied Structures II Class 2, Lab. 3, Cr. 3. P: C or better in 181. Solutions to applied structural engineering problems using analytical and graphical methods. Introduction to shear and bending moment, bearing, connections, and deflection of determinant beams and trusses. Structural detailing and combinations of materials are included. Computer applications.

CET 291 Civil Engineering Technology Cooperative I Cr. 1. P: admission to the Cooperative Education program. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CET 292 Civil Engineering Technology Cooperative II Cr. 1. P: 291. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CET 299 Civil Engineering Technology Cr. 1-4. (V.T.) P: as determined by CAET faculty. Hours to be arranged with the staff. Primarily for third- and fourth-semester students. Subject matter to be assigned by the staff. Course may be repeated for up to 9 credits.

CET 353 Hydraulics and Drainage II Cr. 3. P: 253, 209; must be in CNTB program/CNET major. A continuation of 253 with additional applications of fundamental hydraulics to culvert size determinations, water line calculations, weir and orifice problems, inlet spacings, and rainfall and drainage problems of small watersheds. Computer applications.

CET 381 Applied Structures III Class 4, Cr. 4. P: C or better in 283 and MA 227 with a grade of C or better; must be in CNTB program/CNET major. Techniques in analyzing statistically determinant and indeterminant structures with emphasis on moment-distribution. Standard design procedures for wood and steel structures. Sizing of beams, columns, and connections. Computer applications. Graduation credit requires grade of C or better.

CET 385 Fundamentals of Reinforced Concrete Cr. 3. P: 381 with a grade of C or better; must be in CNTB program/CNET major. A study of concrete as a construction material and as a structural material. Field methods and practices used in concrete construction. Applied fundamentals of reinforced concrete design as applied to beams, slabs, columns, and footings. Computer applications.

CET 391 Civil Engineering Technology Cooperative III Cr. 1. P: 292. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CET 392 Civil Engineering Technology Cooperative IV Cr. 1. P: 391. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CET 409 Property Surveying Class 2, Lab. 3, Cr. 3. P: 209; must be in CNTB program/CNET major. Office and field work associated with land surveying and public records of real property. Metes and bounds, federal subdivision, and state plane coordinate descriptions.

CET 431 Properties and Behavior of Soils Class 2, Lab. 3, Cr. 3. P: GEOL G100, Geol L100; must be in CNTB program/CNET major. Identification and properties of soils with emphasis on laboratory and field testing. Behavior of soils relating to design and construction of structures and highways. Computer applications.

CET 453 Water and Waste-Water Technology Cr. 3. P: 253 and junior class standing in CAET department. A study of fundamental calculations required in the hydraulics of water supply systems and in the hydraulics of waste-water disposal. Computer applications.

CET 482 Steel Structure Design Cr. 3. P: 381. Applied fundamentals of structural steel design as applied to beams, columns, connections, joists, and detailing.

CET 491 Civil Engineering Technology Cooperative V Cr. 1. P: 392. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CET 499 Civil Engineering Technology Cr. 1-4. (V.T.) P: Must be in CNTB program/CNET major. As determined by CAET faculty. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

Classics (CLAS), see Folklore and Classics

Clinical Laboratory Sciences (AHLT)

AHLT C460 Clinical Hematology Clinic 2-16, Cr. 1-8. Lecture and clinical experiences related to the functions,

maturation, morphology, and clinical laboratory evaluation of hemostasis. Techniques, instrumentation, and quality control routinely used in the hematology department of a clinical laboratory.

AHLT C461 Clinical Analysis of Urine and Body Fluids Clinic 2–4, Cr. 1–2.

Lecture and clinical experiences in the biochemical, physical, and microscopic examination of urine and other body fluids.

AHLT C462 Clinical Microbiology and Mycology Clinic 2–16, Cr. 1–8.

Lecture and clinical experiences for the isolation, identification, and susceptibility testing of medically important microorganisms and fungi. Techniques, instrumentation, and quality control routinely used in the microbiology department of a clinical laboratory.

AHLT C463 Clinical Parasitology

Clinic 2–4, Cr. 1–2. Lecture and clinical experiences in the collection and processing of specimens, identification techniques, and diseases associated with clinically significant parasites.

AHLT C464 Clinical Serology Clinic 2–6,

Cr. 1–3. Lecture and clinical experiences in immunology as applied to the serologic diagnosis of infectious diseases and various syndromes. Technology, instrumentation, and quality control routinely used in the serology department of a clinical laboratory.

AHLT C465 Clinical Chemistry

Clinic 2–16, Cr. 1–8. Lecture and clinical experiences in the application of analytical methods for the clinical detection of clinical disorders. Techniques, instrumentation, and quality control routinely used in the clinical chemistry department of a clinical laboratory.

AHLT C466 Clinical Immunohematology

Clinic 2–8, Cr. 1–4. Lecture and clinical experience in the serologic principles and methods for safe transfusion practice. Techniques, instrumentation, and quality control routinely used in the blood bank department of a clinical laboratory.

AHLT C467 Professional Development Topics in Medical Technology Clinic 2–8,

Cr. 1–4. Lectures and exercises in principles of supervision for the medical laboratory; teaching and evaluation in the clinical setting; and other aspects of professional development.

AHLT R200 Pathology Class 2–3, Cr. 2–3.

P: Anatomy/Physiology. A survey of the changes that occur in the diseased state to include general concepts of disease, causes of disease, clinical symptoms and treatment, and diseases that affect specific body systems.

CMLT, see Comparative Literature

CNET, see Construction Engineering Technology

COAS, see Interdisciplinary Arts and Sciences

Communication (COM)

COM 114 Fundamentals of Speech

Communication Cr. 3. A study of communication theories as applied to speech; practical communicative experiences ranging from interpersonal communication and small group process through problem identification and solution in discussion to informative and persuasive speaking in standard speaker-audience situations.

COM 114H Fundamentals of Speech

Communication Cr. 3. Equivalent of COM 114 for honors students.

COM 210 Debating Public Issues Cr. 3.

P: 114. Study of argumentation as applied to public discourse. Lectures on logic and reasoning, library research methods and bibliography, identification and analysis of issues, construction and organization of cases, refutation and rebuttal, and the phrasing and delivery of the argumentative speech. Preparation of debate cases.

COM 212 Approaches to the Study of

Interpersonal Communication Cr. 3. A study of basic characteristics of human communication and the theoretical and practical implications of these characteristics for various forms of oral communication.

COM 250 Mass Communication and

Society Cr. 3. A survey of the print, broadcast, and film media in their relationship and influence on society. Study topics include mass communication theories, documentaries, commercialism, news media, media effects, and control,

feedback, educational broadcasting, and audience analysis.

COM 251 Introduction to the Electronic

Mass Media Cr. 3. A study of the ways in which ideas are expressed through techniques unique to the language of radio, television, and film. The course focuses on the scenes, camera and lens movement, tempo, editing concepts, montage, sound, perspective, fades, segues, and other special effects prerequisite to effective communication through electronic media.

COM 253 Introduction to Public

Relations Cr. 3. An analysis of public relations theory and practice from their origins to the present. From a communication perspective, the course examines public relations environments, audiences, and message strategies.

COM 300 Introduction to

Communication Research Methods Cr. 3.

P: 114. Introduction to the development and application of historical, critical, and empirical research methods pertinent to communication problems. Fundamental concepts of problem identification, sampling, surveys, historical sources, critical models, reliability, and validity of both measurement and research design in communication research.

COM 303 Intercultural Communication

Cr. 3. P: 114. An exploration of the impact of culture on perception and communication, the obstacles affecting intercultural communication, the impact of ethnocentrism and the challenges facing cultures with broad cultural and subcultural diversities. Open to majors and nonmajors.

COM 310 Family Communication Cr. 3.

P: 114. Application of theories of interpersonal communication to family life. Emphasis on feedback, empathy, and trust as contributing factors to effective communication with families. A case study approach is used.

COM 312 Rhetoric in the Western World

Cr. 3. P: 114. An explanation of major theoretical and philosophical concepts concerning rhetoric; the relationships between rhetoric and political, social, and personal decisions are explored. Ancient and modern authors are read. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

COM 314 Advanced Presentational Speaking Cr. 3. Development of a marked degree of skill in the composition and delivery of various types of speeches including presentations in corporate board rooms, orientation meetings, banquet halls, public forms. Special emphasis on speeches related to the student's major vocational area.

COM 315 Speech Communication of Technical Information Cr. 3. P: 114. Open only to students enrolled in technology programs. The organization and presentation of information of a practical technical nature. Emphasis is placed upon the study, preparation, and use of audio-visual materials in such presentations.

COM 316 Controversy in American Society Cr. 3. P: 114 or consent of instructor. Analysis of selected debates in major American controversies of social significance. Critical examination of the argument, personalities, and oral and written strategies employed in public debates on political, moral, and social issues.

COM 316H Controversy in America—Honors Cr. 3. Honors equivalent of COM 316.

COM 318 Principles of Persuasion Cr. 3. P: 114 or consent of instructor. Persuasion and its effects, ranging from individual influences to societal impacts. Various perspectives and models of persuasion are examined, including classical and modern approaches. Both theoretical and pragmatic considerations are introduced.

COM 320 Small Group Communication Cr. 3. P: 114. A study of group thinking and problem-solving methods; participation in and evaluation of committee and informal discussion groups. Focus on the roles, networks, and messages employed by small group communicators.

COM 323 Business and Professional Speaking Cr. 3. P: 114. The study of oral communication problems and responsibilities in the business-organizational environment. Participation in problem-solving from investigation and informative speaking to advocacy and parliamentary debate. This course is not available for credit toward any communication major or minor.

COM 324 Introduction to Organizational Communication Cr. 3. P: 114. An introduction to fundamental concepts and basic research related to communication behavior in organizational settings. Units cover message processing, leadership communication, communication networks, communication training, and communication audits.

COM 325 Interviewing: Principles and Practice Cr. 3. P: 114. Theory and practice of methods in selected interview settings: informal, employment, and persuasive. Emphasis on communication between two persons, questioning techniques, and the logical and psychological bases of interpersonal persuasion.

COM 330 Theories of Mass Communication Cr. 3. An examination of mass communication theories and theorists. Readings and discussion of McLuhan, Lippman, LaFleur, Lazarsfeld, Schramm, Stephenson, and other significant contributors.

COM 331 Audio Production Class 1–2, Lab. 4, Cr. 3. P: 251. Basic principles of audio production as applied to radio and television. Treats program types, production methods, techniques of the sound studio, and laboratory practice in production and direction.

COM 332 Television Studio Production Class 1, Lab. 4, Cr. 3. P: 251. Basic principles of producing, writing, and directing for television. Treats program types and television criticism, and explores creative treatment of visual, artistic, and nonverbal elements of communication in television.

COM 333 Film Production Class 2, Lab. 2, Cr. 3. P: 251 and consent of instructor. Basic theory and techniques of motion-picture production. Viewing and evaluation of films illustrating a variety of film techniques. Production experiences in filming, scripting, editing, sound recording, and production planning.

COM 334 Journalism for the Electronic Mass Media Class 2, Lab. 2, Cr. 3. P: 251 or consent of instructor. The development and practice of electronic journalism, with projects relating to straight news, feature reports, commentary, editorial, interview, and documentary.

COM 337 Video Production/Editing Class 1, Lab. 4, Cr. 3. P: 332. Provides experience in writing program proposals and scripts, taping with small-format television equipment, and audio and video editing for various program formats. Special attention to editing, theory and technique, aesthetic considerations, and institutional and community cable outlets.

COM 338 Documentary and Experimental Film and Video Cr. 3. P: 251. An examination of experimental and actuality ("documentary") film and video, with emphasis on structural and technical innovation, production considerations, and historical development, as well as interrelationships between these two basic genres.

COM 352 Mass Communication Law Cr. 3. Study of Anglo-American traditions and trends, as well as current American conditions of the laws of libel, privacy, fair comment and criticism, privilege, property rights, and copyright as such factors affect the print journalist and the broadcaster. Emphasis is on existing state and federal regulations and precedents. Credit is not given for both COM 352 and JOUR J300.

COM 410 Gender Roles and Communication Cr. 3. P: 114. This course is designed to investigate the relationship between gender roles and communication; i.e., how gender roles are socially constructed, maintained, and enacted. The course also explores gender differences, similarities, and gender issues in personal and organizational contexts.

COM 422 Women, Men, and Media Cr. 3. P: 250 or permission of instructor. An examination of the processes by which gender is constructed in the mass communication media. Students will be asked to consider how the technical, economic, and political constraints and capabilities of the media construct images of gender for audiences.

COM 431 Practicum in Radio Cr. 2. P: 114, 250 or 330, 251, 331, and permission of the instructor. May be repeated once for credit. Assigned television production for the advanced student only; usually, but not necessarily, involving assigned work at a professional radio media installation.

COM 432 Practicum in Television Cr. 2. P: 114, 250 or 330, 251, 332, and permission of the instructor. May be

repeated once for credit. Assigned television production for the advanced student only; usually, but not necessarily, involving assigned work at a professional television media installation.

COM 433 Practicum in Film Cr. 2.

P: 114, 250 or 330, 251, 333, and permission of the instructor. May be repeated once for credit. Assigned film production for the advanced student only; usually, but not necessarily, involving assigned work at a professional film media installation.

COM 436 Script Writing Cr. 3. P: 251.

Study of forms and materials suitable for the electronic mass media; practice in selection, adaptation, and organization of program materials.

COM 471 Communicating Peace Cr. 3.

P: 114. Examines the processes by which peace and/or violence are constructed at all communicative levels (intrapersonally, ideologically, and internationally) through face-to-face and mediated communication channels. Students gain an understanding of how we used and misuse communication processes to create peace and/or violence and learn skills for communicating peace.

COM 490 Internship in Communication

Cr. 1–6. P: 114, first course in area, and consent of instructor. May be repeated for credit. Experiential, supervised training in public relations, journalism, telecommunication, oral interpretation, speech education, organizational communication, or public communication. Usually taken in junior or senior year.

COM 491 Special Topics in

Communication Cr. 1–3. (V.T.) P: consent of instructor. May be repeated for up to 6 hours of credit. Intensive study of selected topics, varying from semester to semester, from the literature or practice of communication. Course content will be drawn from areas not dealt with in the regular curriculum and may include such topics as photojournalism, economic reporting, and campaign communication.

COM 491H Special Topics in

Communication—Honors Cr. 3. Honors equivalent of COM 491.

COM 493 Interdisciplinary Undergraduate Seminar Cr. 1–3.

P: consent of instructor. Offered at IPFW

only. May be repeated for credit. An undergraduate seminar devoted to an interdisciplinary examination of social, economic, political, and intellectual movements using the faculty resources of the participating departments. Subject matter will vary. Each offering of the seminar will be approved by a committee of department heads from the sponsoring departments.

Dual Level, Undergraduate-Graduate

COM 502 Classroom Communication

Cr. 3. P: 212 or a course in methods of teaching. An introduction to fundamental concepts and basic research related to communicative behavior in the classroom. The primary focus is on the study of and application of principles of effective classroom communication through personal inquiry. Among topics discussed are components of classroom communication, systematic observation as a method of studying classroom communication, and applications of systematic observation in a variety of classroom communication settings.

COM 507 Introduction to Semiotics Cr. 3.

The study of languages, literatures, and other systems of human communication. Includes a wide range of phenomena that can be brought together by means of a general theory of signs. The course deals with three fundamental areas: 1) verbal communication, 2) nonverbal communication (iconic systems, gestures, body language, etc.), and 3) communication through art forms.

COM 508 Nonverbal Communication in

Human Interaction Cr. 3. P: consent of instructor. An examination of theoretical writings and critical studies in selected areas of nonverbal communication, e.g., environmental influences, space and territory relationships, physical appearance and dress, physical behavior, and vocal cues. One unit will specifically concern itself with measurement, recording, or transcription methods used in nonverbal study.

COM 512 Theories of Interpersonal

Communication Cr. 3. P: 212 or consent of instructor. Review of contemporary theories, analysis of concepts, models, and

pertinent research across the broad spectrum of interpersonal communication.

COM 515 Persuasion in Social

Movements Cr. 3. P: 318 or consent of instructor. A study of the concept of persuasion in social movement theory and the role rhetoric has played historically in selected social movements such as suffrage, women's liberation, civil rights, evangelism, and trade unionism.

COM 516 Analysis of Persuasive

Messages Cr. 3. P: 318 or consent of instructor. An examination of the ideational, structural, linguistic, and philosophical dimensions of persuasive messages. Emphasis on theoretical and practical components of contemporary persuasion.

COM 517 Communication in Politics

Cr. 3. P: 318 or consent of instructor. Development and application of critical standards to the rhetoric employed by candidates for public office; study of the campaign strategies employed by parties and their candidates at various levels of government.

COM 518 Theories of Persuasion Cr. 3.

P: 318 or consent of instructor. Review of contemporary theories, including analysis of concepts, models, and pertinent research across the broad spectrum of persuasive communication.

COM 520 Small Group Communication

Cr. 3. P: 320 or consent of instructor. Survey and critical evaluation of theoretical and empirical literature dealing with human communication within small group settings.

COM 521 Theories of Rhetoric Cr. 3.

P: 318 or consent of instructor. A comprehensive survey of the principal figures, theories, and movements in rhetoric from the classical era to the present.

COM 522 History and Criticism of Public

Communication Cr. 3. P: consent of instructor. A survey of speech-making and speech criticism as forces in shaping America from colonial times to World War II. The course examines great American speakers in shaping history through the use of rhetoric and oratory.

COM 523 Communication in Personal

Relationships Cr. 3. P: 212. Explores the initiation, development, maintenance, and deterioration of family, friend, and romantic relationships. Explores relational

phenomena, such as communication and gender differences, computer-mediated relationships, attraction, relational culture, and stages of dissolution.

COM 525 Advanced Interviewing Cr. 3. P: 325 or equivalent. Application of modern communication theory to interview situations with emphasis upon problems involving superior-subordinate relations, information-getting, and interpersonal misunderstanding. Classroom demonstrations based upon real-life cases, supplemented by off-campus interviews; practice in briefing techniques.

COM 527 Introduction to Cultural Studies Cr. 3. P: 251 or consent of instructor. An examination of selected cultural studies perspectives on mass communication. The course will cover cultural studies philosophies, theories, and/or approaches to the study of cultural artifacts and practices that may include some of the following: postmodernism, deconstruction, feminism, and postcolonialism, privileging context as a means of understanding culture.

COM 531 Special Topics in Mass Communication Cr. 3. P: 250 and consent of instructor. Critical analysis and evaluation of current and continuing problems in both commercial and public mass communication. May be repeated for credit.

COM 532 Telecommunication Systems Management Cr. 3. P: 250 and consent of instructor. Organization and management of commercial and public telecommunication facilities with emphasis upon economic factors as well as on the interrelationships of various departments. Special problems related to programming, production, sales, public relations, CATV, audience, government regulation, current and future trends.

COM 534 Comparative Telecommunication Systems Cr. 3. P: 250 or consent of instructor. Historical, sociological, and political aspects of various systems of telecommunication throughout the world. Examination of American, Canadian, British, French, German, Soviet, and other telecommunication institutions.

COM 537 Educational/Instructional Television Cr. 3. P: consent of instructor. Survey of the educational and instructional

applications of multimedia technology; analysis of selected problems in the educational uses of the multimedia, development, application, and analysis of multimedia projects as related to the learning process.

COM 557 Legal Dimensions of Communication Cr. 3. P: 352. Analysis of contemporary issues in communication law. Research into selected problems concerning the law and its impact on face-to-face and mass communication.

COM 559 Current Trends in Mass Communication Research Cr. 3. P: 330 or consent of instructor. An examination of current research as it contributes to understanding the process and effects of mass communication. Topics covered include gatekeepers and information control, audience selection processes and uses of the media, media content and social learning, the effects of adult programming on children, and the effects of the media on the governmental process.

COM 560 Rhetorical Dimensions of Mass Media Cr. 3. P: 521 or consent of instructor. A study of the ways in which rhetorical elements and processes are embodied in and modified by the media of mass communication. The rhetorical functions of print and electronic media are examined individually as well as within the context of specific campaigns and movements.

COM 563 Public Policy in Telecommunication Cr. 3. P: consent of instructor. An examination of the structure and operation of commercial, public, and international telecommunication. Regulatory agencies, both private and public, will be considered in terms of their effect on programming.

COM 574 Organizational Communication Cr. 3. P: 324 or consent of instructor. Survey of the theoretical and empirical literature dealing with human communication behavior as it occurs within the context of complex organizations. Among topics covered are superior-subordinate communication, communication networks, message distortion, feedback processes, internal corporate mass media, managerial-communication climate, semantic and stylistic dimensions of messages, and communication in decision making.

COM 582 Descriptive/Experimental Research in Communication Cr. 3.

P: consent of instructor. Introduction to the fundamental tools of quantitative research in communication, including data analysis, statistical design and methods, basic measurement concepts, and designs for descriptive and experimental research. Individual and/or group research projects are planned, conducted, and reported. May be repeated for credit.

COM 584 Historical/Critical Research in Communication Cr. 3. P: consent of instructor. Introduction to modes of qualitative research in communication, including theoretical assumptions, bibliographical methods, varying approaches to historical and critical inquiry, and the standards and techniques of scholarly writing. Emphasis is placed on historical research during fall semesters and on critical research during spring semesters. May be repeated for credit.

COM 590 Directed Study of Special Problems Cr. 1–3. (V.T.) P: consent of instructor. May be repeated for credit.

Comparative Literature (CMLT)

CMLT C217 Detective and Mystery Literature Cr. 3. P: ENG W131 or equivalent. Origins, evolution, conventions, criticism, and theory of the detective and mystery story; history of the Gothic novel; later development of the tale of terror; major works of this type in Western fiction, drama, and film.

CMLT C255 Modern Literature and the Other Arts: An Introduction Cr. 3. P: ENG W131 or equivalent. Analyzes the materials of literature, painting, and music, and the ways in which meaning is expressed through the organization of the materials. Investigates similarities and differences among the arts. Examples selected from the past 200 years. No previous knowledge of art required.

CMLT C333 Romanticism Cr. 3. (V.T.) P: ENG L202 or W233 or equivalent; R: CLAS C205. The rise of Romantic tendencies in 18th-century Europe (pre-Romanticism); the Romantic revolution in early 19th-century Western literature. Such authors as Goethe, Chateaubriand, Wordsworth, Byron, Novalis, Hoffman, Hugo, Poe.

CMLT C337 *The 20th Century: Tradition and Change* Cr. 3. (V.T.) P: ENG L202 or W233 or equivalent; R: CLAS C205. Emphasis on breaking-up of tradition and triumph of experimental literature. Illustrations from German, French, Italian, English, Scandinavian, Russian, and American writings. May be repeated with different topics, for a maximum of 9 credits.

CMLT C340 *Women in World Literature* Cr. 3. (V.T.) P: ENG L202 or W233 or equivalent. Study of creative women writers who deal with unconventional themes. Comparison of images of female characters in 20th-century novels by French, English, and American women writers who challenge literary or social conventions. Focus on fiction or on another genre (e.g., drama, poetry, essay) each time course is offered. May be repeated with different topics for a maximum of 9 credits.

Computer Engineering Technology (CPET)

CPET 101 *Electrical Circuits* Class 3, Lab. 2 or 3, Cr. 4. C: MA 153. A study of DC and AC electrical circuits. Topics include circuit components (R, L, C), voltages, currents, power, Ohm's Law, Kirchhoff's Laws, series and parallel circuits, circuit theorems, electrical measurements, sinusoidal AC voltages, currents, impedance.

CPET 161 *Analog Electronics* Class 3, Lab. 2 or 3, Cr. 4. P: CPET 101, MA 153. A study of solid state devices and circuits. Topics include diodes, LEDs, photo-sensitive devices, Zener diodes, bipolar transistors, MOS devices, linear integrated circuits, and related application circuits such as rectifiers, sensing circuits, various transistor amplifiers, transistor switches, linear and nonlinear op-amp circuits.

CPET 181 *Computer Operating Systems Basics* Class 2–3, Lab. 0–2, Cr. 3. Introduction to computer operating systems, organization and functions of hardware components, and system software. Topics include system commands, operating system interface, system utilities, shells programming, file systems and management, introduction to

concepts, graphical user interface, device drivers, memory management, processes, concurrency, scheduling, multitasking and multiprocessing. Laboratory experiences include Microsoft Windows and UNIX.

CPET 213 *Web-based Analysis and Design* Cr. 3. P: ECET 264, CS 160 or CS 331. This course covers the concepts, processes, and tools used in analyzing and designing Web applications. Object-oriented methods and tools are utilized. Students develop Web-based user interfaces and prototypes.

CPET 281 *Local Area Networks and Management* Cr. 3. P: 181 or equivalent; C: 355 or CS 274. A study of issues in local area network (LAN) planning, design, installation, and management. Topics include LAN components and protocols, topologies and network architecture, network system hardware consideration, LAN design and network layout, wiring and installation, network operating systems, network servers, connection and services for clients, network system administration and management. Other topics may include LAN applications, performance tuning, disaster recovery, hybrid networking environment and integration, network monitoring tools, and network management tools. Laboratory experiences include Microsoft Windows NT and UNIX.

CPET 355 *Data Communications and Networking* Class 3, Lab. 2 or 3, Cr. 4. P: ECET 205 or CS 271 or equivalent. A survey of data communication and networking techniques, protocols, and standards. Topics include OSI model, TCP/IP protocols and applications, signals, encoding and modulating, transmission of data and interfaces, transmission media, multiplexing, error detection and correction, data link controls and protocols, switching techniques, local area networks, wide area networks, and other well-known networks services including integrated services digital network (ISDN), X.25 (packet switching), frame relay (virtual-circuit), asynchronous transfer mode (ATM), and synchronous optical network (SDONET).

CPET 364 *Networking Security* Cr. 3. P: 281 or 355, or 384, or CS 374 or equivalent. This course examines the analysis, design, implementation, and management issues surrounding effective network security. The business, conceptual,

and technological aspects of network security for computer networks. Topics include virus protection, firewalls, authentication, encryption, wireless security, security protocols, and network security policy development and fraud protection.

CPET 375 *Microprocessor-Based Digital Systems* Class 3, Lab. 0–3, Cr. 3–4. P: ECET 114, ECET 111. A study of the microprocessor system bus; the architecture and interfacing of various processor, memory, and input-output devices; the instruction set; assembly language programming; and design of microprocessor-based digital network.

CPET 384 *Wide Area Network Design* Cr. 3. P: 281, CPET/ECET 355, CS 274 or equivalent. Credit by examination: none. This course explores wide area network (WAN) planning and design issues. Emphasis on WAN switching methods and technologies, protocols, and services, traffic engineering, and capacity planning design and tradeoffs. Representative case studies will be used. Other topics may include remote access technologies, access networks, backbone networks, enterprise WAN networks, remote monitoring tools and protocol analyzer, trends in WAN design and WAN integration.

CPET 411 *Microcomputer Interfacing* Class 3, Lab. 2 or 3, Cr. 4. P: ECET 205. A study of microprocessor interfacing techniques and components required to assemble a typical microcomputer system. Emphasis on serial I/O and parallel I/O chips; peripheral interfacing: LED display, keyboard, CRT display, floppy disk, D/A's, A/D's, and stepping motor.

CPET 472 *Automatic Control Systems* Class 3, Lab. 2, Cr. 4. P: 307. A study of network analysis using Laplace transforms, classical control systems theory, system stability and compensation, and topics on microprocessor-based control systems.

CPET 486 *Robotics and Control Electronics with Microcomputers* Class 3, Lab. 2 or 3, Cr. 4. P: ECET 114, ECET 205. A study of robots, robotic sensors, robotic components, and controlling robots with microcomputers. Topics include sensor-based real-time robot control systems; interfacing the following types of sensors: proximity sensors, force sensors, motion sensors, sound sensors, and vision sensor;

low-level data acquisition and communication, high-level communication, coordinate transformation, coordinated path generation, and robot motion programming.

CPET 490 Senior Design Project I Cr. 1.

P: Junior or senior status. An extensive individual design and/or analytical project performed in consultation with one or more faculty advisors. Collaboration with representatives of industry, government agencies, or community institutions is encouraged. Evidence of extensive and thorough laboratory performance is required. Phase I includes, but is not limited to (1) faculty acceptance of project proposal, (2) defining and limiting project objectives, (3) initial research and source contacts, (4) project proposal management, (5) procurement of materials, and (6) periodic progress reports.

CPET 491 Senior Design Project II Cr. 3.

P: 490. Phase II includes, but is not limited to (1) continued research and finalized design, (2) project management process, (3) project analysis, design, modeling and prototyping, and testing, (4) oral presentation to faculty and other interested parties, (5) standard-format written technical report.

CPET 493 Wireless Networking Cr. 3,

Class 2, Lab 2. P: 355. This course covers both theoretical issues related to wireless networking and practical systems for both wireless data networks and cellular wireless telecommunication systems. Students will also work on a project that addresses some recent issues in wireless and mobile networking.

CPET 494 Java Programming

Applications Cr. 4. P: ECET 264, CS 160, CS 331, or equivalent, and junior standing. This course covers design and implementation of modern embedded, stand-alone, Web-based, and distributed Java applications. Topics include definition of classes and objects; Java basics, array and string classes; exceptions and debugging; graphics user interface; file I/O streams; Java multi-threading; Java applets and servlets; Java database connectivity; Java RMI (remote method invocation); Java native interface through C/C++; Java industrial and enterprise applications. Students develop application-oriented final projects.

CPET 495 Web Engineering and Design

Cr. 4. P: ECET 264, CS 161, and junior standing, or CPET 294. An introduction to problems involved in analyzing and designing Web applications from small-scale, short-lived services, to large-scale enterprise applications distributed across the Internet and corporate intranets and extranets. Major topics include Web standard protocols and interfaces, Web security, Web engineering methodology, Web architectures and Web components (Web server, application servers or environments, the client, and persistent server). E-commerce infrastructures, database and Web integration, Web services standards and technologies, and Web-based application development.

CPET 499 Computer Engineering

Technology Cr. 1-4. P: approved by instructor. Hours and subject matter to be arranged by staff. Repeatable up to 12 credits. An extensive individual design, special topics course, research, and/or analytical project in any one of the following areas: networking operating systems, computer networking, distributed computing, client/server applications, wireless communications, wide area network design, network system management, computer and network security. Internet system programming and industrial applications of networking, control, and monitoring. Collaboration with representatives of industry, government agencies, or community institutions is encouraged.

Computer Science (CS)

If you are majoring in this discipline, you may want to consider the Science and Engineering Research Semester. See information under Arts and Sciences (Part 3).

CS 102 Computer Science Concepts Cr. 3.

This course emphasizes computing concepts of special interest to first-year students. Hands-on applications are stressed.

CS 106 Introduction to Computers Cr. 3.

A general introduction to computers and their applications with emphasis on breadth of coverage. Computer system components, terminology, programming

concepts, and representative applications. History of computing. Contemporary issues. Productivity tools such as spreadsheets, database, computer graphics and their applications. Course will not count toward a bachelor's degree in the computer science department.

CS 112 Survey of Computer Science Cr. 3.

This course is designed to provide a broad and realistic idea of what computer professionals do and how they do it. It will prepare students for later computing courses, including software development courses, by providing both individual and team hands-on lab experiences with Web design, markup languages (HTML) and JavaScript. Students will be introduced to various professional opportunities and work environments. Current topics in computer science as they relate to society will be covered. Students will gain sufficient programming experience to enable a smooth transition to CS 160 Java programming.

CS 114 Introduction to Visual Basic Cr. 3.

C: MA 150 or MA 153. This course provides an introduction to programming using the Visual Basic language and its integrated development environment. Topics to be covered include the syntax and structure of the VB language; controls, dialog boxes, and other interface tools; menu design; multiple forms; error-trapping; and arrays. Other topics that may be covered include object linking and embedding (OLE); VB for applications; database development using record sets and databound controls; data handling; grids; validation and election; drag and drop; and graphics, and new revisions for interoperability with other languages.

CS 155 COBOL Programming Cr. 3.

P: 161. Study of the COBOL programming language with emphasis on file organization and processing. Topics covered include data types, data definition, subprograms, and parameter passing. Emphasis on developing program structure and style.

CS 160 Introduction to Computer

Science I Cr. 4. P: 112 or equivalent experience, and MA 153. An introduction to computer concepts and the fundamentals of structured programming in a high-level language. Problem-solving techniques, specifications, stepwise refinement, programming style, structure charts, and

program documentation. Programming topics include data types, assignments, input/output, subprograms, selection, iteration, arrays, records, text files, and simple searching and sorting.

CS 161 Introduction to Computer Science II Cr. 4. P: 160; C: MA 175.

Continuation of 160. Emphasis on program development including programming style, modularization, data abstraction, abstract data types, and selection and analysis of algorithms. Programming using a structured approach. Topics include recursion, pointers, files, and elementary data structures including stacks, queues, linked lists, and binary trees.

CS 170 C and Data Structures Cr. 3.

P: 160 or 210 or ENGR 110. The course will introduce the C programming language including the language syntax, the programming environment, basic data types, complex data types (pointer, array, structures, bit fields, and unions), macros, i/o, and functions. Program development will emphasize modularization, data abstraction, and selection and analysis of algorithms. Other topics include recursion, files, linked lists, stacks, queues, and binary trees. Course projects are related to common engineering and computer science applications. Course will not count toward graduation in the computer science department.

CS 172 Introduction to C Cr. 1. P: 160.

The course will introduce the C programming language including the language syntax, the programming environment, basic data types, complex data types (pointer, array, structures, bit fields, and unions), macros, i/o, and functions.

CS 203 Advanced Visual Basic Cr. 3.

P: 114 or ECET 114. This course continues the study of Visual Basic begun in CS 114/ECET 114. Topics to be covered include reading and writing of sequential and direct files; custom controls; advanced SQL; the creation of online help; object linking and embedding (OLE); calling DLL procedures (Windows API); class modules; and an introduction to ActiveX components. Student will learn the skills needed to create stand-alone and www-based Visual Basic applications for personal computer use. This course will provide guidance in preparing for the Microsoft Certified Systems Designer examination.

CS 232 Introduction to C and Unix Cr. 3.

P: 161. This course is an introduction to the C language and the Unix operating system. It presumes fluency in a high-level language. The course will focus on standard C and Unix tools, rather than a proprietary version of either. C topics include data types, the syntax for arithmetic, logical and relational functions, control functions, scope, communications with the shell, file i/o, pointers, arrays, structs, typedefs, macro and preprocessor functions, and the use of libraries and multiple source files. Unix topics include the file and directory structures, permissions, shells, standard tools such as history, sort, vi, grep, sed, tar, and make, and simple shell scripting.

CS 256 Applications Software Project Cr. 3.

P: 155, 161, and ENG W234. Project course requiring implementation of an integrated application system from a structured design. Emphasis on structured development techniques and on system and user documentation. Other topics include indexed and relative file organization, JCL, Reportwriter, and introduction to information, and business systems.

CS 260 Data Structures Cr. 3.

P: 161 and MA 175. Design and analysis of algorithms that act on data and file structures. Review of linear data structures. Hash tables, tree structures, and graphs. Organization and access of files, memory management. Internal and external searching, sorting, and merging.

CS 270 Assembly Language Cr. 3.

P: 160. Computer hardware organization, the fetch-execute cycle, machine language, and data representation. Assembly language programming, addressing techniques, input/output, calling conventions, procedures and parameter passing, macros, and conditional assembly. Assembler concepts. Emphasis on the development of well-structured programs in assembly language.

CS 271 Computer Architecture Cr. 3.

P: 161 and MA 175. Introduction to computer organization and architecture. Fundamentals of digital logic and representation of numeric and nonnumeric data. Assembly level organization and programming, including instruction formats, addressing modes, and subprogram call/return. Design of main memory, cache

memory, and virtual memory. Interrupt basics, interrupt-driven I/O, DMA, and bus protocols. Processor organization, data paths, the control unit, micriprogramming, pipelining, and performance enhancements. Multiprocessor and alternative architectures.

CS 274 Data Communications Cr. 3.

P: 260. A survey of data communication techniques. Topics include communications media, synchronous and asynchronous transmission, coding, error detection and correction, communications protocols and formats, modulation and demodulation, multiplexing and networking, and the OSI model with emphasis on the physical and data link layers.

CS 292 Intermediate Topics in Computer Science Cr. 2-3. (V.T.)

P: consent of instructor. Intermediate seminar addressing current topics or issues in computer science or information systems.

CS 295 Industrial Practicum Cr. 1.

C: sophomore class standing. Practical problems in local industry limited to about 10 to 20 hours per week for which the student may receive some remuneration. May be repeated but the total combined credit that may be applied to a degree is limited to three. Open only to full-time students.

CS 306 Computers in Society Cr. 3.

C: junior class standing. Case study analysis of the social impacts of computerization and networking. Topics include computer ethics, crime, privacy, security, reliability, and vulnerability. Other topics include cyberphilia, cyberphobia, censorship, depersonalization, disenfranchisement, automated decision making, artificial intelligence, cognitive science, and ergonomics. Students present projects applying these issues to today's environment.

CS 310 Topics in Computer Languages Cr. 3.

P: 210. Study of data structures including two-dimensional arrays, pointer variables, linked lists, stacks, queues, and trees. Brief introduction to other high-level programming languages. Algorithms for searching and sorting. Recursion. Not open to majors in the Department of Computer Science.

CS 321 Introduction to Computer Graphics Cr. 3.

P: 260. This is an introductory course in computer graphics.

This course introduces fundamental concepts of computer graphics technology and principles to create three-dimensional graphics. Fundamental graphics algorithms are discussed, as well as graphics programming, using a modern graphics standard. Students are expected to complete several programming assignments that implement fundamental computer graphics techniques in the Unix operating system environment.

CS 331 Introduction to C++ and Object-Oriented Programming Cr. 3. P: 260. An introduction to the C++ language with emphasis on features supporting object-oriented programming. Fundamental data type and operations. Expression evaluation. Selection and iteration constraints. Functions, procedures, and macro. Standard libraries. Classes: declaration and definition; instances; member functions; constructors and destructors; function overloading; inheritance and polymorphism. Stream input and output. Using classes to encapsulate data structure and implementation details.

CS 350 Programming Language Design Cr. 3. P: 260 and 271. A survey of language design issues and their implications for translation and run-time support. Examination of modern programming languages and features: Abstract data and control structures, procedures, parameter passing mechanisms, block structuring and scope rules, input/output, concurrent execution, and storage management. Models of run time behavior. Comparison of imperative and declarative programming languages.

CS 360 Software Engineering Cr. 3. P: 260 and ENG W234. This course provides an introduction to the methods of software engineering. Topics include the software development process, software specification using the UML for analysis and design, software metrics, quality assurance and test plans, and organizational and management issues.

CS 364 Introduction to Database Systems Cr. 3. P: 260. Theory and application of database systems for information organization and retrieval based on the relational model. Includes database models, query languages, data dependencies, normal forms, and database design. Projects include use of commercial mainframe and microcomputer database software.

CS 365 Advanced Database Systems Cr. 3. P: 364. The first part of the course includes theory of SQL, implementation of some components of DBMS, and a comprehensive project. The second part of the course includes more advanced topics as recovery; concurrency; and distributed, deductive, and knowledge databases.

CS 366 Structured Analysis Techniques Cr. 3. P: ENG W234 and CS 260. Methods used in analyzing information systems. Topics include user interviewing and observation, event analysis, data flow diagrams, data dictionaries, mini-specifications, decision trees, decision tables, and both logical and physical models. Students practice these techniques in a major structured analysis project resulting in a requirements specification document.

CS 367 Structured Design Techniques Cr. 3. P: 366. Methods used in designing information systems. Topics include structure charts, module specifications, pseudocode, coupling, cohesion, transform analysis, transaction analysis, and user interface design. Includes the detailed design of an information system and the implementation of a prototype of that design.

CS 374 Computer Networks Cr. 3. P: 274. The design and implementation of data communications networks. Topics include network topologies; message, circuit and packet switching; broadcast, satellite and local area networks; routing; the OSI model with emphasis on the network, transport, and session layers.

CS 376 Advanced Computer Architecture Cr. 3. P: 271. A comparative study of computer systems and hardware organization. Topics include processor and memory organization, microprogramming, architectural support for operating systems and high-level languages, and I/O organization. Examples of representative architectures.

CS 384 Numerical Analysis Cr. 3. P: 160 and MA 166. Iterative methods for solving nonlinear equations; direct and iterative methods for solving linear systems; interpolation and extrapolation; approximation of derivatives, integrals, and functions; numerical techniques for ordinary differential equations; error analysis. Use of mathematical subroutine libraries.

CS 395 Industrial Practice I Cr. 0–3. P: Junior class standing. Practical problems in local industry limited to about 10–20 hours per week. May be repeated, but the total combined credit that may be applied to a degree is limited to 6. Open only to full-time students. Permission of the department is required.

CS 460 Capstone Design and Professional Practice Cr. 4. P: 360 and senior standing. Student teams will participate in the design and implementation of a substantial software project. Topics include practical issues of software development, quality assurance, and deployment, as well as computing ethics and professional practice.

CS 464 Computer Systems Planning Cr. 3. P: 366. The planning and design of computer systems, including the formulation of corporate requirements, configuration of hardware to satisfy stated requirements, comparison and evaluation of equipment, installation considerations, and implementation procedures.

CS 466 Strategic Issues for Information Systems Cr. 3. P: 366. Topics in information systems management including strategic planning for competitive advantage, chargeback, systems portfolio risk analysis, security, and assimilating technology advances. Students develop an information systems strategic plan.

CS 467 Project Management Cr. 3. Covers the techniques required to manage systems development. Topics include project proposal, planning, estimating, organizing, controlling, and completion. Students practice these techniques on a major project using project management software.

CS 472 Operating Systems Design Cr. 3. P: 260 and 271. The design and implementation of modern multiprocessing operating systems. Topics include concurrent programming, real and virtual storage allocation, resource allocation and deadlock prevention and avoidance, job scheduling, and analytic modeling. Students will complete projects involving concurrency and implement a portion of a multiprocessing operating system.

CS 474 Compiler Construction Cr. 3. P: 350. Techniques for the syntax-directed translation of modern high-level languages. Topics include grammars and language specification, language design issues, lexical

analysis, LL and LR parsing techniques, semantics, symbol table design, code generation, and local optimization. Students are required to implement a compiler for a subset of a structured high-level language such as Pascal or Ada.

CS 486 Analysis of Algorithms Cr. 3.

P: 260 and MA 166. Techniques for analyzing the time and space requirements of algorithms and problems. Application of these techniques to sorting, searching, pattern-matching, graph problems, and other selected problems. Brief introduction to the intractable (NP-hard) problems.

CS 488 Theory of Computation Cr. 3.

P: 350. Mathematical models of computation including finite and pushdown automata and Turing machines and equivalence of different general-purpose models. Grammars and their relation to automata, Church's Thesis, and limits of computation.

CS 492 Topics in Computer Science Cr. 3.

P: consent of instructor. Seminar addressing current topics or issues in computer science or information systems.

CS 494 Directed Study Cr. 1–3. C: junior or senior class standing. Independent study for students who desire to execute a complete computer-oriented project. Course may be repeated for credit up to 6 hours toward graduation.

CS 495 Cooperative Experience Cr. 0–3.

For Cooperative Program students only. Permission of the department required.

Dual Level, Undergraduate-Graduate

ACS 544 Performance Modeling and Evaluation of Computer Systems Cr. 3.

Emphasis is placed on the development and study of models for client-server systems, communication networks, and protocols. These models include Petri nets, other analytic models, and discrete event simulation models. Actual systems are modeled and performance predicted. Students are expected to complete a major project using simulation models and a standard simulation language, network modeling package, or a network protocol design tool.

ACS 560 Software Engineering Cr. 3.

P: CS 260 or equivalent. A survey of the

state-of-the-practice in developing large software systems. Presentation of life-cycle modes. Techniques for analysis, design, implementation, and testing, with emphasis on reusability and team development. Use of metrics to estimate project cost and personnel requirements and to evaluate life cycle products. CASE tools for supporting life cycle activities. Students are required to participate in a team project to modify a large system and write and present a paper on a selected software engineering topic.

ACS 562 Systems Analysis and Design Cr. 3. P: 560. In-depth study of requirements analysis and system design of computer-oriented systems. Emphasis on current techniques for documenting users' requirements and producing maintainable, cost-effective systems using a project-based approach. Projects include developing requirements, specifications, and design of a software system. Students must present a semester project.

ACS 564 Human-Computer Interaction Cr. 3. P: 562. A survey of human-computer interaction (HCI) concepts, theory, and practice, including its interdisciplinary nature. Examination of human needs and capabilities, as well as technological opportunities in the design of interactive systems. Provides an overview and introduction to the field of human-computer interaction and a systematic approach to human-computer design, including tools, techniques, and sources of knowledge. Students are expected to design and evaluate user interface designs in small projects.

ACS 566 The Strategic Role of Information Systems Cr. 3. P: 562. A study of information systems (IS) as part of the corporate strategy. Topics include strategic planning, role of the chief information officer, value of the corporate information system, IS long-range planning, managing MIS development, managing information technologies and resources, and information systems as a corporate, competitive tool. Students complete case studies and an information systems strategic plan for their term project.

ASC 567 Software Project Management Cr. 3. P: 562. Consideration of managing the software development process and the implementation of information technologies. Advanced material in project planning, cost and time estimation,

mechanisms for monitoring and controlling projects, quality assurance, change management, and leadership and team building. Other topics include project tracking, managing multiple projects, data sharing, communicating plans, and transnational considerations in areas such as staffing and vendor support. Students apply project management software to case studies.

ACS 568 Object-Oriented Systems Development Cr. 3. P: CS 367 or equivalent. An examination of the concepts of object technology in a language independent fashion, illustrated with examples from specific programming languages. Teaches strategies and patterns for applying object-oriented methodologies to real-world application. Emphasis is on object-oriented programming and object-oriented design. Students are expected to complete large-scale programming and design projects through team programming.

ACS 573 Advanced Operating Systems Cr. 3. Advanced topics in modern operating systems such as distributed operating systems, client-server models, mutual exclusive and concurrency control, threads models, load balancing, real-time distributed system, distributed file systems, and shared memory. Case studies of contemporary operating systems.

ACS 574 Advanced Computer Networks Cr. 3. P: CS 274. Introduction to communication networks, the Internet, circuit and packet switching, interfaces between computers and network hardware. Network architecture: OSI seven layer protocol stack, reliable delivery over unreliable channels, transport protocols, datagrams, virtual circuits, internetworking as a fundamental design concept. Network management concepts, client server principles and paradigms, addressing and address resolution algorithms, and remote procedure cells.

ACS 582 Expert Systems Cr. 3. P: CS 572. The design and implementation of expert systems. Knowledge representation, organization, and architecture of knowledge-based systems; reasoning with uncertain and incomplete information; justification and explanation; production systems; rule-based programming; knowledge acquisition and knowledge engineering; historical overview and recent

applications of expert systems; and languages and tools for building expert systems. Students complete programming assignments with an expert system development tool.

CS 514 Numerical Analysis Cr. 3. P: 384 or equivalent. Iterative methods for solving nonlinear equations; linear difference equations, applications to solution of polynomial equations, differentiation and integration formulas; numerical solution of ordinary differential equations; roundoff error bounds.

CS 520 Computational Methods in Analysis Cr. 3. P: MA 351 or 511. A treatment of numerical algorithms for solving classical problems in real analysis, with primary emphasis on linear and nonlinear systems of equations and on optimization problems; the writing, testing, and comparison of numerical software for solving such problems; a discussion of the characteristics of quality software for implementing these algorithms.

CS 543 Introduction to Simulation and Modeling of Computer Systems Cr. 3. P: STAT 511 or equivalent. Simulation: discrete event simulation, process-oriented simulation, generating random numbers, simulation languages, simulation examples of complex systems. Nondeterministic models: random variables, Poisson process, moment generating functions, statistical inference and data analysis. Modeling: elementary queuing models, network of queues, applications to performance evaluation of computer systems.

CS 547 Information Storage and Retrieval and Natural Language Processing Cr. 3. Complex data structures: of fields within records, clustered, multilist, and inverted files; key decoding by tree and randomized techniques; overall techniques of classical document-retrieval systems, e.g., the MEDLARS and NASA systems; overall techniques of automatic document-retrieval systems, e.g., TIP and SMART, the internal structure of SMART; question-answering systems; natural-language translation.

CS 572 Heuristic Problem Solving Cr. 3. Design and development of heuristic problem-solving systems. The emphasis is on the development of general data representations, heuristics, and problem-solving strategies that can be

applied to wide classes of problems. The task areas explored include game playing, theorem proving, pattern recognition, semantic information processing, cognitive psychology, design synthesis, robotology, and integrated artificial intelligence systems.

CS 580 Algorithm Design, Analysis, and Implementation Cr. 3. P: 481 and 483, or 486 and 488. Basic techniques for designing and analyzing algorithms: dynamic programming, divide and conquer, balancing. Upper and lower bounds on time and space costs, worst case and expected cost measures. A selection of applications such as disjoint set union/find, graph algorithms, search trees, pattern matching. The polynomial complexity classes P, NP, and co-NP; intractable problems.

Construction Engineering Technology (CNET)

CNET 190 Experience in Construction I Cr. 1. Minimum of 10 weeks' work experience in the construction industry, plus recorded (written or otherwise as approved in advance) report of directed academic project.

CNET 276 Specs, Contracts, and Codes Cr. 3. Study of general conditions and major phases of construction codes, specifications, agreements, contracts, liens, and bonds.

CNET 280 Quantity Estimating Class 2, Lab. 3, Cr. 3. P: ARET 276. A study of estimating practices. Development of skill in preparing manual estimates of material quantities required in construction. Introduction to labor and material costs, electronic media, and computer applications.

CNET 290 Experience in Construction II Cr. 1. P: 190 and sophomore standing. Minimum of 10 weeks' work experience in the construction industry, plus recorded (written or otherwise as approved in advance) report of directed academic project.

CNET 344 Constructed Project Quality I Class 2, Lab. 3, Cr. 3. P: Must be in CNTB program/CNET major. Construction and design quality assurance. The role quality control plays in the execution of the construction contract. Inspection trips to construction sites.

CNET 348 Project Design Analysis Cr. 3. P: Must be in CNTB program/CNET major. Project-oriented integration of technological and nontechnological decision process. Students with and without mathematical backgrounds work together to analyze project design problems, both closed and open-ended. Economic and systems analyses. The effects of public policy and cultural history. Each student completes an interdisciplinary project and identifies a specific societal need as project for second course, CNET 448 Project Design Synthesis. Credit for use in degree program granted only upon completion of CNET 448.

CNET 390 Experience in Construction III Cr. 1. P: 290 and junior standing. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. Minimum of 10 weeks' work experience in the construction industry, plus recorded (written or otherwise as approved in advance) report of directed academic project.

CNET 391 Construction Cooperative III Cr. 1. P: ARET 292 or CET 292. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CNET 392 Construction Cooperative IV Cr. 1. P: 391. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CNET 395 Construction Practicum Cr. 1. Full-time students who have completed the associate degree program in architectural engineering technology or civil engineering technology hold meaningful work assignments in local industry, limited to about 10 hours per week, for which the students receive some remuneration. May be repeated up to 3 credit hours.

CNET 442 Costs Estimating Class 2, Lab. 3, Cr. 3. P: 344 and 348; must be in CNTB program/CNET major. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. A study of design and construction cost estimation and cost control practices. Development of unit

costs for material and labor. Topics include equipment, subcontracts, risk management, overhead, profit, bid strategy, bid price, total development cost, and value engineering. Use of electronic media and computer applications.

CNET 443 Engineered Construction Cr. 3. P: 442. Computations for a broad range of design and construction problems such as construction equipment and falsework; winter protection, temporary heat and electrical requirements; humidity, condensation, and equilibrium moisture contents of materials; expansion of materials, structures, curtain walls, and piping; sound absorption and transmission.

CNET 445 Construction Project Management I Cr. 3. P: 344; must be in CNTB program/CNET major. Planning the organization of people, resources, and activities required for a construction project from inception through design, construction, and operation. Emphasis on time control through critical path scheduling and management-by-exception, and related strategies. Computer applications.

CNET 448 Project Design Synthesis Cr. 3. P: 348 with C or better; must be in CNTB program/CNET major within one semester of baccalaureate degree declaration. Multi-interdisciplinary, project-oriented, real-world experience at the cutting edge. Aimed at combining skills and knowledge gained from student's undergraduate course work. The student will be expected to interact and collaborate with faculty members and seniors from different degree programs while attacking contemporary society's problems. Formal presentation before experts and lay public required.

CNET 454 Construction Legal Aspects Cr. 3. P: 344; must be in CNTB program/CNET major. Fundamentals of law with an emphasis on its application to construction. A survey of laws, regulations, and cases that stress the relationships among design professionals, contractors, and owners. Introduction to safety in design and construction. Study of facility failures and related problems.

CNET 455 Company Management Cr. 3. P: 344 and 348; must be in CNTB program/CNET major. Business policy, financial management, and other entrepreneurial problems as they relate to construction, design, and materials firms.

Company organization, contracts, bonds, insurance accounting systems, project control, and labor relations and current regulatory issues.

CNET 457 Construction Safety Cr. 3. P: 344; must be in CNTB program/CNET major. The study of strategies and technologies in design, construction, and operation for reducing hazards, accidents, injuries, and damage.

CNET 491 Cooperative Experience in Construction V Cr. 1. P: 392. Practice and experience in the professional community through short-term work assignments and projects. A written report of the co-op student's work experience is required.

CNET 499 Construction Engineering Technology Cr. 1-4. (V.T.) P: Must be in CNTB program/CNET major. Additional prerequisites as determined by CNET faculty.

Consumer and Family Sciences (CDFS, CFS, CSR, FNN)

CDFS 255 Marriage and Family Relationships Cr. 3. Provides further understanding of family relations for those unmarried, for those contemplating marriage, for those married, and for prospective marriage counselors. A functional approach to the interpersonal relationships of courtship, marriage, and family.

Consumer and Family Sciences

CFS 369 Wellness and Stress Management Cr. 3. Introduction to the philosophies and techniques for achieving individual wellness (optimum health). Includes topics in stress management, nutrition awareness, lifestyle planning, nontraditional approaches to building healthy lifestyles, exercise, and psychophysiological well-being. Class sessions will incorporate experiential and participatory styles of learning, lecture, discussion, and small-group interaction.

CFS 399 Special Issues Cr. 1-3. (V.T.) Regularly offered as Issues of Aging I-II Cr. 3. I. A multidisciplinary overview of aging. Issues focused on biopsychosocial

health and communication patterns relative to successful aging. II. Multidisciplinary course that emphasizes participatory skill of the student in the area of gerontology. Community agencies and services are utilized in this course.

Consumer Sciences and Retailing

CSR 383 Economic Analysis of Decision Making Cr. 3. P: ECON 251 and 252, or ECON 210. A critical economic analysis of household decision making. Special attention is to be given to consumption, saving, human capital investment, work and leisure, and marriage and divorce.

Foods and Nutrition

FNN 106 Profession of Dietetics Cr. 1. Open only to dietetics majors. Must be taken prior to the junior year. Overview of the dietetics profession including standards, ethics, educational and employment opportunities, and professional credentialing.

FNN 203 Foods Selection and Preparation Class 2, Lab. 3, Cr. 3. Credit not given for both FNN 203 and 205. Scientific principles and techniques in food preparation.

FNN 302 Nutrition Education Cr. 3. Basic nutrition and its application to current trends and controversies. Emphases placed on teaching techniques and communicating sound nutritional concepts to the lay audience. For nonscience majors.

FNN 303 Essentials of Nutrition Cr. 3. Credit not given for both FNN 303 and 315. Basic nutrition and its application in meeting nutritional needs of all ages.

FNN 315 Fundamentals of Nutrition Cr. 3. P: organic chemistry and physiology. Credit not given for both FNN 303 and 315. Basic nutrition and application in meeting nutritional needs.

FNN 330 Diet Selection and Planning Class 3, Cr. 3. P: 203 or 205, and 303 or 315. Diet selection for health maintenance throughout the life cycle based on current dietary guides with utilization of the computer for diet evaluation.

Consumer Sciences and Retailing (CSR), see Consumer and Family Sciences

CPET, see Computer Engineering Technology

CS, see Computer Science

CSR (Consumer Sciences and Retailing), see Consumer and Family Sciences

Dental Assisting (DAST)

DAST A111 Oral Pathology, Physiology, and Anatomy Cr. 1–2. An overview study of the structure and function of the body starting with the basic tissues, organs, and organ systems followed by the mechanisms of disease with emphasis on oral pathology.

DAST A112 Dental and Medical Emergencies and Therapeutics Cr. 2. A course including recognition and clinical experience of systemic emergencies. Comprehensive study of the physiological, toxicological, and therapeutic effects of drugs on living organisms, with emphasis on their rational application in the treatment of disease. Content includes discussions of drugs that are widely prescribed by physicians and dentists.

DAST A113 Oral Path, Physiology, and Anatomy II Cr. 1–2. An overview of the structure, function, and diseases of the human body including basic cells, tissues, organs, and organ systems, with special emphasis on diseases of the face and mouth.

DAST A121 Microbiology and Asepsis Technique Cr. 1–2. An overview of microbiological aspects of health and disease with emphasis on sterile procedures and disinfection techniques.

DAST A122 Introduction to Dentistry Cr. 1. An overview of the specialties of dentistry with specific lectures on cavity classification and nomenclature. Instrument nomenclature, principles of cavity preparation, the space-maintenance concept, management of the child patient, use of the rubber dam in direct and indirect pulp therapy.

DAST A131–A132 Dental Materials I–II Cr. 2–2. The physical and chemical properties of dental materials affecting their usage and clinical behavior. Study includes selection, characteristics,

manipulation, and care of materials used in dentistry. A131 must precede A132.

DAST A141 Preventive Dentistry and Nutrition Cr. 2. Etiology of prevalent oral diseases and prevention, with particular emphasis on plaque, plaque control, and fluorides. The effects of major nutrients on the physiologic body processes; applied nutrition in dental caries and periodontal disease. Clinical and laboratory experiences.

DAST A151 Radiology Clinic I Cr. 1. P: H303. Clinical experience in the placing, exposing, processing, and mounting of intra-oral dental radiographs. Radiation safety and film interpretation are also emphasized.

DAST A161 Behavioral Science Cr. 1. An introduction to psychology applicable in the dental office, emphasizing communication, personal and interpersonal relations; the role of the dental assistant as seen by the dentist, auxiliaries, and patient. Attitude, personality, motivation, and habit formation are discussed from a dental perspective.

DAST A162 Written and Oral Communication Cr. 1–3. Instruction and practice in gathering and organizing material for written and oral presentation. Individual and group projects in communication, including table clinics, posters, and professional articles for publication, telephone techniques, and résumés.

DAST A171 Clinical Science I Cr. 4. A core course in dental nomenclature; historical developments in dentistry; role of assistant as member of the dental health team; dental specialties; charting the mouth; identification and utilization of instruments and equipment; principles of dental procedures and instrument transfer.

DAST A172 Clinical Science II Cr. 3–4. P: A171. Clinical chairside experience in extramural assignments with a seminar to provide opportunities for students to share experiences.

DAST A182 Practice Management, Ethics, and Jurisprudence Cr. 2. Dental practice management in reception procedures, appointment control, and clinical and financial records; purchasing and inventory control. Study of the legal and ethical aspects of dentistry.

DAST A300 Special Topics in Dental Education Cr. 1–4. P: admission to dental assisting, dental hygiene, or dental laboratory technology program, and chairperson's permission. An advanced course for dental education majors. Supervised reading or projects on approved topics in dentistry. Hours, subject matter, and evaluation to be determined by faculty.

Dental Hygiene (DHYG)

DHYG D401–D402 Clinical Supervision Cr. 3–3. Supervisory experience in clinics and laboratories involved in teaching students enrolled in dental hygiene curriculum; problems incident to patient-student and instructor-student relationships.

DHYG H211 Head and Neck Anatomy Cr. 2. A detailed study of the anatomy of the head and neck. Some attention is given to oral embryology and the growth of tooth structure.

DHYG H214 Oral Anatomy Cr. 3 (V.T.) A study of the morphology, structure, and function of deciduous and permanent teeth and surrounding tissues, also including osteology of maxilla and mandible, nerve and vascular supply of teeth, muscles of mastication, with reinforcing laboratory clinical application.

DHYG H215 Pharmacology and Therapeutics (lecture) Cr. 2. Actions and uses of drugs and theory of anesthetics; emphasis on drugs used in dentistry.

DHYG H216 Chemistry and Nutrition—First Year Cr. 2–3. Specific ideas in chemistry are correlated with working principles in dentistry. Previous knowledge of chemistry required. Dental aspects of nutrition and dietetics are given special attention.

DHYG H217 Preventive Dentistry Cr. 2. Detection and prevention of dental diseases.

DHYG H218 Fundamentals of Dental Hygiene (lecture and lab) Cr. 3–5. An introduction to the dental and dental hygiene professions, including the basic didactic, laboratory, and clinical practice for the performance of dental hygiene services.

DHYG H219 Clinical Practice I Cr. 3–4.

P: H218. Application of dental prophylaxis technique to child and adult patients; clinical experience in oral inspection of hard and soft tissues; taking complete medical and dental histories; fluoride application procedures; X-ray exposure and development; patient education; sterilization techniques.

DHYG H221 Clinical Dental Hygiene

Procedures Cr. 1–2. Clinical assignment for instruction and experience in performing dental hygiene services.

DHYG H222 Advanced Clinical Dental Hygiene Procedures Cr. 1–4.

Clinical application of dental prophylaxis, fluoride application, and dental radiographs, for children and adult patients in a mock dental office setting. Special emphasis on mastery of skills, speed, and accuracy. Instruction in procedures for OSHA and infection control guidelines.

DHYG H301–H302 Clinical Practice

II–III Cr. 4–5 and 4–5. P: H219.

Continuation of H219, including taking of study models, dietary surveys, application for other preventive measures, root planning and periodontal charting; the inclusion of expanded functions of the hygienist. H301 must precede H302.

DHYG H303 Radiology (lecture and lab)

Cr. 1–2. Principles associated with production of X-rays and manipulation of X-ray equipment.

DHYG H304 Oral Pathology Cr. 2.

Developmental abnormalities and acquired disorders of teeth and surrounding structure.

DHYG H305–H306–H307 Radiology

Clinic I–II–III Cr. 1–1–1. Clinical application of intra-oral and extra-oral radiographs.

DHYG H308 Dental Materials

(lecture and lab) Cr. 2–3. Composition, physical and chemical properties of materials used in dentistry with opportunity for experience in their manipulation.

DHYG H309 Practice of Community

Dental Hygiene Class 1, Lab. 2, Cr. 2.

Supervised field experience in a school health program.

DHYG H310 Technical Writing Cr. 1–2.

Evaluation and reporting of research in dentistry; educational writings.

DHYG H320 Practice Management,

Ethics, and Jurisprudence Cr. 1–2. The study of the organization, administration, and prudent operation of professional and financial resources for a successful dental practice in a community.

DHYG H321 Periodontics Cr. 1–2. A study of periodontal disease including the anatomy, classification, etiology, treatment, and relationship to systemic conditions.

DHYG H344 Senior Hygiene Seminar

Cr. 1–2. Systematic and comprehensive review of basic science courses with emphasis on their relationships to clinical practice; current concepts in multiple auxiliary delivery systems and practice management concepts will be included.

DHYG H347 Dental Public Health Cr. 3–4.

A study of public health principles as they relate to dentistry. The students will be introduced to those aspects of public health that will enable them to plan, administer, and evaluate a dental health program.

Dental Laboratory Technology (DLTP)

DLTP D111 History, Ethics, Organization

Cr. 1. History and background of dental laboratory technology, including dental practice acts, work authorization, dental ethics as applicable to dental auxiliaries.

DLTP D112 Dental Anatomy Cr. 4.

A study of individual tooth morphology; its relationship, alignment, and function in the oral cavity.

DLTP D113 Basic Physics, Chemistry, and Dental Materials Cr. 5.

The chemical and physical properties and requirements of restorative and prosthetic materials will be taught. Manipulative procedures are performed in the laboratory.

DLTP D114 Occlusion Cr. 3. The interdigitation of teeth and their relationship to function, phonetics, and esthetics will be introduced. Waxing techniques to obtain these desired results will be utilized in the laboratory.

DLTP D125 Crown and Bridge

Prosthodontics I Cr. 3. An introduction to the types and uses of fixed restorations and techniques of fabrication. The theories and concepts for the use of different types of restorations will be included.

DLTP D126 Orthodontics/

Pedodontics Appliances I Cr. 3. An introduction to the basic laboratory skills pertinent to fabrication of orthodontic and pedodontic appliances. Special emphasis placed on various wire bending techniques and designs. Students will also be introduced to the pouring and trimming of diagnostic casts.

DLTP D127 Complete Denture

Prosthodontics I Cr. 4. An introduction to the setup and arrangement of artificial teeth. Waxing, investing, processing, and finishing procedures will also be taught. The basics of denture repair will be introduced.

DLTP D128 Partial Denture

Prosthodontics I Cr. 3. An introduction to the theories and procedures of partial framework fabrication. The procedures of design, duplicating, waxing, investing, casting, and finishing will be introduced.

DLTP D129 Dental Ceramics I Cr. 3.

An introduction to the types and uses of fixed restorations and techniques in the fabrication of porcelain to metal restorations.

DLTP D215 Crown and Bridge

Prosthodontics II Cr. 4. P: D125. Fixed procedures are continued with emphasis on multiple unit castings. Theory and techniques to be included are pontic design, acrylic veneer design, and soldering.

DLTP D216 Orthodontics/

Pedodontics Appliances II Cr. 3. P: D126. The skills introduced in the basic course will be amplified. More intricate wire bending exercises will be used. Acrylic placement, basic soldering, and welding techniques will be introduced.

DLTP D217 Complete Denture

Prosthodontics II Cr. 3. P: D127. Setup and arrangement procedures using various degrees of posterior teeth will be covered. The characterization of dentures using tooth arrangement, waxing, and finishing procedures will be introduced. Students will also be taught refitting techniques such as relines and rebases.

DLTP D218 Partial Denture

Prosthodontics II Cr. 3. P: D128. The fabrication of various designed frameworks will be utilized. The arrangement and processing of artificial teeth and the repairing of frameworks will be introduced.

DLTP D219 Dental Ceramics II Cr. 4.

P: D129. Porcelain to metal procedures are continued with emphasis on multiple unit restorations. An introduction to soldering techniques and porcelain jacket crowns will be included.

DLTP D221 Dental Laboratory Business

Procedures Cr. 2. Practical laboratory management procedures and theories will be taught.

DLTP D222 Practical Laboratory

Experience Cr. 4–6. A practicum in dental laboratory procedures in one of the five specialty areas. This practicum may be given on campus or at an extramural site.

DLTP D225 Specialty in Crown and

Bridge Prosthodontics Cr. 4. P: D215. This course will offer the student an opportunity to specialize in crown and bridge fabrication. Speed and accuracy in the procedures of fabrication will be stressed.

DLTP D226 Specialty in Orthodontics/

Pedodontics Cr. 4. P: D216. This course will offer the student an opportunity to specialize in orthodontic and pedodontic appliance fabrication. Speed and accuracy in the procedures of appliance fabrication will be stressed.

DLTP D227 Specialty in Complete

Denture Prosthodontics Cr. 4. P: D217. This course will give students the opportunity to specialize in complete denture fabrication. Emphasis will be placed on speed and accuracy in all phases of denture fabrication.

DLTP D228 Specialty in Partial Denture

Prosthodontics Cr. 4. P: D218. This course will give students the opportunity to specialize in framework fabrication. Speed and accuracy in the procedures of framework fabrication will be stressed.

DLTP D229 Specialty in Dental Ceramics

Cr. 4. P: D219. This course will give students the opportunity to specialize in dental ceramic restoration fabrication. Emphasis will be placed on speed and accuracy in all phases of restoration fabrication.

EALC, see Chinese

Economics (ECON), see Business and Economics

Education (EDUA, EDUC)

EDUA F300 Topical Exploration in

Education Cr. 1–3. A one-semester course on a particular topic, established at the request of a faculty member and with the approval of the Academic Affairs Committee.

EDUA F400 Topical Exploration in

Education Cr. 1–15. One-semester course on a particular topic, established at the request of a faculty member and with the approval of the Academic Affairs Committee. Applies only as elective credit.

EDUA G250 Life Skills for Personal and

Interpersonal Development Cr. 1–3. Students address typical developmental tasks of college, identifying their own choices and goals. Skill building encourages increased competence and confidence, and includes decision making, goal setting, communication skills, time management, career-life planning, assertiveness, and support strategies. Each student will identify a plan to accomplish a specific personal goal.

EDUC E317 Practicum in Early

Childhood Education Cr. 4. Methods and materials used in the education of children from 3 to 6 years of age. Observation and participation. Final course in endorsement/degree.

EDUC E325 Social Studies in the

Elementary Schools Cr. 3. Explores the sociological backgrounds of education and surveys subject matter, materials, and methods in the content areas. Public school participation required.

EDUC E328 Science in the Elementary

Schools Cr. 3. Objectives, philosophy, selection, and organization of science materials and methods. Concept development and use of multidimensional materials in science experiments. Analysis of assessment techniques and bibliographical materials. Public school participation required.

EDUC E330 Infant Learning

Environments Cr. 3. Students will broaden their knowledge base of appropriate instructional strategies to enhance infant-toddler development, caregiving skills, and knowledge of appropriate learning environments, and will apply strategies and knowledge in providing care and educational experiences.

EDUC E333 Inquiry in Mathematics and

Science Cr. 3. Focuses on planning and managing appropriate science and math experiences with children who are 3 to 8 years of age. Opportunity for exploring, developing, experimenting, and evaluating instructional materials and their inherent possibilities for children's learning. Planning appropriate inquiry-oriented experiences will be stressed.

EDUC E335 Introduction to Early

Childhood Education Cr. 3. This course has a dual focus. First, it is an overview of the field including an historic perspective, program models, goal of early childhood education, and professional organizations. The second focus emphasizes learning observation skills, understanding the characteristics of young children, teacher-child interaction, and classroom management skills.

EDUC E336 Play as Development Cr. 3.

Includes theories and development of play and how it can be guided. Shows how children use play to develop individually; understand the physical, social, and cognitive environment; and develop physical and motor skill and creative ability. Includes a section on the selection and construction of play materials.

EDUC E337 Classroom Learning

Environments Cr. 3. This course focuses on the curriculum aspects of early childhood programs designed to meet ethnic and cultural differences and planning, utilizing, and evaluating learning environments. Selection of materials and activities and the acquisition of skills for using these to stimulate children's development are major focuses.

EDUC E338 The Early Childhood

Educator Cr. 3. Includes the role of the teacher as a professional educator, including professional responsibilities, school and community relations, and involvement in professional organizations. A major emphasis is on parent involvement and parent education.

EDUC E339 Methods of Teaching

Language Arts Cr. 2–3. This course describes and appraises the materials, methods, and techniques employed in an elementary school developmental language arts program. Public school participation required.

EDUC E340 *Methods of Teaching Reading I* Cr. 2–3. This course describes and appraises the methods, materials, and techniques employed in a reading program. Public school participation required.

EDUC E341 *Methods of Teaching Reading II* Cr. 2–3. P: E340. This course describes and appraises the materials, methods, and techniques employed in diagnostic and corrective instruction in reading programs. Public school participation required.

EDUC E346 *Discipline/Parenting for Young Children* Cr. 3. A study of discipline of children in early childhood settings for interaction in teaching and learning environments with an emphasis on working with parents and teachers.

EDUC E347 *Language Arts for Early Childhood* Cr. 3. This course describes the development of language and literacy in the early years. Curriculum and instructional strategies in varied early childhood settings are included.

EDUC E490 *Research in Elementary Education* Cr. 1–3. (V.T.) Individual research in a given subject area.

EDUC F400 *Honors Seminar* Cr. 1–3. Content varies but always involves the investigation in depth of significant topics in education. An interdisciplinary approach is taken.

EDUC H340 *Education and American Culture* Cr. 2–3. The present educational system, its social impact and future implications viewed in historical, philosophical, and sociological perspective.

EDUC K201 *Schools, Society, and Exceptionality* Cr. 1–3. This course is designed to provide an overview of the many complex issues related to special education policy and practice in the United States. Content will include an introduction to the definitions and characteristics of various exceptionalities; an exploration of the options available for instructing exceptional children in public school settings; and discussions of the many important topics and issues related to planning and implementing special education in American public schools.

EDUC K206 *Teaching Methods for Students with Special Needs* Cr. 1–3. This course will focus on curriculum and instructional methods for teaching students

with diverse abilities and disabilities. Specifically, students will learn about the historical and legal precedents in special education, student-centered assessment and planning strategies, learning styles, curricular adaptations, individualized instruction, teaming strategies, building classroom communities, and planning for transitions, career exploration, and adult outcomes.

EDUC K350 *Introduction to Mental Retardation* Cr. 3. P: K205 or K206. A basic survey of the field of mental retardation. Definitions, classifications, diagnostic and treatment procedures are discussed from medical, psychological, sociological, and educational points of view.

EDUC K352 *Education of Children with Learning Problems (LD and EMR)* Cr. 3. P: K205 or K206. Educational programs for optimum growth and development of educable mentally retarded and learning-disabled children. Study and observation of curriculum content, organization of special schools and classes, and teaching methods and materials.

EDUC K360 *Behavioral Characteristics of the Mentally Retarded* Cr. 3. P: K205 or K206 or K300. Definitions, classifications and diagnosis and treatment procedures from medical, psychological, sociological, and educational points of view.

EDUC K370 *Introduction to Learning Disabilities* Cr. 3. P: K205 or K206. Survey of historical development and current status of definitions, classifications, assessment, and treatment procedures for learning-disabled students.

EDUC K371 *Assessment and Individualized Instruction in Reading and Mathematics* Cr. 3. P: K205 or K206. Emphasizes assessment and remediation procedures addressing reading and math problems of mildly handicapped students.

EDUC K400 *Computers for Students with Disabilities* Cr. 3. P: W200. Provides knowledge and experience for the student to integrate special-education computer technology into the educational process of the self-contained classroom and mainstream environments: Computer Assisted Instruction (CAI), data management, and telecommunications software; adaptive devices for communication, learning, and environmental control; and other related experiences.

EDUC K410 *Trends and Issues in Special Education* Cr. 3. P: K205 or K206 or permission of instructor. Provides students with an overview of current movement in the field of special education. Major emphasis is on application and implication of principles mandated by P.L. 94-142 and Section 504 of the Rehabilitation Act of 1973.

EDUC K453 *Management of Academic and Social Behavior* Cr. 3. P: K205 or K206. Surveys principles of behavior management as they pertain to educational environments. Students will learn how to define, observe, measure, record, and change academic and social behavior.

EDUC K465 *Service Delivery Systems and Consultation Strategies* Cr. 3. Reviews methods of implementing service delivery systems; consulting with professionals and parents; designing in-service training programs; and developing referral systems, curricular and personnel resources, and evaluation techniques used in special education programs.

EDUC M101 *Laboratory/Field Experience* Lab. 0–3, Cr. 0–3. (V.T.) Laboratory or field experience for freshmen. May be repeated.

EDUC M201 *Laboratory/Field Experience* Lab. 0–3, Cr. 0–3. (V.T.) Laboratory or field experience for sophomores. May be repeated.

EDUC M301 *Laboratory/Field Experience* Lab. 0–3, Cr. 0–3. (V.T.) Laboratory or field experience for juniors. May be repeated.

EDUC M323 *The Teaching of Music in the Elementary Schools* Cr. 2. P: MUS Z241. Not open to music majors. Fundamental procedures of teaching elementary school music, stressing music materials suitable for the first six grades.

EDUC M330 *Foundations of Art Education and Methods I* Cr. 3 Students develop a philosophy of art education while they explore the relationship between theory and practice in art education. Museum and public school participation required.

EDUC M333 *Art Experiences for the Elementary Teacher* Cr. 2. P: FINA T255. The selection, organization, guidance, and evaluation of art activities, individual and group. Laboratory experiences with materials

and methods of presenting projects. Public school participation required.

EDUC M401 *Laboratory/Field Experience Lab.* 0–3, Cr. 0–3. (V.T.)

Laboratory or field experience for seniors. May be repeated.

EDUC M425 *Student Teaching: Elementary Cr.* 1–16.

Classroom teaching and other activities associated with the work of the full-time elementary classroom teacher. Additional fee.

EDUC M430 *Foundations of Art Education and Methods II Cr.* 3

The unique role of artist/educator as phenomenological examined both on a theoretical and practical level. Attention to curriculum development. Public school utilized for extension of class experience.

EDUC M443 *Methods of Teaching High School Social Studies Cr.* 3.

Public school participation required.

EDUC M445 *Methods of Teaching Foreign Languages Cr.* 3.

EDUC M447 *Methods of Teaching High School English Cr.* 3.

Public school participation required.

EDUC M448 *Methods of Teaching High School Mathematics Cr.* 2–4.

EDUC M449 *Methods of Teaching Science in the Secondary Schools Cr.* 3.

P: 35 credits of science. Designed for students who plan to teach biology, chemistry, earth science, general science, or physics in junior high, middle, or secondary schools.

EDUC M470 *Practicum Cr.* 3–8. (V.T.)

Teaching or experience under the direction of an identified supervising teacher with university-provided supervision in the endorsement or minor area, and at the level appropriate to the area, and in an accredited school within the State of Indiana unless the integral program includes experience in an approved and accredited out-of-state site. The practicum may be full or part time. The amount of credit granted will be commensurate with the amount of time spent in the instructional meeting. Grade: S or F.

EDUC M474 *Undergraduate Seminar in Music Education Cr.* 1–2.

EDUC M478 *Methods of Teaching High School Speech Cr.* 2–4.

EDUC M482 *Student Teaching: All Grades Cr.* 1–16.

Full-time supervised student teaching in music at the elementary, junior high/middle school, and/or high school level in an accredited school within Indiana. Additional fee.

EDUC N343 *Mathematics in the Elementary School Cr.* 3.

Emphasizes the developmental nature of mathematical ideas and processes and the role of mathematics in the elementary school curriculum. Public school participation required.

EDUC P249 *Growth and Development in Early Childhood Cr.* 3.

Focuses on the cognitive, social, affective, and physical development of the child during the early years of life. The goal of understanding the growing child from multiple perspectives guides the study of theory and research on child development. Theoretical study is integrated with observations of, and experiences with, children in a way that increases the insights and competence of the teacher of young children. The unique developmental problems of special groups of children — handicapped, economically deprived, and minority groups — are addressed.

EDUC P250 *General Educational Psychology Cr.* 1–4.

P: W200. The study and application of psychological concepts and principles as related to the teaching-learning process, introduction to classroom management, measurement/evaluation, and disability awareness. Public school participation required.

EDUC P251 *Educational Psychology for Elementary Teachers Cr.* 1–4.

P: W200. The application of psychological concepts to school learning and teaching in the perspective of development from childhood through pre-adolescence. Special attention is devoted to the needs of the handicapped. Public school participation required.

EDUC P252 *Educational Psychology for Junior High/Middle School Teachers Cr.* 1–4.

P: W200. The application of psychological concepts to school learning and teaching in the perspective of development during the pre-adolescent period. Public school participation required.

EDUC P253 *Educational Psychology for Secondary Teachers Cr.* 1–4.

P: P250. The application of psychological concepts to school learning and teaching in the perspective of development from pre-

adolescence through adolescence. Special attention is devoted to the needs of the handicapped. Public school participation required.

EDUC P254 *Educational Psychology for Teachers of All Grades Cr.* 1–4.

P: W200. The application of psychological concepts to school learning and teaching in the perspective of development from childhood through adolescence. Special attention is devoted to the needs of the handicapped. Public school participation required.

EDUC Q200 *Basic Science Skills Cr.* 1–3.

Course provides the elementary education major with background in the process skills of science, with emphasis on the integration of these skills and science concepts.

EDUC Q400 *Man and Environment: Instructional Methods Cr.* 3.

For preservice and experienced teachers. Ideas on curriculum trends and instructional techniques coupled with current national and international topics in environmental education; new resource materials and related bibliographies. An examination of a holistic scheme for teaching/learning about the environment.

EDUC S405 *The Middle and Junior High School Cr.* 3.

The course provides future middle school and junior high teachers with an understanding of how early adolescent students and school structures impact curriculum, instruction, and classroom management decisions. The course meets the middle/junior high school endorsement requirement for elementary school majors.

EDUC S490 *Research in Secondary Education Cr.* 1–3. (V.T.)

Individual research in a given subject area.

EDUC W200 *Microcomputers for Education: An Introduction Cr.* 1.

Introduction to instructional computing, educational computing literature, and BASIC programming. Review and hands-on experience with educational software packages and commonly used microcomputer hardware.

EDUC W210 *Introduction to Computer-Based Education Cr.* 3.

P: W200 or consent of instructor. Students achieve facility in BASIC at the intermediate level; are introduced to social, moral, and technical issues relating to educational

computing; and examine a variety of educational software.

EDUC W310 Computer-Based Teaching Methods Cr. 3. P: W210. Students will study the methods for teaching programming, application of pedagogical and technical principles of software design, software evaluation, and staff development techniques in computer-based education.

EDUC W410 Practicum in Computer-Based Education Cr. 3–6. P: W310. Either 6 weeks of full-time fieldwork or 12 weeks of half-time fieldwork in an educational setting that incorporates instructional computing.

EDUC X210 Career Planning Cr. 2. Designed to teach the career-planning process, which includes an assessment of the student's individual interests, values, and abilities; an exploration into several career possibilities; choosing a major; development of decision-making skills; and job searches, including résumé writing and interviewing techniques.

EDUC X401 Critical Reading in the Content Area Cr. 1–3. Aids elementary and secondary teachers in the development of instructional strategies that assist students in the comprehension, critical analysis, and integration of ideas presented in literature of various subject-matter areas. Public school participation required.

Electrical Engineering (EE), see Engineering

Electrical and Computer Engineering Technology (ECET)

ECET 101 Electrical Circuits Class 3, Lab. 2–3, Cr. 4. C: MA 153. A study of DC electrical circuits and AC electrical circuits. Topics include Circuit Components (R, L, C), voltages, currents, power, Ohm's law, Kirchhoff's laws, series and parallel circuits, circuit theorems, electrical measurements, sinusoidal AC voltages, currents, impedance, RL circuits, RC circuits, and RLC circuits. Not open to EET majors.

ECET 107 Introduction to Circuit Analysis Class 3, Lab. 2–3, Cr. 4. C: MA 153. Voltage, current, resistance, Ohm's

law, Kirchhoff's current and voltage law, resistance combinations, and Thevenin's, Norton's, and superposition theorems are studied and applied. DC and AC sources are studied and utilized with basic AC terminology described. Ideal RC coupling and filter circuits and RC switching circuits are introduced. Fundamental analog circuits with ideal or near-ideal electronic devices are utilized in the lecture and laboratory to enhance the understanding of basic circuit laws and theorems.

ECET 111 Digital Circuits Class 3, Lab. 2–3, Cr. 4. A study of switching circuits, waveshaping, logic gates, arithmetic codes, Boolean algebra, mapping and other simplification techniques. Discrete devices and small-scale (SSI) and medium-scale (MSI) integrated circuits are used in combinational and introductory sequential logic circuits.

ECET 114 Introduction to Microcomputers Class 2–3, Lab. 0–2, Cr. 3. Programming in BASIC with emphasis upon electrical circuit problems. Includes pokes, peeks, string manipulation, arrays, sequential file creation and manipulation, sorts, searches, graphics, external files, and compiling.

ECET 146 Digital Circuits II Class 2, Lab. 2, Cr. 3. P: 111. C: 114 or CS 114. Basic digital system techniques with emphasis on programmable logic and ASIC theory. Computer-aided design is strongly emphasized along with system considerations such as criteria for device selection, testability, and vendor selection.

ECET 152 Electrical Circuits II Cr. 4. P: 107 or CPET 101. AC circuits, including the j operator, phasors, reactance, impedance, and power, are studied. Circuit laws, network theorems, and the fundamental concepts of Fourier analysis are applied in the study of passive filters, resonant circuits, single-phase and three-phase circuits, and elementary magnetic circuits.

ECET 157 Electronics Circuit Analysis Class 3, Lab. 2–3, Cr. 4. P: 107, MA 153. Capacitors, inductors, switching circuits, transformers, rectifiers, linear regulators, dependent sources, operational amplifiers, BJT & MOSFET based small signal amplifiers, waveform generation, and programmable analog devices are studied. Circuit fundamentals such as Kirchhoff's

laws are utilized in analysis and design of circuits. Computer simulation is used.

ECET 161 Analog Electronics Class 3, Lab. 2–3, Cr. 4. P: 101. A study of solid state devices and circuits. Topics include diodes, LED, photosensitive devices, zener diodes, bipolar transistors, MOS devices, linear integrated circuits, and related application circuits such as rectifiers, sensing circuits, various transistor amplifiers, transistor switches, linear OP-AMP circuits, and non-linear OP-AMP circuits. Not open to EET majors.

ECET 204 Analog Electronics II Cr. 4. P: 152 or 207 and MA 154. A study of the applications of transistors, integrated circuits, and other solid-state devices. Feedback principles as applied to amplifiers, oscillators, and regulated power supplies. Includes large-signal power amplifiers, special-purpose amplifiers, and AM and FM modulation and detection techniques. Introduction to filters as applied to tuned amplifiers and rectifier circuits.

ECET 205 Introduction to Microprocessors Class 3, Lab. 2–3, Cr. 4. P: 111 or equivalent. An introduction to microprocessor and microcontroller hardware and software. Assembly language instructions and programming, troubleshooting, and input/output techniques are studied. Computer-based program editing and assembly techniques are used.

ECET 207 AC Electronics Circuit Analysis Class 3, Lab. 2–3, Cr. 4. P: 157 and MA 154. AC circuits including the j operator, phasors, reactance, and impedance are studied. Circuit laws, network theorems, and the fundamental concepts of Fourier analysis are applied and used in the study of topics such as passive filters, IC filters, amplifiers, resonant circuits, single-phase and three-phase circuits. Computer-aided analysis of circuits is used.

ECET 211 Electrical Machines and Controls Class 2–3, Lab. 0–2, Cr. 3. P: MA 154. Course not open to EET students. Lecture, demonstration, and laboratory experiments are combined to acquaint the student with the elements of electrical power circuits and machines.

ECET 215 Introduction to Industrial Electronics Cr. 3. P: 101 or 107. Not open to EET majors. A study of power

transformers, single and polyphase circuits, and an introduction to the National Electric Code. The study of DC machines (motors and generators), and AC single and polyphase synchronous and induction machines. Programmable controllers and other control devices will be introduced in the course.

ECET 231 Electrical Power and Controls Class 3, Lab. 2–3, Cr. 4. P: 152 or 207 and MA 227. This course introduces magnetic materials and properties followed by analysis of transformers and power conditioning equipment, induction motors, and single-phase and three-phase power systems. Motor control devices, programmable logic controllers, PLC input and output devices, and power systems communications and monitoring are introduced.

ECET 234 PC Systems I Class 3, Lab. 2, Cr. 4. P: 111, and 114 or CS 160. Personal computer hardware and software. Components of the computer including CPU, memory, ports, drives, and cards. Setup, operation, and troubleshooting. Labs include topics within A+ certification and hardware/software interfacing using Visual Basic.

ECET 264 C Programming Language Applications Cr. 3. P: MA 154. Examination of fundamental principles and issues in embedded applications: instrumentation, data acquisition, robots, and real-time systems. Overview of the C programming environment. Introduction to C language syntax, basic data types, complex data types (pointer, array, structure, bit fields, union, enum) storage classes, operators, preprocessor directives, macros, functions, flow control, and file I/O. Programming using a structured approach. Emphasis on use of mathematical functions (routines) libraries and numerical algorithms needed in embedded applications.

ECET 291 Industrial Practice I Cr. 1–5. P: admission to the Cooperative Education program. Practice in industry and written reports of this practice for co-op students.

ECET 292 Industrial Practice II Cr. 1–5. P: 291. Practice in industry, with written reports of this practice by the co-op student.

ECET 295 Industrial Practicum Cr. 1–5. Enrollment restricted to full-time students who have completed one year's study.

Students will work 10–15 hours per week solving technical problems under the supervision of professional employees of local industries. Students will receive some remuneration. Course may be repeated for up to 4 credits.

ECET 296 Electronic System Fabrication Class 1, Lab. 2–3, Cr. 2–3. P: 204. This course introduces project planning and basic concepts in electronic design automation (EDA). The student develops the project from an engineering rough sketch to a finished and test printed circuit board by utilization of EDA. New construction and testing techniques are introduced. The final product is presented in an oral and written report

ECET 298 Practicum in Music Technology Cr. 1. (V.T.) Not open to EET majors. University-approved practical experience under professional supervision. The course focuses on learning modern audio studio equipment, theory, and application. Course may be repeated for up to 4 credits.

ECET 302 Introduction to Control Systems Class 3, Lab. 2, Cr. 4. P: 157, MA 154. A study of the components in open-loop and closed-loop systems. Included are sensing devices, error detectors, potentiometers, synchros, resolvers, modulators, demodulators, amplifiers, motors, generators, and networks. An analysis course that stresses operation, time and frequency-response characteristics, and proper adjustment of the components.

ECET 303 Communications I Class 3, Lab. 2–3, Cr. 4. P: 204, MA 227 or consent of instructor. A study of analog communications that includes transmission lines and propagation, signal spectra, elements of noise, RF amplifiers, oscillators, AM and FM systems, phase modulation, transmitter and receiver circuits. PSPICE and electronic workbench are incorporated in the course.

ECET 305 Advanced Microprocessors Class 3, Lab. 2–3, Cr. 4. P: 205 or equivalent, and 264 or equivalent. A course emphasizing applications of microcomputers to dedicated hardware functions. A high-level language is used with emphasis on programming handheld computers. Some coverage of microprocessor architecture and troubleshooting is included.

ECET 307 Analog Network Signal Processing Class 3, Lab. 2–3, Cr. 4. P: 152 or 207 and MA 228. This is an advanced course in network analysis that stresses network theorems and solutions of time-domain and frequency-domain problems. Transform circuit and signal analysis using Laplace and Fourier techniques are developed, culminating in active filter design applications. Software techniques, such as MATLAB and LabView, are employed to solve mathematical problems.

ECET 312 Power Electronics Class 3, Lab. 2, Cr. 4. P: 231. Introduction to the characteristics of power semiconductor devices, diode rectifiers, thyristor, commutation techniques, controlled rectifiers, AC voltage controllers, choppers, inverters, and motor drives.

ECET 331 Generation and Transmission of Electrical Power Class 3, Lab. 2–3, Cr. 4. P: 231. A study of the generation and transmission of electrical energy. Includes techniques used by electric utilities for the protection of generating equipment and transmission lines, an introduction to the economic considerations of power plant operation, three-winding transformers, and methods of solving unbalanced three-phase systems.

ECET 346 Advanced Digital Circuits Class 3, Lab. 0–2, Cr. 3–4. C: 205 and 264. Basic system techniques with emphasis on digital ASIC theory. Computer-aided engineering is strongly emphasized along with system considerations such as criteria for device selection, testability, and vendor selection.

ECET 348 Project Design Analysis Cr. 3. P: junior standing. Economic analysis. Interdisciplinary, project-oriented, technological and nontechnological decision process. Students with and without mathematical backgrounds work together to analyze inherent project design problems, both closed and open-ended, including the effects of public policy. Identification of real-world need to serve as project for second course, ECET 448 Project Design Synthesis.

ECET 355 Data Communications and Networking Class 3, Lab. 2–3, Cr. 4. P: 205 or CS 271. A survey of data communication and networking techniques, protocols, and standards. Topics include OSI mode, TCP/IP protocols

and applications, signals, encoding and modulating, transmission of data and interfaces, transmission media, multiplexing, error detection and correction, data link controls and protocols, switching techniques, local area networks, wide area networks, and other well-known networks services including integrated services digital network (ISDN), X.25 (packet switching), frame relay (virtual-circuit), asynchronous transfer mode (ATM), and synchronous optical network (SONET)

ECET 357 Real-Time Digital Signal Processing Class 3, Lab. 2–3, Cr. 4. P: 264 and 307. Architecture, instruction set, and hardware and software development tools associated with a fixed point general purpose DSP VLSI processor are studied. Fundamental principles associated with the processing of discrete time signals are introduced. Common applications such as waveform generation, FIR and IIR digital filtering, and DFT and FFT based spectral analysis and filtering are implemented.

ECET 361 Introduction to PLC and Pneumatic Systems Class 3, Lab. 2–3, Cr. 4. P: 157 or 204. A study of the fundamentals of developing and implementing ladder logic diagrams for machine controls using industrial programmable logic controllers. The applications of hydraulic and pneumatic systems are also studied.

ECET 365 Electrical Measurements Class 3, Lab. 2, Cr. 4. P: 152 or 207 and 205. A study of instrumentation and automatic measurement. Individual instruments include DMM, counters, oscilloscopes, spectrum analyzers, and signal generators. The signals and operation of the general purpose interface bus are examined and applied to a measurements system.

ECET 368 Linear Integrated Circuits Class 3, Lab. 2–3, Cr. 4. P: 152 or 207. A study of the application of IC operational amplifiers, IC differential amplifiers to a multitude of applications. Specifications and limitations will also be stressed. Various special-purpose ICs that perform one given function will also be investigated.

ECET 372 Process Control Class 3, Lab. 2, Cr. 4. P: 307. A study of the elements of signal conditioning and data acquisition systems for monitoring and control. Closed loop analog and digital

controllers, characteristics of processes, tuning and performance specifications. Control strategies including distributed control, feed forward, cascade, and ratio control. Power interfacing including power op amps, SCRs, MOSFETs.

ECET 375 Computer Controlled System Designs Class 3, Lab. 0–3, Cr. 3–4. P: ECET 114, ECET 111. A study of computer-controlled systems using microcontrollers, computer numerical control (CNC), and programmable logic controller (PLC). Topics include microcontroller-based control systems, pneumatic and hydraulic controlled systems, data acquisition, D/A and A/D conversions, ladder diagrams, sampling and reconstruction, Z transform, stability analysis techniques, continuous and discrete time-controlled systems, open-loop and closed-loop controlled systems, CNC machines, and mechanical hardware.

ECET 377 Introduction to Fiber Optics Cr. 4. P: 303, 403; MA 228. An introductory course in fiber optics for junior- or senior-level students. Topics include optical characteristics, optical fibers, cables, modulation techniques, optical receivers and transmitters, and measurements on optical systems. A lab is also included in the course resulting in a complete optical transmitter/receiver system modulated with various methods.

ECET 382 C++ Object Oriented Programming for Industrial Applications Class 3, Lab. 2, Cr. 4. P: 264. This course provides a comprehensive introduction to C++ for students to apply object-oriented programming in industrial applications. A background in C or another high-level language is a must, because all applications in this course involve C and C++. The course introduces the methodology of object identification and behavior, the syntax of C++, and industrial applications.

ECET 393 Industrial Practice III Cr. 1–5. P: 292. Practice in industry, with written reports of this practice by the co-op student.

ECET 394 Industrial Practice IV Cr. 1–5. P: 393. Practice in industry, with written reports of this practice by the co-op student.

ECET 395 Industrial Practice V Cr. 1–5. P: 394. Practice in industry, with written reports of this practice by the co-op student.

ECET 403 Communications II Class 3, Lab. 2, Cr. 4. P: 303. A study of digital communications that includes sideband systems, phase-locked loops, digital communications concepts, pulse and digital modulation, data communications, digital radio, space communications, and fiber optics. PSPICE, Acolade, and electronic workbench are incorporated in the course.

ECET 411 Microcomputer Interfacing Class 3, Lab. 2 or 3, Cr. 4. P: 205. A study of microprocessor interfacing techniques and components required to assemble a typical microcomputer system. Emphasis on serial I/O and parallel I/O chips; peripheral interfacing: LED display, keyboard, CRT display, floppy disk, D/As, and stepping motor.

ECET 434 PC Systems II Class 3, Lab. 2, Cr. 4. P: 234 and 264 or CS 161. Real-time PC-based operating systems. Programming Graphical User Interface in C++. Embedded PC hardware, busses, and peripheral programming. Writing and integrating device drivers.

ECET 435 Electronic Industrial Controls Cr. 3. P: 215, MA 227. Not open to EET students. Familiarization with electronics as applied to industry. Basic theory and application of electronics to controls for industrial equipment and data processing.

ECET 448 Project Design Synthesis Class 1–3, Lab. 0–6, Cr. 3. P: 348 with C or better and senior standing within one semester of baccalaureate degree declaration; C: ENG W421. Multi-interdisciplinary, project-oriented, real-world capstone design experience at the cutting edge. Aimed at combining skills and knowledge gained from student's undergraduate course work. The student will be expected to interact and collaborate with faculty members and seniors from different degree programs while attacking contemporary society's problems.

ECET 453 Topics in Telecommunications Class 3, Lab. 2, Cr. 4. P: ECET/CPET 355. An advanced course in telecommunications that introduces and evaluates state-of-the-art systems, services, and applications for current and emerging networking technologies.

ECET 466 Windows Programming for Industrial Applications Class 3, Lab. 2, Cr. 4. P: 264. This course provides an overview of

Windows programming using visual software for industrial applications. The graphic user interface (GUI) in Windows programming allows operators to interact with computers by clicking a mouse on a graphical panel without understanding the program itself. The topics of the course include introduction to the Windows operating system, text input and output, multiple window programs, creating dialog boxes and menus, dynamic data exchange, dynamic link library, and error handling, multimedia programming, designs of graphic control panels for industrial applications such as gages, meters, and setting devices.

ECET 468 Microwave Solid State Devices Cr. 3. P: 473. A project-oriented course dealing with microwave solid-state devices. Areas to be covered are solid-state materials, solid-state junctions (PN and Schottkey), diodes, transistors, and solid-state components. Microwave projects are assigned that involve designing and analyzing microwave solid state circuits using PSPICE and Microwave Office.

ECET 472 Automatic Control Systems Class 3, Lab. 2, Cr. 4. P: 307. A study of network analysis using Laplace Transforms, classical control systems theory, system stability and compensation, and topics on microprocessor-based control systems.

ECET 473 Microwaves Class 3, Lab. 2–3, Cr. 4. P: 303. A study of microwave techniques that includes definitions, microwave materials, microwave components, transmission lines, the Smith chart, S-parameters, microwave diodes and transistors, and microwave measurements. Microwave Office is incorporated in the course.

ECET 486 Robotics and Control Electronics With Microcomputers Cr. 4. P: 205. A study of robots, robotic sensors, robotic components, and controlling robots with microcomputers. Topics include sensor-based real-time robot control systems; interfacing the following types of sensors: proximity sensors, force sensors, motion sensors, sound sensors, and vision sensor; low-level data acquisition and communication, high-level communication, coordinate transformation, coordinated path generation, and robot motion programming.

ECET 490 Senior Design Project, Phase I Cr. 1–2. P: Junior or senior status. An extensive individual design and/or analytical project performed in consultation with one or more faculty advisors. Collaboration with representatives of industry, government agencies, or community institutions is encouraged. Evidence of extensive and thorough laboratory performance is required. Phase I includes but is not limited to (1) faculty acceptance of project proposal, (2) defining and limiting project objectives, (3) initial research and source contacts, (4) procurement of materials, and (5) periodic progress reports.

ECET 491 Senior Design Project, Phase II Cr. 2–5. P: 490. Phase II includes but is not limited to (1) continued research and finalized design, (2) oral presentation to faculty and other interested parties, (3) standard-format written technical report.

ECET 492 Digital Systems Class 3, Lab. 2–3, Cr. 4. P: 357. A study of difference equations, Z-transforms, sample-and-hold circuits, sampling requirements, digital filters, and control algorithms applied to digital control systems.

ECET 498 Practicum in Music Technology II Cr. 1. P: 298. Not open to EET majors. University-approved practical experience under professional supervision. The course focuses on learning modern audio studio equipment, theory, and application. Course may be repeated.

ECET 499 Electrical Engineering Technology Class 0–4, Lab. 3–9, Cr. 1–9. (V.T.) Hours and subject matter to be arranged by staff. Repeatable up to 9 credits.

ENG, see English

Engineering (ECE, ENGR, ME)

Electrical Engineering

ECE 201 Linear Circuit Analysis I Cr. 3. C: MA 261. Volt-ampere characteristics for circuit elements; independent and dependent sources; Kirchhoff's laws and circuit equations. Source transformations; Thevenin's and Norton's theorems; superposition. Transient response of RC, RL, and RLC circuits. Sinusoidal steady-state and impedance, instantaneous and average power.

ECE 202 Linear Circuit Analysis II Cr. 3. P: 201. C: MA 262. Continuation of 201. Use of computer-aided design programs. Bode diagrams. Complex plane, resonance, and coupled circuits. Two-port network parameters. Fourier series. State-variable formulation.

ECE 207 Electronic Measurement Techniques Lab. 3, Cr. 1. C: 201. Experimental exercises in the use of laboratory instruments, measurements, device characteristics, waveform analysis, frequency and transient response, and transistor circuits.

ECE 208 Election Devices and Design Laboratory Lab. 3, Cr. 1. Laboratory experiments in the measurement of electronic device characteristics. Design of biasing networks, small signal amplifiers and switching circuits.

ECE 255 Introduction To Electronic Analysis and Design Class 3, Cr. 3. Diode, bipolar transistor, and FET circuit models for the design and analysis of electronic circuits. Single and multistage analysis and design; introduction to digital circuits. Computer-aided design calculations, amplifier operating point design, and frequency response of single and multistage amplifiers. High-frequency and low-frequency designs are emphasized.

ECE 265 Electronic Analysis and Design I Cr. 3. P: 201, ENGR 190. Fundamentals of semiconductor devices; diodes, bipolar, and field effect transistors. Selection of operating points, V-I relationships for large and small signal models. Transient and frequency response of single-stage amplifiers.

ECE 270 Introduction to Digital System Design Lab. Class 3, Lab. 3, Cr. 4. P: Sophomore standing. An introduction to digital system design and hardware engineering, with an emphasis on practical design techniques and circuit implementation.

ECE 280 Electronics and System Engineering through Robotics Cr. 3. P: 201, ENGR 199, PHYS 251. Introduction to robotics; motion sensors, and actuators; fundamentals of semiconductor devices; introduction to logic design, mechatronics, industrial switching elements, and ladder diagram; pneumatic control circuits design; mathematical modeling of mobile robots, locomotion, and wheel arrangements;

introduction to microprocessors and sensor interfacing; simple servo feedback control strategies; real time control.

ECE 281 Electronics and System Engineering through Robotics Lab Cr. 1. C: 282. Experiments in digital logic, linear systems, op-amps circuits, control, and robotics. Credit may not be received also for ME 281.

ECE 291 Industrial Practice I Cr. 0. For cooperative program students only.

ECE 292 Industrial Practice II Cr. 0. P: 291. For cooperative program students only.

ECE 301 Signals and Systems Cr. 3. P: 202. Description of deterministic signals through the use of Fourier series. Fourier and Z-transforms. Systems description treated by differential and difference equations including transform methods. Computation of system response to both continuous and discrete inputs.

ECE 302 Probabilistic Methods in Electrical Engineering Cr. 3. P: MA 262. An introductory treatment of probability theory including distribution and density functions, moments, and random variables. Applications of normal and exponential distributions. Estimation of means, variances, correlation, and spectral density functions. Random processes and response of linear systems to random inputs.

ECE 308 System Simulation and Control Laboratory Lab. 3, Cr. 1. C: 382. Introduction to the use of analog computers. Laboratory practice in the design and simulation of electronic, electromechanical, and electromagnetic systems.

ECE 311 Electric and Magnetic Fields Cr. 3. P: MA 262 and PHYS 261. Continued study of vector calculus, electrostatics, and magnetostatics. Maxwell's equations. Introduction to electromagnetic waves, transmission lines, and radiation from antennas.

ECE 355 Electronic Analysis and Design II Cr. 3. P: 265. Characteristics of multistage amplifiers, feedback and stability of operational amplifiers, and applications of active filters. Waveform generation and shaping, and oscillators.

ECE 356 Electronics Analysis and Design Laboratory Lab. 3, Cr. 1. P: 207; C: 355. Laboratory experiments using

diodes, bipolar and field effect transistors, single-stage amplifiers, multi-stage amplifiers, and operational amplifiers. Design work is emphasized.

ECE 359 C and Data Structures Cr. 3. An introductory level course on C, a general purpose high-level language with features to facilitate such tasks as systems programming and structuring of data. Students becoming proficient in C language programming will learn techniques of structured programming data structures and how to develop programs that are used regularly in many applications.

ECE 362 Microprocessor Systems and Interfacing Class 3, Lab. 3, Cr. 4. P: ENGR 110 or equivalent programming experience, EE 266 and 267. P: or C: EE 265. An introduction to basic computer, organization, microprocessor instruction sets, assembly language programming, the design of various types of digital as well as analog interfaces, and microprocessor system design considerations. The accompanying laboratory is designed to provide practical hands-on experience with microprocessor software applications and interfacing techniques. Topics include design and implementation of a simple microcoded 3-bus computer; a detailed study of a particular microcomputer architecture and instruction set; assembly language programming techniques; system control signals and I/O structure; memory system design; I/O port design and handshaking protocols; interrupt control systems; parallel and serial interface subsystems; counter/timer subsystems; and analog (data and control) interfaces.

ECE 364 Software Engineering Tools Laboratory Lab. 3, Cr. 1. P:264. Laboratory experience using software scripting tools and software testing tools.

ECE 368 Data Structures Cr. 3. P: 364. Provides insight into the use of data structures. Topics include stacks, queues and lists, trees, graphs, sorting, searching, and hashing.

ECE 369 Discrete Mathematics for Computer Engineering Cr. 3. P 266. Introduction to discrete mathematical structures and finite-state machines. Topics include foundation of discrete mathematics, groups and semi-groups, group codes in computer systems, basic

models of finite-state machines, state and machine identification experiments, regular expressions, and complexity.

ECE 373 Numerical Methods for Engineers Cr. 3. P: MA 262. introduction to numerical methods for engineers. Topics include solution methods for nonlinear algebraic equations, sets of linear and nonlinear algebraic equations, eigenvalue problems, interpolation and curve fitting, numerical differentiation and integration, and techniques to solve ordinary and partial differential equations.

ECE 382 Feedback System Analysis and Design Cr. 3. P: 301 or ME 375 or equivalent. In this course classical concepts of feedback system analysis and associated compensation techniques are presented. In particular, the root locus, Bode diagram, and Nyquist criterion are used as determinants of stability.

ECE 393 Industrial Practice III Cr. 0. P: 292. For cooperative program students only.

ECE 394 Industrial Practice IV Cr. 0. P: 393. For cooperative program students only.

ECE 395 Industrial Practice V Cr. 0. P: 394. For cooperative program students only.

ECE 405 Senior Engineering Design I Cr. 3. P: 302 and 362. The first course of a two-semester sequence of senior capstone design. Provides students with experience in the process and practice of electrical/computer component/system design from concept through final design. Emphasis on teamwork, project management, oral and written communication. General lectures on issues important to the engineering profession, such as professional and ethical responsibility, the impact of engineering solutions in a global and societal context, and other contemporary issues.

ECE 406 Senior Engineering Design II Cr. 3. P: 405 with a grade of C or better. Design II is an extension of Design I and includes but is not limited to (1) continued research, design, and implementation; (2) oral presentation and/or demonstration of the project to faculty and other interested parties; (3) answering appropriate questions related to the project; (4) generation of a final technical report

documenting design, development, and performance of project.

ECE 418 Introduction to Computer Graphics Cr. 3. P: ENGR 110, MA 262. Introduction to computer graphics using OpenGL software interface. Topics include primitives, 2D and 3D transformations, line clipping, animation, text, VBezier curves, and fractals. Assignments involve computer programming in a C environment.

ECE 425 Electric Machines, Cr. 3. P: 202. A study of the energy conversion principles and operating behavior of AC and DC electric machines. Develops circuit models to study their steady-state characteristics and simple mathematical models to study their transient responses. Considers engineering aspects of practical machines. Examines industrial methods of starting and controlling these machines, including the use of power electronics in DC machine control. Emphasis on formulations that lend themselves readily to digital computational techniques.

ECE 436 Digital Signal Processing Cr. 3. P: 301. Introduction to discrete systems and digital signal processing. Topics include sampling and reconstruction of continuous signals, digital filter design, and frequency analysis including the Fourier transform, the Z transform, the discrete Fourier transform, and the fast Fourier transform.

ECE 442 Transmission of Information Class 3, Lab. 0–3, Cr. 3–4. P: 301 and 302. Applications of the principles of signal analysis to amplitude, phase, and frequency modulation systems. Behavior of receivers in the presence of noise. Pulse code modulation and multiplex systems. Emphasis on engineering applications of theory to communication system design.

ECE 443 Communications Laboratory Lab. 3, Cr. 1. C: 442. Experiments are related to modulation and detection, AM, FM, PWM, time-division multiplexing and noise analysis.

ECE 447 Modern Filter Design Class 3 Lab. 0–3, Cr. 3–4. P: 301. Solution to the filtering approximation problem via Butterworth, Chebyshev, elliptic, etc., approaches. Transfer function scaling and type transformations. Effects of A/D and D/A conversion. Digital filter design methods. Active filter design using operational amplifiers. Understanding and

calculation of filter sensitivities with respect to element variations.

ECE 460 Power Electronics Cr. 3. P: 301 and 265 or 255 or equivalent. Introduction to power semiconductor devices, their characteristics and ratings. Analysis and design of power electronics circuits are emphasized. Topics include diode rectifiers, controlled rectifiers, a.c. voltage controllers, thyristor commutation techniques, choppers, pulse-width modulated (PWM) and resonant pulse inverters, static switches, and power supplies.

ECE 465 Embedded Microprocessors Cr. 3. P: 362. Introduction to embedded microprocessors with emphasis on the Intel 80C188EB. Topics include programming and interfacing the memory and I/O, bus systems, and DMA transfers.

ECE 466 Introduction to VHDL Programming Cr. 3. P: 270, 301. This course focuses on presenting the basic features of the VHDL language in the context of its use for both simulation and synthesis. Basic language concepts are motivated by familiarity with digital logic circuits with simulation and synthesis presented as complementary design processes. Field programmable gate arrays are used as the medium for synthesis laboratory exercises.

ECE 467 Advanced Digital Systems/ Embedded Microcontroller Design Laboratory Cr. 1. P: 362. Advanced topics in digital system design, focusing on use of programmable logic devices and highly-integrated microcontrollers. Topics include use of programmable logic devices and their associated hardware/software development tools, and implementation of real-time control applications on an embedded microcontroller.

ECE 469 Operating Systems Engineering Class 3, Lab. 3, Cr. 4. P: 368, 495A. Students will learn to design and construct operating systems for both individual computers and distributed (networked) systems. Basic concepts and methods for managing processor, main memory, block-structured storage, and network resources are covered. Detailed examples are taken from a number of operating systems, emphasizing the techniques used in networked versions of UNIX. These techniques are applied to design improvements of portions of networked

UNIX-based operating system. The improvements are implemented and their performance evaluated in laboratory experiments.

ECE 472 Digital Systems Design Using VHDL Cr. 3. P: EE 266, ENGR 110. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. An introduction to the Very high-speed integrated circuit Hardware Description Language (VHDL) programming, VHDL language constructs to build combinational and sequential logic circuits, data flow modeling, timing and physical parameters, mapping state flow diagrams to VHDL state machine descriptions, VHDL-based synthesis and simulation, VHDL-based digital logic design for implementation in programmable logic devices (PLDs), field programmable gate arrays (FPGAs), and application specific integrated circuits (ASICs), optimizing data paths including pipelining, resource sharing, etc. Some programming background is assumed.

ECE 483 Digital Control Systems— Analysis and Design Cr. 3. P: 382. Modeling using state-variable representation in discrete-time and z-transfer function. Parameter determination. Extension of basic frequency domain approaches to digital systems design. Time domain design of discrete-time systems. Computational methods emphasized in the design. Basics of computer control.

ECE 490 Senior Participation In Engineering Projects In Community Service Cr. 1-2. (V.T.) P: Senior standing in Engineering. Together, the courses EE 290, EE 390, and EE 490 create a vertical project track under which students work in teams on long-term engineering projects. Each team consists of a mix of sophomores, juniors, and seniors. Projects of at least one year are intended to solve real problems that are defined in consultation with “customers” from Purdue or the community. EE 490 students are responsible for the management tasks of planning and organizing their team project activity and interacting with the faculty advisors and customer representatives. Their technical responsibilities include system design solving technical problems, and raining, monitoring, and directing the sophomores and juniors in the tasks of system construction, testing, and

deployment. Students are encouraged to participate in an EPICS project team for two or more semesters via enrollment in EE 290 while a sophomore, EE 390 while a junior, and EE 490 while a senior.

ECE 495 Selected Topics in Electrical Engineering Cr. 1–4. (V.T.) May be repeated for credit. Available upon arrangement with the chair of the department and the instructor.

ECE 496 Electrical Engineering Projects Cr. 1–15. (V.T.) Hours and credits to be arranged.

ECE 497 Research in Electrical Engineering I Cr. 3. P: honors classification. Individual research projects for students with honors classification. Requires prior approval of, and arrangement with, a faculty research advisor.

ECE 498 Research in Electrical Engineering II Cr. 3. P: EE 497 and honors classification. Continuation of EE 497. Requires submission of a written thesis, public presentation, and oral defense of the research project.

ECE 535 Transmission and Distribution of Electric Energy Cr. 3. A study of factors that are important in the design and operation of the hardware necessary to reliably deliver large amounts of electrical energy over substantial areas. Particular emphasis is placed on the factors that limit power handling capability. A review of line parameters and loss mechanisms, high voltage and current limitations in the form of corona, audible noise, radio noise, field effects, and heat transfer are considered. Also included is an introduction to system protection.

ECE 547 Introduction to Computer Communication Networks Cr. 3. P: 302 or equivalent. A qualitative and quantitative study of the issues in design, analysis, and operation of computer communication and telecommunication networks as they evolve toward the integrated networks of the future employing both packet and circuit switching technology. The course covers packet and circuit switching, the OSI standards architecture and protocols, elementary queuing theory for performance evaluation, random access techniques, local area networks, reliability and error recovery, and integrated networks.

ECE 565 Computer Architecture Cr. 3. P: 365 or graduate standing. An introduction to the problems involved in designing and analyzing current machine architectures. Major topics include performance and cost analysis, pipeline processing, vector machines and numerical applications, hierarchical memory design, and multiprocessor architectures. A quantitative approach allowing a computer system designer to determine the extent to which a design meets design goals is emphasized.

ECE 589 State Estimation and Parameter Identification of Stochastic Systems Cr. 3. P: 302. Introduction to point estimation, least squares, Bayes risk, and maximum likelihood. Optimum mean-square recursive estimation for nondynamic stochastic systems. State estimation for discrete-time and continuous-time dynamic systems. Parameter identification of stochastic systems using maximum likelihood. Stochastic approximation, least squares, and random search algorithms.

ECE 595 Selected Topics in Electrical Engineering Cr. 1–3. P: consent of instructor. Formal classroom or individualized instruction on topics of current interest. May be repeated for credit.

Engineering

ENGR 101 Introduction to Engineering Cr. 1. Introduction to the profession of engineering. Focus is on academic, career, and personal development success strategies including lifelong learning skills and professional ethics. Assignments and projects are of a multidisciplinary nature.

ENGR 120 Graphical Communications and Spatial Analysis Cr. 2. P: MA 153. The principles of engineering graphics are applied to the visualization, communication, and graphical analysis of problems. Included are the utilization of sketching and computer-aided design to create and analyze computer-generated geometric models, manipulative coordinate systems, generate selective views, conform to graphic and data standards, and interpret engineering drawings.

ENGR 121 Computer Tools for Engineers Cr. 2. P: MA153; C: ENGR 120. Introduction to the use of computer software for solving

engineering problems. UNIX computer communications, spreadsheets for problem solving and plotting. Interactions and loops using spreadsheets. Use of software tools for problem solution and plotting. Applications in engineering.

ENGR 122 C and C++ Programming for Engineers Cr. 2. P: ENGR 101, 121, MA 154 or MA 151. Introduction to programming in C and C++ to solve engineering problems: integer and floating-point data, standard mathematics library, control structures, pointers, user-defined functions, arrays, input and output, classes.

ENGR 198 Industrial Practicum Cr. 0. P: sophomore engineering status. Engineering practice in local industry.

ENGR 199 Introduction to Engineering Design Cr. 3. C: ENGR 122. This course introduces the engineering design process as a heuristic approach. Techniques for defining problems, generating solutions and deciding between them are used to set up and solve design problems that are analyzed by students using fundamental engineering principles. Computer modeling of systems is introduced for use in design. Students learn both written and oral technical communication skills by presenting their engineering work and conclusions in the form of reports and oral presentations.

ENGR 410 Interdisciplinary Senior Engineering Design I Cr. 3. P: consent of course coordinator. The first course of a two-semester sequence of senior capstone design. Provides students with experience in the process and practice of mechanical/electrical component/system design from concept through final design. Emphasis on teamwork, project management, oral and written communication, general lectures on issues important to the engineering profession, such as professional and ethical responsibility, the impact of engineering solutions in a global and societal context, and other contemporary issues.

ENGR 411 Interdisciplinary Senior Engineering Design II Cr. 3. Continuation of ENGR 410. Teams complete their projects by implementing what they have designed in ENGR 410. This includes building, testing, evaluating, and demonstrating their end products.

Mechanical Engineering

ME 200 Thermodynamics I Class 3, Cr. 3.

C: MA 261. First and second laws, entropy, reversible and irreversible processes, properties of pure substances, applications to engineering problems.

ME 250 Statics Class 3, Cr. 3. P: ENGR 199, PHYS 152; C: MA 261. Forces and couples, free body diagrams, two- and three-dimensional equilibrium of a particle and rigid bodies. Principles of friction, centroids, centers of gravity, and moments of inertia. Virtual work, potential energy, and static stability of equilibrium. Internal forces, shear and bending moment diagrams.

ME 251 Dynamics Cr. 3. P: 250; C: MA 263. Kinematics of particles in rectilinear and curvilinear motion. Kinetics or particles, Newton's second law, energy and momentum methods. Systems of particles. Kinematics and plane motion of rigid bodies, forces and accelerations, energy and momentum methods. Introduction to mechanical vibrations.

ME 252 Strength of Materials Cr. 3. P: 250; C: MA 263. Plane stress, plane strain, and stress-strain laws. Applications of stress and deformation analysis to members subjected to centric, torsional, flexural, and combined loading. Introduction to theories of failure, buckling, and energy methods.

ME 280 Electronics and System Engineering through Robotics Cr. 3.

P: ECE 201, ENGR 199, PHYS 251. Introduction to robotics; motion sensors and actuators; fundamentals of semiconductor devices; introduction to logic design, mechatronics, industrial switching elements, and ladder diagram; pneumatic control circuits design; mathematical modeling of mobile robots, locomotion, and wheel arrangements; introduction to microprocessors and sensor interfacing; simple servo feedback control strategies; real time control.

ME 281 Electronics and System Engineering through Robotics Lab Cr. 1.

C: 280. Experiments in digital logic, linear systems, op-amps circuits, control, and robotic. Credit may not be received also for ECE 281 or EE 281.

ME 282 Measurements and Instrumentation Lab. 4, Cr. 2. P: COM 114, ENG W131; C: ME 200, ME 252.

Introduction to the theory and application of instrumentation to measurements problems in mechanical engineering. Experiments utilizing basic devices to measure quantities such as pressure, temperature, flow, strain, and force are performed. Methods for recording, interpretation, and presentation of experimental results are illustrated. Statistics and design of experiments are emphasized.

ME 285 Industrial Practice I Cr. 0.

For cooperative program students only. Practice in industry and comprehensive written report of this experience.

ME 286 Industrial Practice II Cr. 0.

P: 285. For cooperative program students only. Practice in industry and comprehensive written report of this experience.

ME 287 Industrial Practice III Cr. 0.

P: 286. For cooperative program students only. Practice in industry and comprehensive written report of this experience.

ME 288 Industrial Practice IV Cr. 0.

P: 287. For cooperative program students only. Practice in industry and comprehensive written report of this experience.

ME 289 Industrial Practice V Cr. 0.

P: 288. For cooperative program students only. Practice in industry and comprehensive written report of this experience. May be repeated for credit.

ME 301 Thermodynamics II Cr. 3.

P: 200. Reversibility, availability, power cycles, and the conversion of heat into work; combustion, heat pumps, refrigeration, and air conditioning.

ME 303 Material Science and Engineering Cr. 2. P: 252 and CHM 115;

C: 304. Concepts of materials science and their relevance to engineering design. Structure, properties, and uses of engineering materials. Strengthening methods and environmental effects.

ME 304 Mechanics and Materials Laboratory Cr. 1. P: 282, 303, C: 307.

Experimental determination of mechanical properties of selected engineering materials. Experimental verification of assumptions made in ME 252. Use of strain measuring devices. Design of experiments.

ME 318 Fluid Mechanics Cr. 3. P: 200, 251, MA 363. Continuum hypothesis, velocity field, fluid statics, basic conservation laws for systems and control volumes, dimensional analysis and similitude, Euler and Bernoulli equations, Navier-Stokes equations, viscous flows, boundary-layer flow in channels and around submerged bodies, applications.

ME 319 Fluid Mechanics Laboratory

Cr. 1. P: 282, 318. Introduction to fluid mechanics laboratory and design, of experiments, including experiments on flow patterns, velocity profile in an air pipe, wind tunnel calibration, draining of a tank, pipe friction, drag forces, boundary layer studies, falling ball experiments, and measurements of fluid properties.

ME 321 Heat Transfer Cr. 3. C: 318.

Fundamental principles of heat transfer by conduction, convection, and radiation; mass transfer by diffusion and convection. Application to engineering situations.

ME 322 Heat Transfer Laboratory Cr. 1.

P: 282, 321; C: 319. Introduction to heat transfer laboratory and design of experiments. Experiments on measurements of temperature and thermal conductivity, transient heat conduction, convection, radiation, boiling, and heat exchangers.

ME 361 Kinematics and Dynamics of Machinery Cr. 3. P: 251.

Position, velocity and acceleration analysis and design of machine elements including n-bar linkages, cam followers, and gear trains. Dynamic force analysis and balancing of linkages; flywheels; introduction to cam dynamics.

ME 369 Machine Design Cr. 3. P: 252, 303, and 361. Application of principles of strength of materials to the design of typical mechanical components.

ME 371 System Dynamics and Introduction to Control Cr. 4. P: ME 251, 280, 281. Introduction to mathematical modeling and response analysis of dynamic systems with mechanical, electrical, and fluid/thermal elements used in control systems. Concepts of analogous systems; transfer function, and state space formulation; analysis in time-domain; analysis in frequency-domain; introduction to modern control theory.

ME 373 Numerical Methods for Engineers Cr. 3. P: MA 262. Introduction to numerical methods for engineers. Topics include solution methods for nonlinear algebraic equations, sets of linear and nonlinear algebraic equations, eigenvalue problems, interpolation and curve fitting, numerical differentiation and integration, and techniques to solve ordinary and partial differential equations.

ME 421 Heating and Air Conditioning I Cr. 3. P: 321 and 322. Fundamentals of fluid flow and heat transfer. Comfort conditions. Psychometrics. Solar radiation. Design conditions. Heating and cooling loads. Ventilation. Air distribution. Fans and pumps. Duct design. Air conditioning system.

ME 424 Design and Optimization of Thermal Systems Cr. 3. P: 301 and 321. Application of the principles of thermodynamics, fluid mechanics, and heat transfer to the design of thermal systems with an emphasis on modeling, simulation, economic analysis, and optimization. Systems to be studied include heat exchangers, thermal storage devices, fluid machinery, pipes and ducts, and electronics cooling devices.

ME 425 Intermediate Heat Transfer: Theory and Applications Cr. 3. P: 321, 322. Analytical study of conduction; energy and momentum equations in convective heat transfer and review of empirical relations; boiling and condensation; applications in heat transfer such as heat exchangers, refrigeration and freezing of foods, cooling of electronic equipment, and heating and cooling of buildings.

ME 453 Experimental Stress Analysis Class 2, Lab. 3, Cr. 3. P: 252. Introduction to experimental methods in stress analysis with application to practical engineering problems. Electrical-resistance strain gages, strain gage circuits, transducer applications, and recording instruments. Two-dimensional photoelasticity with emphasis on birefringent coating. Introduction to the method of caustics. Selected laboratory experiments.

ME 454 Intermediate Dynamics with Computer Applications Cr. 3. P: 371. Introduction to the advanced theories of dynamics and application of the digital computer as a tool in engineering design and analysis of structural members and machine components in motion.

ME 469 Advanced Mechanics of Materials Cr. 3. P: 252 and 303. Studies of stress and strain in three-dimensional problems. Theories of failure and energy methods. Unsymmetrical bending, curved beams, cross stress, shear center, torsion of thin-walled noncircular sections, thick-wall cylinders. Introduction to fracture mechanics, plates, and contract stresses.

ME 471 Vibration Analysis Cr. 3. P: 251. Introduction to simple vibratory motions such as damped and undamped free and forced vibrations, resonance, vibratory systems with more than one degree of freedom, Coulomb and hysteretic damping, transverse vibration of beams, torsional vibration, computation of natural frequencies and mode shapes, applications.

ME 478 Introduction to Numerical Methods in Mechanical Engineering Cr. 3. P: MA 262 and ENGR 122. The solution of problems arising in mechanical engineering using numerical methods. Topics include solution methods for nonlinear algebraic equations, sets of linear and nonlinear algebraic equations, eigenvalue problems, interpolation and curve fitting, numerical differentiation and integration, and techniques to solve ordinary and partial differential equations. Applications include fluid mechanics, heat and mass transfer, thermodynamics, kinematics, and design.

ME 480 Finite Element Analysis Cr. 3. P: 252, 301, 321, and 322. Introduction to the finite-element method through applications to problems in elasticity and heat transfer. Emphasis on one- and two-dimensional problems. Computer implementation.

ME 487 Mechanical Engineering Design I Cr. 3. P: 307, 321, C: 322. The first course of a two-semester sequence of senior capstone design. Provides students with experience in the process and practice of mechanical component/system design from concept through final design. Emphasis on teamwork, project management, testing through simulation or prototype, oral and written communications.

ME 488 Mechanical Engineering Design II Cr. 3. P: ME 487. Continuation of ME 487.

ME 497 Mechanical Engineering Projects Cr. 1-6. (V.T.) P: Junior standing or higher required. Projects or special topics of

contemporary importance or of special interest that are outside the scope of the standard undergraduate curriculum can be studied under the Mechanical Engineering Projects course. Interested students should seek a faculty advisor by meeting with individual faculty members who work in their area of special interest and prepare a brief description of the work to be undertaken in cooperation with their advisor.

ME 498 Research in Mechanical Engineering I Cr. 3. P: honors classification. Individual research projects for students with honors classification. Requires prior approval of, and arrangement with, a faculty research advisor.

ME 499 Research in Mechanical Engineering II Cr. 3. P: ME 498 and honors classification. Continuation of ME 498. Requires submission of a written thesis, public presentation, and oral defense of the research project.

Military Science and Leadership

MSL 101 Foundation Officership Cr. 2. Examine the unique duties and responsibilities of officers. Discuss organization and role of the Army. Review basic life skills pertaining to fitness and communication. Analyze Army values and expected ethical behavior.

MSL 102 Basic Leadership Cr. 2. Presents fundamental leadership concepts and doctrine. Practice basic skills that underlie effective problem solving. Apply active listening and feedback skills. Examine factors that influence leader and group effectiveness. Examine the officer experience.

MSL 120 Reading Military Maps Survival Skills Cr. 1. Fundamentals of reading and interpreting maps and aerial photographs, including marginal information, symbols, map orientation, military grid reference system, and terrain analysis. Application by planning movement of small groups, emphasizing problem solving and control.

MSL 201 Individual Leadership Cr. 3. Develop knowledge of self-confidence and individual leadership skills. Develop problem solving and critical thinking skills. Apply communication, feedback, and conflict resolution skills.

MSL 202 Leadership and Teamwork Cr. 3. Focuses on self-development guided

by knowledge of self and group processes. Challenges current beliefs, knowledge, and skills. Provides equivalent preparation for the ROTC Advanced Course and the Leader's Training Course.

MSL 301 Leadership and Problem

Solving Cr. 4. Examines basic skills that underlie effective problem solving. Review the features and execution of the Leadership Development Program. Analyze military mission and plan military operations. Execute squad battle drills.

MSL 302 Leadership and Ethics Cr. 4.

Probes leader responsibilities that foster an ethical command climate. Develop cadet leadership competencies. Prepare for success at National Advanced Leadership Camp. Recognize leader responsibility to accommodate subordinate spiritual needs. Apply principles and techniques of effective written and oral communication.

MSL 401 Leadership and Management

Cr. 4. Builds on National Advanced Leadership Camp experience to solve organizational and staff problems. Discuss staff organization, functions, and processes. Examine principles of subordinate motivation and organizational change. Apply leadership and problem-solving principles to a complex case study/simulation.

MSL 402 Officership Cr. 4 Designed to explore topics relevant to second lieutenants entering the Army. Describe legal aspects of decision making and leadership. Analyze Army organization for operations from the tactical to strategic level. Assess administrative and logistics management functions.

MSL 490 Directed Study In Military

Science Cr. 1-3. Individual readings, topics, or projects in military science appropriate for advanced undergraduate students.

Engineering, Technology, and Computer Science (ETCS)

ETCS 101 Introduction to Engineering, Technology, and Computer Science Cr. 1.

Introduction to the professions of engineering, engineering technology, and computer science. Focus is on academic,

career, and professional development success strategies including lifelong learning skills and professional ethics. Assignments and projects are of a multidisciplinary nature.

English (ENG)

If you are required by placement examination to take ENG P131, R150, or W130, it is recommended that you complete that requirement before enrolling in any other English course.

ENG G104 Language Awareness Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. A nontechnical introduction to the study of linguistics, this course takes an interdisciplinary approach to language behavior. Particular attention is paid to cultural, social, and psychological aspects of language use. Topics vary and may include language origin, child language acquisition, gender and language, dialects, and slang, among others.

ENG G205 Introduction to the English

Language Cr. 3. **P:** W131 or equivalent. Introduction to reasoning about English syntax and semantics.

ENG G206 Introduction to the Study of

Grammar Cr. 3. **P:** W131 or equivalent. Presents the basic principles of structural and transformational grammar: phonology, morphology, syntax, and semantics with comparative reference to traditional grammar. Required for advanced elementary education majors.

ENG G301 History of the English

Language Cr. 3. **P:** G205 or LING L103. Historical and structural analysis of English language in stages of its development. Political and social events affecting development of language; interrelationship of language and literature, evolution of modern English phonology, syntax, orthography, and lexicon.

ENG G302 Structure of Modern English

(TESOL) Cr. 3. Linguistic analysis of present-day spoken and written English, with attention to its phonemic, morphemic, and syntactical systems and its system of expressive features.

ENG G310 Social Speech Patterns

Class 1–3, Cr. 1–3. **P:** G205, G206, or consent of instructor. This course explores

the relationships among language, society, and culture. The influence of such social factors as age, sex, status, class, and education on language use are discussed within the framework of various theoretical and methodological approaches. Reasons for positive and negative evaluations of several high and low prestige varieties of English are investigated.

ENG G405 Studies in English Language

Cr. 3. (V.T.) **P:** G205 or LING L103. Topics will vary from semester to semester. May be repeated with different topics for a maximum of 9 credits.

ENG G432 Second Language Acquisition

Cr. 3. An introduction to a broad range of issues in the field of second language acquisition, providing the student with an overview of the most important approaches to the fundamental questions of how people learn a second language. Provides students with basic knowledge of theories of second language acquisition, and an understanding of how theoretical perspectives inform practical application.

ENG L101 Western World

Masterpieces I: Ancient to Renaissance

Cr. 3. **P:** placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Literary masterpieces from Homer to Dante. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (fall, spring, summer)

ENG L102 Western World

Masterpieces II: Renaissance to Modern

Cr. 3. **P:** placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Plays, poems, and fiction from the 16th century to the present, including works by Shakespeare, Ibsen, Shaw, Wordsworth, Whitman, Yeats, Dostoevsky, Faulkner, Hemingway. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (fall, spring)

ENG L103 Introduction to Drama Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Significant plays from various times and countries to acquaint students with the conventions and types of drama; works by such playwrights as Sophocles, Shakespeare, Moliere, Ibsen, Strindberg, Shaw, Miller, and Albee.

ENG L104 Introduction to Fiction Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Representative short stories and novels from various periods and countries by such writers as Austen, Hawthorne, Melville, Lawrence, Dostoevsky, Kafka, Marquez, Faulkner, Hemingway, and Welty.

ENG L106 Introduction to Poetry Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Representative poems in English; a course that enables students to read poetry with pleasure and to talk or write about it with ease.

ENG L107 Oriental World Masterpieces Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Literary masterpieces from the Indian, Chinese, Japanese, and other oriental cultures. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ENG L108 Introduction to Contemporary Literature Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Significant fiction and drama of the past 20 years. The course may emphasize traditional writers such as Updike and Solzhenitsyn, or experimentalists such as Robbe-Grillet and Brecht. (fall, spring)

ENG L113 Introduction to African Literature Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. A study of African oral and written fiction, poetry, and drama. Designed to give students a basic knowledge of African literature and the issues surrounding it. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ENG L150 Representative American Writers Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Great American books by such writers as Hawthorne, Melville, Mark Twain, Cather, Faulkner, and Wright. Books might include *The Scarlet Letter*, *Billy Budd*, *Huckleberry Finn*, *My Antonia*, *The Sound and the Fury*, and *Native Son*.

ENG L202 Literary Interpretation Cr. 3.

P: W131, W135, or W140 with a grade of C

or better. Close analysis of representative texts (poetry, drama, fiction) designed to develop art of lively, responsible reading through class discussion and writing of papers, including a documented research paper. Attention to literary design of critical method. May be repeated once for credit by special arrangement with Department of English and Linguistics. *Approved by Arts and Sciences for use in fulfilling the writing requirement.* Recommended prior to taking upper-level courses. (fall, spring)

ENG L207 Women and Literature Cr. 3.

(V.T.) P: W131 or equivalent. Issues and approaches to critical study of women writers and treatment in British and American literature. May be repeated with different topics for a maximum of 6 credits.

ENG L220 Introduction to Shakespeare Cr. 3.

P: W131 or equivalent. Shakespeare's best-known plays and poems. Credit not given for both L220 and L315.

ENG L230 Introduction to Science Fiction Cr. 3.

P: W131 or equivalent. The major themes and types of modern science fiction: space opera, utopia, apocalypse, cautionary tale. Writers considered range from Mary Shelley, Verne, and Wells in the 19th century to contemporary figures such as LeGuin, Herbert, Clarke, Clement, Lem, and Vonnegut. The reading list varies.

ENG L232 Topics in Literature and Culture Cr. 3. (V.T.)

P: W131 or equivalent. Examination of a particular theme, such as the hero, death, or the city, and the techniques by which it is treated in various literary works, usually in more than one genre. May be repeated with different topics for a maximum of 6 credits.

ENG L250 American Literature Before 1865 Cr. 3.

P: W131 or equivalent. An introductory survey of representative works with an emphasis on major writers.

ENG L251 American Literature Since 1865 Cr. 3.

P: W131 or equivalent. An introductory survey of representative works with an emphasis on major writers.

ENG L301 Critical and Historical Survey of English Literature I Cr. 3.

P: L202, or W233 or equivalent. Representative selections with emphasis on major writers from the beginnings to Swift and Pope.

ENG L302 Critical and Historical Survey of English Literature II Cr. 3.

P: L202 or W233 or equivalent. Representative

selections with emphasis on major writers from the rise of romanticism to the present.

ENG L304 Old English Language and Literature Cr. 3.

P: L202 or W233 or equivalent. Language and literature of England before the Norman Conquest, with intensive study of original texts.

ENG L305 Chaucer Cr. 3.

P: L202 or W233 or equivalent. Examination of *The Book of the Duchess*, *The Parliament of Fowls*, *Troilus and Criseyde*, and selected *Canterbury Tales*; to acquaint students with the language, conventions, and background of Chaucer's poetry.

ENG L306 Middle English Literature Cr. 3.

P: L202 or W233 or equivalent. A survey of Middle English lyrics, drama, and romance, with special attention to Langland, *The Pearl-poet*, and Gower, designed to acquaint the student with the language and literary development of England from 1066 to 1500.

ENG L308 Elizabethan Drama and Its Background Cr. 3.

P: L202 or W233 or equivalent. English drama from Middle Ages to 1642, including principal Elizabethan and Caroline dramatists and their best plays.

ENG L309 Elizabethan Poetry Cr. 3.

P: L202 or W233 or equivalent. Major Elizabethan poets, with special attention to Spenser.

ENG L315 Major Plays of Shakespeare Cr. 3.

P: L202 or W233 or equivalent. A close reading of a representative selection of Shakespeare's major plays. Credit not given for both L220 and L315.

ENG L317 English Poetry of the Early 17th Century Cr. 3.

P: L202 or W233 or equivalent. Chief poets and their intellectual milieu (1600–1660).

ENG L318 Milton Cr. 3.

P: L202 or W233 or equivalent. Poetry and prose of John Milton, with special attention to *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*.

ENG L322 English Literature, 1660–1789 Cr. 3.

P: L202 or W233 or equivalent. Survey of nondramatic literature of the Restoration and 18th century. Emphasis on Dryden, Pope, Swift, and Johnson and his circle.

ENG L332 Romantic Literature Cr. 3.

P: L202 or W233 or equivalent. Surveys the

principal writers of the Romantic Movement (Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats).

ENG L335 Victorian Literature Cr. 3.

P: L202 or W233 or equivalent. A survey of English poetry and prose from about 1832 to 1900. Attention to figures like Tennyson, Browning, and Carlyle.

ENG L345 20th Century British Poetry Cr. 3. P: L202 or W233 or equivalent.

Modern poets, particularly Yeats, Eliot, Auden; some later poets may be included.

ENG L346 20th Century British Fiction Cr. 3. P: L202 or W233 or equivalent.

20th century novel and its techniques and experiments, chiefly Lawrence, Joyce, Woolf, and recent novelists.

ENG L347 British Fiction to 1800 Cr. 3.

P: L202 or W233 or equivalent. Forms, techniques, and theories of fiction as exemplified by such writers as Defoe, Richardson, Fielding, Smollett, and Sterne.

ENG L348 19th Century British Fiction Cr. 3. P: L202 or W233 or equivalent.

Forms, techniques, and theories of fiction as exemplified by such writers as Scott, Dickens, Eliot, and Hardy.

ENG L351 American Literature 1800–1865 Cr. 3. P: L202 or W233 or equivalent.

Emphasis on Emerson, Hawthorne, Melville, Thoreau, and Whitman.

ENG L352 American Literature 1865–1914 Cr. 3. P: L202 or W233 or equivalent.

Emphasis on Mark Twain, Dickinson, James, and two or three additional major writers.

ENG L354 American Literature Since 1914 Cr. 3. P: L202 or W233 or equivalent.

American writers since 1914: Faulkner, Hemingway, Eliot, Frost, and two or three additional major writers.

ENG L355 American Fiction to 1900 Cr. 3. P: L202 or W233 or equivalent.

Survey of representative 19th century American fiction, with emphasis on works of Cooper, Hawthorne, Melville, Mark Twain, James, and Dreiser.

ENG L357 20th Century American Poetry Cr. 3. P: L202 or W233 or equivalent.

American poetry since 1900, including such poets as Pound, Eliot, Frost, Stevens, Williams, and Lowell.

ENG L358 20th Century American Fiction Cr. 3. P: L202 or W233 or equivalent.

American fiction since 1900, including such writers as Dreiser, Lewis, Fitzgerald, Hemingway, Faulkner, and Bellow.

ENG L362 Modern Drama Cr. 3. P: L202 or W233 or equivalent.

Special attention to Ibsen, Strindberg, Chekhov, Brecht, Shaw, and O'Neill.

ENG L364 Native American Literature Cr. 3. P: L202 or W233 or equivalent.

A survey of traditional and modern literature by American Indians, especially of the high plains and southwest culture areas, with particular attention to the image of the Indian in both native and white literature. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

ENG L366 Modern Drama: English, Irish, American, and Post-Colonial Cr. 3.

P: L202 or W233 or equivalent. Shaw, Synge, O'Neill, and other significant dramatists, such as Harold Pinter, Edward Albee, August Wilson, Athol Fugard, and Wole Soyinka.

ENG L369 Studies in British and American Authors Cr. 3. (V.T.) P: L202 or W233 or equivalent.

Studies in single authors (such as Wordsworth or Melville), groups of authors (such as minority writers), periods (such as American writers of the 1920s), and genres (such as tragedy). Topics will vary from semester to semester. May be repeated with different topics for a maximum of 9 credits.

ENG L371 Introduction to Criticism Cr. 3.

P: L202 or W233 or equivalent. Selected critical approaches from ancient to modern times. May include practice in testing these approaches against a small number of literary texts.

ENG L372 Contemporary American Fiction Cr. 3. P: L202 or W233 or equivalent.

American fiction of the last 20 years, including such writers as Bellow, Barth, Didion, Malamud, Pynchon, and Updike.

ENG L378 Studies in Women and Literature Cr. 3. (V.T.) P: L202 or W233 or equivalent.

British and American authors, such as George Eliot, Gertrude Stein; groups of authors, such as the Brontë sisters, recent women poets; or genres and

modes, such as autobiography, film, criticism. Topics will vary from semester to semester. May be repeated with different topics for a maximum of 9 credits.

ENG L379 American Ethnic and Minority Literature Cr. 3. P: L202 or W233 or equivalent.

A survey of representative authors and works of American ethnic and minority literature with primary focus on Black, Hispanic, and Native Americans.

ENG L381 Recent Writing Cr. 3. (V.T.)

P: L202 or W233 or equivalent. Selected writers of contemporary significance. May include groups and movements (such as Black writers, poets of projective verse, new regionalists, parajournalists and other experiments in pop literature, folk writers, and distinctly ethnic writers); several recent novelists, poets or critics; or any combination of groups. May be repeated with different topics for a maximum of 9 credits.

ENG L388 Studies in Irish Literature and Culture Cr. 3. (V.T.) P: L202 or W233 or equivalent.

Studies in single authors, such as Yeats or Joyce; groups of authors, such as contemporary Irish poets; periods, such as the Irish literary renaissance; and genres, such as modern Irish drama. Topics will vary from semester to semester. May be repeated with different topics for a maximum of 9 credits.

ENG L390 Children's Literature Cr. 3.

P: L202 or W233 or equivalent. Survey of a wide range (folk tales, fantasy, realistic fiction, poetry, and picture books) of literature for children from the early years to junior high school. Readings from the classics of previous centuries and from the best modern works will be treated from the literary-critical perspective, from which pedagogical conclusions follow. Intended for English majors, for the general student, for teachers past and future, and for parents and librarians.

ENG L391 Literature for Young Adults Cr. 3. P: L202 or W233 or equivalent.

Survey of representative literary works suitable for middle-school and high-school students. A variety of genres (poetry, mythology, science fiction and fantasy, historical fiction, realistic fiction, and contemporary problem books) will be treated from the literary-critical perspective, from which pedagogical conclusions follow. Intended for English majors, for the general student, for

teachers past and present, and for parents and librarians.

ENG L392 *Topics in Children's Literature Cr. 3. (V.T.)* P: L202 or W233 or equivalent. Studies in periods, such as contemporary American children's literature or Victorian fantasies for children; or genres such as picture books or children's poetry. Topics will vary from semester to semester. May be repeated with different topics for a maximum of 9 credits.

ENG L399 *Junior Honors Seminar Cr. 3. (V.T.)* P: honors eligibility or instructor's signature.

ENG L495 *Individual Reading in English Cr. 1–3. (V.T.)* P: consent of instructor. May be repeated with different topics for a maximum of 9 credits. (fall, spring)

ENG L499 *Senior Independent Study for Honors Students Cr. 1–6. (V.T.)* P: honors eligibility or instructor's signature. May be repeated with a different topic for a maximum of 6 credits. (fall, spring, summer)

ENG P131 *Elementary Composition Practicum Cr. 2.* P: placement in P131. Students who place between W130 and W131 on the placement test take ENG P131 concurrently with ENG W131. This course provides instruction and opportunity for practice in fundamental composing skills such as organization, development, grammar, mechanics, and style.

ENG R150 *Reading/Learning Techniques I Cr. 1–3. (V.T.)* Emphasis on mechanics of reading, flexibility in reading, styles of learning, listening comprehension, vocabulary development, word attack, reading comprehension, and other study skills. No credit toward any degree at IPFW.

ENG R151 *Reading/Learning Techniques II Cr. 1–3. (V.T.)* Designed to develop higher levels of learning skills with instruction and practice in critical reading and listening, understanding, and applying principles and methods of learning. Must normally be taken in conjunction with a course in social science, science, or technology. No credit toward any degree at IPFW.

ENG R152 *Reading/Learning Techniques III Cr. 1–3. (V.T.)* Reading/rate course with major topics covering reading rate development, comprehension power, skimming, and scanning. No credit toward any degree at IPFW.

ENG R185 *Developmental Reading: Speed Reading Class 0, Lab. 2, Cr. 1.* Increases reading efficiency by improving comprehension and by developing the motor skills involved in reading speed. Motivates reading interest through the use of films and pacers. (fall, spring)

ENG S101 *Honors Western World Masterpieces I: Ancient to Renaissance Cr. 3.* Equivalent of L101 for honors students.

ENG S104 *Honors Introduction to Fiction Cr. 3.* Equivalent of L104 for honors students.

ENG S108 *Honors Introduction to Contemporary Literature Cr. 3.* Equivalent of L108 for honors students.

ENG S203 *Honors Creative Writing Cr. 3.* Equivalent of W203 for honors students.

ENG S233 *Honors Intermediate Expository Writing Cr. 3.* Equivalent of W233 for honors students.

ENG S234 *Honors Technical Writing Cr. 3.* Equivalent of W234 for honors students.

ENG S331 *Honors Business and Administrative Writing Cr. 3.* Equivalent of W331 for honors students.

ENG S390 *Honors Children's Literature Cr. 3.* Equivalent of L390 for honors students.

ENG S462 *Honors Studies in Rhetoric and Composition Cr. 3.* Equivalent of W462 for honors students.

ENG W103 *Introductory Creative Writing Cr. 3.* P: placement at or above W131 or equivalent. Introduction to the art of creative writing. Short assignments, independent work, and classroom discussion of the fundamentals of writing in several genres, including poetry and fiction.

ENG W115 *Basic English Composition I Cr. 3.* P: permission of the Center for Academic Support and Advancement. For beginning-level, non-native students of English. Classroom work on vocabulary, word order, sentence structure, and idiom; practice in writing short papers for a variety of purposes and audiences. No credit toward any IPFW degree. (fall, spring)

ENG W116 *Basic English Composition II Cr. 3.* P: permission of instructor. For intermediate-level, non-native speakers of

English. Classroom work on vocabulary, grammar, and idiom; practice in writing for a variety of purposes and audiences. No credit toward any IPFW degree.

ENG W130 *Principles of Composition Cr. 3.* P: placement in W130. For students who need a semester of writing instruction before taking W131. Practice in writing papers for a variety of purposes and audiences. Attention to sentence and paragraph structure. No credit toward any degree at IPFW. Grade of C or better required to take W131. (fall, spring, summer)

ENG W131 *Elementary Composition I Cr. 3.* P: placement in W131, or completion of W130 with a grade of C or better, or completion of the ESL composition sequence and recommendation of the ESL instructor. Practice in writing organized, well-developed, researched papers for a variety of purposes and audiences. Some analysis of prose style and structure. (fall, spring, summer)

ENG W140 *Elementary Composition, Honors Cr. 3.* P: placement in W131 and honors eligibility. Instruction in analysis of selected prose models and techniques of producing researched papers for a variety of rhetorical situations. Satisfies the two-semester composition sequence for most disciplines.

ENG W203 *Creative Writing Cr. 3.* P: W131 or equivalent. Focus in either poetry or fiction writing. Exploration in imaginative writing with focus on one specific genre. May be repeated once for credit with a different topic.

ENG W232 *Introduction to Business Writing Cr. 3.* P: W131, W135, or W140 with a grade of C or better. Designed for students pursuing business careers. Practice in clarity, correctness, organization, and audience adaptation in business letters, interoffice memos, and informal and formal reports. Some emphasis on business research methods, research design, collaborative writing, and oral communication. (fall, spring)

ENG W233 *Intermediate Expository Writing Cr. 3.* P: W131, W135, or W140 with a grade of C or better. Instruction and practice in producing researched and documented texts appropriate for public audiences. Emphasis on appropriate primary and secondary research methods,

organization, writing style, and documentation.

ENG W234 *Technical Report Writing*

Cr. 3. P: W131, W135, or W140 with a grade of C or better and recommended sophomore standing. Instruction in preparing engineering and other technical proposals and reports, with an introduction to the use of graphics.

ENG W301 *Writing Fiction* Cr. 3.

P: W203 (in fiction) or submission of acceptable manuscripts to instructor in advance of registration. Further exploration in the art of fiction writing. With permission of instructor, may be repeated with different topics for a maximum of 9 credits.

ENG W303 *Writing Poetry* Cr. 3.

P: W203 (in poetry) or submission of acceptable manuscripts to instructor in advance of registration. Further exploration in the art of poetry writing. May be repeated with different topics for a maximum of 9 credits.

ENG W310 *Language and the Study of Writing* Cr. 3.

P: W233 or equivalent. An introduction to the logical foundation and rhetorical framework of effective writing.

ENG W331 *Business and Administrative Writing* Cr. 3.

P: W233 or equivalent. Emphasis on proposals, presentations, collaborative and individual reports needed within a business, administrative, or organizational setting. Students discover how the process and products of writing shape organizational culture by studying documents organizations use, from hiring to setting ethical standards, as they communicate both internally and globally.

ENG W350 *Advanced Expository Writing*

Cr. 3. P: W233 or equivalent. Close examination of the assumptions and choices that govern content and style, and practice in the techniques of producing a variety of researched papers incorporating primary and secondary research appropriate to audience and purpose.

ENG W365 *Theories and Practices of Editing* Cr. 3.

P: W233 or equivalent. Students will examine textual and literary approaches to editing given particular rhetorical contexts. Emphasis will be placed on how to make editorial judgments that promote editorial standards without violating authorial intent.

ENG W367 *Writing for Multiple Media*

Cr. 3. P: W233 or equivalent. Introduces principles and practices of multimedia design and implementation, with emphasis on writing in multimedia contexts. Students will consider ways that new media affect the production and reception of writing and its relationship to other forms of communication (e.g., oral and visual).

ENG W372 *Composing the Self* Cr. 3.

P: W233 or equivalent. Study of the ways in which our identities are formed, sustained, and reformed, particularly with respect to gender, race, class, and sexuality. Focus on both exploratory and polished writing as well as works by various authors.

ENG W376 *Writers Reading/Readers Writing* Cr. 3.

P: W233 or equivalent. Investigation of how writers, readers, and texts are shaped within the contexts of literature, composition, and professional writing. Focus on using current conventions more consciously and flexibly to generate new ways of reading and writing that better serve our specific needs, desires, and goals.

ENG W395 *Individual Study of Writing*

Cr. 1–3. (V.T.) P: permission of instructor. Practice in and study of informative, persuasive, or literary writing. May be repeated with different topics for a maximum of 9 credits.

ENG W397 *Proseminar for Writing*

Center Consultants Cr. 3. P: W131, W135 or honors eligibility and permission of instructor. Examine techniques for responding to writers in the Writing Center including nontraditional populations and writers in various disciplines. Work in the Writing Center, mentored by experienced consultants, write journals, a case-study outline, and a researched paper linking practical strategies to understandings from theory and research.

ENG W398 *Internship in Writing* Cr. 1–3.

P: W131, W135, or honors eligibility. Combines study of writing with practical experience of working with professionals in journalism, business communication, or technical writing. Researched reports are required. Evaluations made by both supervisor and instructor. May be repeated, with permission of instructor, with different topics for a maximum of 9 credits.

ENG W400 *Issues in Teaching Writing*

Cr. 3. P: W233 or equivalent. Focuses on

the content of rhetoric and composition and considers fundamental theoretical and practical issues in the teaching of writing. Reviews rhetorical and compositional principles that influence writing instruction, textbook selection, and curriculum development.

ENG W401 *Advanced Fiction Writing* Cr. 3.

P: submission of acceptable manuscripts to instructor in advance of registration. Focused work in the art and profession of fiction writing. With permission of instructor, may be repeated with different topics for a maximum of 9 credits.

ENG W403 *Advanced Poetry Writing*

Cr. 3. P: submission of acceptable manuscripts to instructor in advance of registration. Focused work in the art and profession of poetry writing. With permission of instructor, may be repeated with different topics for a maximum of 9 credits.

ENG W405 *Writing Prose—Nonfiction*

Cr. 2–3. P: W233 or equivalent. Study and practice of the essay. Review of historical, thematic, and stylistic range of the form, with emphasis on producing effective, precise communication of thoughtful, informed personal statements.

ENG W420 *Argumentative Writing* Cr. 3.

P: W233 or equivalent. Examines techniques for analyzing and constructing arguments, especially the use of proofs, evidence, and logic. Considers such issues of argument as the ethics of persuasion and the use of style. Students write researched arguments on political, legal, scientific, and academic issues.

ENG W421 *Technical Writing Projects*

Cr. 1–3. P: junior or senior class standing and W234 or W331. Application of the principles of technical reporting to a major piece of primary research and development, usually a senior project in the major. May be repeated for credit. (fall, spring)

ENG W462 *Studies in Rhetoric and Composition* Cr. 3. (V.T.)

P: W233 or equivalent and junior or senior standing. An examination of major rhetorical theories and their applications for writers and for teachers of composition. Focuses on theories of discourse, invention, form, style, and audience. Aims at developing greater understanding of the writing process. May be repeated with different topics for a maximum of 9 credits.

ENG W490 Writing Seminar Cr. 3.

P: L202, or W233 or equivalent and submission of acceptable manuscripts to instructor. This course emphasizes a single aspect or a selected topic of composition and the writing of nonfictional prose.

ENGR, see Engineering

Entomology (ENTM), see
Agriculture and Forestry

FNN (Foods and Nutrition), see
Consumer and Family Sciences

Film Studies (FILM)

If you are required by placement examination to take ENG P131, R150, or W130, it is recommended that you complete that requirement before enrolling in any film studies course.

FILM K101 Introduction to Film

Class 2–4, Lab. 0–3, Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Nature of film technique and film language, analysis of specific films, major historical, theoretical, and critical developments in film and film study from the beginnings of cinema to the present.

FILM K201 Survey of Film History

Class 2–3, Lab. 0–1, Cr. 3. P: ENG W131 or equivalent. An overview of film history from its beginnings to the present, emphasizing major developments in narrative cinema.

FILM K302 Genre Study in Film

Class 2–4, Lab. 0–3, Cr. 3. (V.T.) P: ENG L202 or W233 or equivalent. Topic varies: the evaluation of typical genres; problems of generic description or definition; themes, conventions, and iconography peculiar to given genres, etc. May be repeated with different topics for a maximum of 9 credits.

FILM K390 The Film and Society

Class 2–4, Lab. 0–4, Cr. 3. (V.T.) R: ENG L202 or W233 or equivalent. Film and politics; censorship; social influences of the cinema; rise of the film industry. May be repeated with different topics for a maximum of 9 credits.

FILM S302 Genre Study in Film—Honors

Class 2–4, Lab. 0–3, Cr. 3. (V.T.) P: honors eligibility or permission of instructor. Equivalent of K302 for honors students.

Fine Arts (FINA)**FINA A170 Women Artists/The Visual Arts Cr. 3.**

Study of major areas of visual arts in which women have played a substantial part as artists. Major emphasis on women as artists in relationship to the major movements of the time.

FINA A270 Women in the History of Art Cr. 3.

An in-depth study of the lives and works of women artists from a single historical period (e.g., 1550–1750, 1750–1900, etc.). Emphasis on the relationships between the specific historical circumstances and women's achievements in the arts. May be repeated with different topic for a maximum of 6 credits.

FINA H101 Art Appreciation Cr. 3.

Objectives: to acquaint students with outstanding works of art and to provide an approach to appreciation through knowledge of purposes, techniques, form, and content. No credit toward a fine arts degree. (fall, spring)

FINA H111 Ancient and Medieval Art Cr. 3.

A survey of major artists, styles, and movements in art and architecture from prehistoric times to the Middle Ages. (fall)

FINA H112 Renaissance Through Modern Art Cr. 3.

A survey of major artists, styles, and movements in European and American art and architecture from the 15th century to the present. (spring)

FINA H311 Art of the Ancient World Cr. 3.

P: H111 or permission of the instructor. A comprehensive study of the art and theory of the Greco-Roman period.

FINA H312 Art of the Medieval World Cr. 3.

P: H111 or permission of the instructor. A comprehensive study of the art and art theory of the Medieval period.

FINA H313 Art of the Renaissance and Baroque Cr. 3.

P: H112 or permission of the instructor. A comprehensive study of the art and art theory in the Renaissance and Baroque periods.

FINA H314 Art of the Modern World Cr. 3.

P: H112 or permission of the instructor. A comprehensive study of the visual arts in the 19th and 20th centuries.

FINA H390 Topics in Art History Cr. 3.

In-depth projects and studies in special directions of art history, closely related to existing areas of concentration. May be repeated.

FINA H401 Art Theory IV Class 3, Cr. 3.

An introduction to the three branches of art theory: showing ways in which it has conditioned our concept and expectations of art, how art theory is used in the service of other disciplines, and how it can be used to illuminate events enacted within the actual work of art.

FINA H411 19th Century Art I Class 3, Cr. 3.

1780–1850. Major painters and artistic movements in Western Europe and the United States during the first half of the 19th century. Eligible for graduate credit.

FINA H412 19th Century Art II Class 3, Cr. 3.

Major painters and artistic movements in Western Europe and the United States during the second half of the 19th century. Eligible for graduate credit.

FINA H413 20th-Century Art: 1900–1924 Class 3, Cr. 3.

European artists and movements of the first part of the 20th century: Symbolism, Fauvism, Expressionism, Cubism, etc. for painting, and Art Nouveau, de Stijl, Bauhaus, Sullivan, and early Wright for architecture. Eligible for graduate credit.

FINA H414 20th Century Art: 1925–Present Class 3, Cr. 3.

Painting, sculpture, and architecture from 1925 to the present. Emphasis on American developments, including historical background from Armory Show to migration of Surrealism, Abstract Expressionism, Op, Pop, Minimal, and Kinetic art. A world view of architecture will cover such topics as International Style and New Brutalism. Eligible for graduate credit.

FINA H415 Art of Pre-Columbian America Class 3, Cr. 3.

A survey of the arts of Mesoamerica, especially Mexico and Guatemala, until the time of the discovery of America. Eligible for graduate credit. *Approved by Arts and Sciences for the non-Western culture studies requirement.*

FINA H490 Topics in Art History Cr. 3.

In-depth projects and studies in special directions of art history closely related to existing areas of concentrations. May be repeated.

FINA H495 Readings and Research in Art History Cr. 1–4 (V.T.)

P: consent of instructor. May be repeated for a total of 12 credits at the graduate level. Eligible for graduate credit.

FINA N108 Introduction to Drawing for Nonmajors Class 3, Studio 3, Cr. 3.

Introduces the student to the basic elements of drawing. Line, shape, value, and perspectives will be studied before moving on to the more complex use of color. Landscape and still life will be the source of subject matter for the semester.

FINA P121–P122 Drawing

Fundamentals I–II Studio 3, Cr. 3–3. The fundamentals of representation are taught through the drawing of simple objects, forms, and volumes in line, tone, and texture using simple tools and free-hand drawing skills with a variety of media; emphasis on sound understanding of values, proportion, and perspective. (P121 fall; P122 spring)

FINA P123–P124 Figure Drawing

Fundamentals I–II Studio 3–3, Cr. 3–3. Introduction to drawing the human figure using various media and techniques. Basic anatomy; the skeletal and muscular structure of the human figure as related to drawing is included. (P123 fall; P124 spring)

FINA P151–P152 Design

Fundamentals I–II Studio 3–3, Cr. 3–3. In design fundamentals, the student becomes familiar with the vocabulary and elements of the visual language. Also, the expressive powers of the elements of line, shape, texture, space, and color are explored through a series of sequential exercises. Many different problems in building visual units provide the training artists need to make individual, yet clear, expressive, and complete statements. (P151 fall; P152 spring)

FINA P225–P226 Painting

Fundamentals I–II Class 3–3, Studio 3–3, Cr. 3–3. P: P122, P124, P152. Introduction to painting methods and media and the further application of basic principles of composition through varied pictorial problems from still life, landscape, memory, and imagination. (P225 fall; P226 spring)

FINA P231 Sculpture Fundamentals

Studio 3, Cr. 3. P: P122, P124, P152. Student will work in a wide variety of sculptural mediums. Assignments will focus on idea-based expression as well as a thorough introduction to different tools and processes of sculptural construction. Projects will allow student expression within a guideline that explores natural and abstract images.

FINA P233 Metalsmithing Fundamentals

Studio 3, Cr. 3. P: P122, P124, P152. Understanding of the possibilities of the materials and an appreciation of the use of the tools essential for the creation of forms and objects in metal. Basic techniques, raising, planishing, casting, forging, and fabrication are taught. Inventiveness within the discipline imposed by this traditional art form is encouraged.

FINA P235 Ceramics Fundamentals

Studio 3, Cr. 3. P: P122, P124, P152. Fundamental techniques of forming by hand-building methods, glazing and firing clay objects. Introduction to the creative possibilities of this craft through projects in tile, pottery form, and sculpture. Emphasis on self-expression through good design and understanding the medium.

FINA P241 Printmaking Fundamentals

Studio 3, Cr. 3. P: P122, P124, P152. Study of materials, tools, processes in the various methods of printmaking (block printing, lithography, and intaglio) as they are used for contemporary graphic concerns.

FINA P321–P322 Advanced

Drawing I–II Studio 3–3, Cr. 3–3. P: P122, P124, P152. Continuation of P122. (P321 fall; P322 spring)

FINA P325–P326 Advanced

Painting I–II Studio 3–3, Cr. 3–3. P: P226. Continuation of P226. (P325 fall; P326 spring)

FINA P331–P332

Advanced Sculpture I–II Studio 3–3, Cr. 3–3. P: P231. Continuation of P231. Advanced problems related to individual interests and objectives. (P331 fall; P332 spring)

FINA P333–P334 Advanced

Metalsmithing I–II Studio 3–3 Cr. 3–3. P: P233. Advanced problems in metalsmithing determined by the student's skill, interest, and major objectives. (P333 fall; P334 spring)

FINA P335–P336 Advanced

Ceramics I–II Studio 3–3, Cr. 3–3. P: P235. Advanced problems in ceramics focusing on wheel throwing and pottery form. Stoneware and porcelain will be used and an understanding of glazing techniques will be emphasized. (P335 fall; P336 spring)

FINA P337 Site Specific Ceramic Artworks: The Design, Construction, and Installation of a Ceramic Artwork Studio 3 Cr. 3.

P: P235. Develop techniques and

concepts in designing and creating site specific ceramic tile murals and sculptural installations. Exposure to historical precedents in the use of ceramic in architecture and architectural settings. Develop techniques for creating ceramic tile and sculpture for indoor and outdoor application.

FINA P341–P342 Advanced Printmaking I–II Studio 3–3, Cr. 3–3.

P: P241. Students will concentrate on the use of their preferred print techniques (wood-cut, serigraphy, intaglio, lithography) while seeking their own personal images. (P341 fall; P342 spring)

FINA P390 Topics in Studio Fine Art Studio 1–6, Cr. 1–6. (V.T.) In-depth projects and studies of special studio art topics closely related to existing areas of concentration. May be repeated.

FINA P421–P422 Advanced Drawing III–IV Studio 3–3, Cr. 3–3.

P: P322. Continuation of P322. May be repeated for up to 18 credits. Eligible for graduate credit. (P421 fall; P422 spring)

FINA P425–P426 Advanced Painting III–IV Studio 3–3, Cr. 3–3.

P: P326. Continuation of P326. May be repeated for up to 18 credits. Eligible for graduate credit. (P425 fall, summer; P426 spring, summer)

FINA P431–P432 Advanced Sculpture III–IV Studio 3–3, Cr. 3–3.

P: P332 and senior standing. Continuation of P332 with advanced problems determined in relation to the major objectives and interests of the student. May be repeated for up to 18 credits. Eligible for graduate credit. (P431 fall, P432 spring)

FINA P433–P434 Advanced Metalsmithing III–IV Studio 3–3, Cr. 3–3.

P: P333, P334. Advanced problems in metalsmithing determined by the skills, interests, and major objectives of the student. May be repeated for up to 18 credits. Eligible for graduate credit. (P433 fall; P434 spring)

FINA P435–P436 Advanced Ceramics III–IV Studio 3–3, Cr. 3–3.

P: P335, P336. Advanced problems in ceramics determined by the skills, interests, and major objectives of the student. May be repeated for up to 18 credits. Eligible for graduate credit. (P435 fall; P436 spring)

FINA P441–P442 Advanced**Printmaking III–IV Studio 3–3, Cr. 3–3.**

P: P342 and senior standing. Continuation of P342. Advanced problems in printmaking determined in relation to the major objectives and interests of the student. May be repeated for up to 18 credits. Eligible for graduate credit. (P441 fall; P442 spring)

FINA P450 Senior Project Studio 3, Cr. 3.

P: Senior standing in fine arts. Major thesis required of fourth-year students. In this course, a body of work must be developed that ultimately results in the B.F.A. thesis exhibition prior to graduation. A committee of full-time fine arts faculty and P450 students meet three times during a semester to critique and approve the body of work.

FINA P490 Topics in Studio Fine Arts

Studio 1–6, Cr. 1–6. (V.T.) In-depth projects and studies of special studio art topics closely related to existing areas of concentration. May be repeated.

FINA P495 Independent Study in Fine

Arts Studio 3, Cr. 3. (V.T.) P: senior standing and permission of chair. This course provides the opportunity for a student to pursue studio interests (such as mixed media) not served in other course offerings. Projects may vary. May be repeated. Eligible for graduate credit. (fall, spring)

FINA S105 Introduction to Design

Class 3, Studio 3, Cr. 3. Introduction to Design for nonmajors introduces students to the basic elements of design. Line, shape, space, focus, and color are the elements covered in class. Formal and informal systems of design will be explained in classroom exercises.

FINA S165 Ceramics for Nonmajors

Class 3, Lab. 3, Cr. 3. Introduction to ceramics is a creative art course in which students use handbuilding techniques to create tile, pottery form, and ceramic sculpture. Various lowfire surfaces and firing atmospheres will be explored. Slide lectures will accompany projects, exposing students to the work of various cultures and ceramic artists. Classroom projects and discussions will promote a greater understanding of form and creative processes.

FINA S462 B.F.A. Ceramics: Clay Body and Glaze Preparation Cr. 3.

P: 6 credit hours in ceramics or consent of the

instructor. Continuing opportunity for extensive practice in ceramic studio techniques. Includes body preparation, glaze, and clay body.

FINA T255 Crafts and Design Studio 6,

Cr. 3. Introduction to formal elements of two- and three-dimensional design and how these apply to contemporary crafts. Aesthetic judgment and personal creativity emphasized. Required for elementary education majors. No credit towards a fine arts major. (fall, spring)

FNR (Forestry and Natural Resources), See Agriculture and Forestry

Foods and Nutrition (FNN), see Consumer and Family Sciences

Folklore and Classics (CLAS, FOLK)

If you are required by placement examination to take ENG P131, ENG R150, or W130, it is recommended that you complete that requirement before enrolling in any folklore or classics course.

CLAS C205 Classical Mythology Cr. 3.

P: ENG 131 or equivalent. An introduction to Greek and Roman myths, legends, and tales, especially those that have an important place in the Western cultural tradition. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

CLAS C405 Comparative Mythology

Cr. 3–4. P: ENG L202 or W233 or equivalent. The advanced study of Classical Greek and Roman myths, including the reading and evaluation of comparative myths, both inside and outside the Mediterranean cultural area. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

FOLK F101 Introduction to Folklore Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. A view of the main forms and varieties of folklore and folk expression in tales, ballads, myths, legends, beliefs, games, proverbs, riddles, and traditional arts. The role of folklore in the life of mankind. (fall, spring)

FOLK F111 Introduction to World Folk

Music Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Introduction to world traditional music. Study of the interrelationship of music sound and behavior. Focus on music events in life and year cycles of selected cultures.

FOLK F220 Introduction to American

Folklore Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. The folk cultures of the United States. The art and traditional philosophies of Indians, European-Americans, Afro-Americans, and occupational groups. The adaptation and interrelation of distinct American cultures.

FOLK F251 Folklore Methods and

Theories Cr. 3. P: F101 or F220. Basic theoretical approaches to the study of folklore. Relation of folklore to other academic disciplines. History of folklore scholarship. Classification of folklore genres and their function in society. Methods of collecting, analyzing, and indexing traditional materials.

FOLK F252 Folklore and the Humanities

Cr. 3. (V.T.) Basic theoretical approaches to the study of folklore, emphasizing the relationship to other humanistic disciplines such as literary and religious studies and history. May be repeated for a total of 6 credits when topics vary.

FOLK F254 Social History of Rock and

Roll Cr. 3. A survey of rock and roll music as a uniquely American art form, traced from its roots in Anglo-American folk and country music and African American gospel and blues through its sundry subsequent phases, each viewed within its defining aesthetic, sociocultural, historical, political, and technoeconomic contexts.

FOLK F305 Asian Folklore Cr. 3. (V.T.)

Forms and functions of folklore, folklife, or folk music in the traditional and developing societies of Asia. Folklore as a reflection of culture. Relationship between folklore forms and belief systems in Asia. May be repeated once when topics vary. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

FOLK F310 American Urban and Ethnic

Folklore Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150.

Processes by which folklore has arisen in predominantly urban environment and adaptation of rural folklore to urban environment. Ethnic folklore as a manifestation of the urban experience.

FOLK F350 Folklore and Women Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Introduces the field of folklore by focusing on women's folklore in terms of life cycle and role, by exploring the range of women's occupations and related traditional knowledge, and by looking at women as traditional verbal and visual artists.

FOLK F352 Native American Folklore

Cr. 3. (V.T.) P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Comparative examination of various verbal, musical, and dance forms of Native American societies. Consideration of cultural systems of Native Americans within the context of general American culture. May be repeated once when topics vary. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

FOLK F354 African American

Folklore/Folklife/Folk Music Cr. 3. (V.T.) P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. African American culture in the United States viewed in terms of history and social change. Folklore, folk music, and oral history as means of illuminating African American culture and history. May be repeated with different topics for a maximum of 9 credits.

FOLK F378 Irish Folk Culture Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Forms and functions of folklore in traditional Irish society. Relationship of major folklore genres and of traditional life to literature.

FOLK F391 Indiana Folklife Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Historical and cultural influences on the development of folk tradition in Indiana. The role of the Indian, the pioneer, the backwoodsman, and the immigrant. Traditional festivals, beliefs, legends, and customs. The role of tradition in an urbanizing society.

FOLK F400 Individual Study in Folklore

Cr. 1–3. P: consent of instructor. Students enrolled in this course will work under the close supervision of a faculty member. Projects may entail fieldwork, archival or library research, or a combination of these methods subject to mutual agreement between the student and the supervising faculty member.

FOLK F404 Topics in Folklore Cr. 3. (V.T.)

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Topics not covered in depth in existing courses, such as proverbs and riddles, folk drama, folk medicine, folk dance, folk cookery. May be repeated with different topics for a maximum of 9 credits.

FOLK F425 Folklore in Its Literary

Relationships Cr. 3. (V.T.) P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Ways in which folk themes have been carried into professional literature, development of literary forms in relation to folk patterns, and interrelationships among folk tales and literary narratives.

FOLK F430 Advanced Study of Folklore and Related Disciplines Cr. 3. (V.T.)

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Advanced studies of folklore and/or ethnomusicology in relationship to other disciplines. Focuses on such interdisciplinary topics as folklore and literature; folklore and psychology; folklore and history; folklore and religion; or folklore, culture, and society. May be repeated with different topics for a maximum of 9 credits.

FOLK F465 Ballads and Folksongs Cr. 3.

P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Ballads and folk songs of the Western world; their origins, diffusion, relationship to literature, and function. Special attention to the British-American tradition.

Forestry and Natural Resources (FNR), See Agriculture and Forestry

Fort Wayne Arts and Sciences (FWAS)

FWAS H201 Humanities I: The Ancient

World Cr. 3. P: ENG W131. This interdisciplinary course investigates art, architecture, literature, philosophy, and religion in the ancient world (to 1300 A.D.) from a multicultural perspective. The focus is on representative works; the course proceeds chronologically and each work is given a historical/cultural setting. The practicum develops critical appreciation through interpretive reading and observation.

FWAS H202 Humanities II: Foundations of the Modern Western World Cr. 3.

P: ENG W131; R: H201. Investigates art, architecture, literature, philosophy, religion, and music from 1300 to present. Primary focus on Western tradition. Representative works treated chronologically in their historical/cultural settings. Practicum develops critical appreciation through interpretive observation, listening, and reading.

French (FREN)

In general, grades of Incomplete are not given in 100- and 200-level language courses.

IPFW students with an appropriate command of French may apply for a year's study, with full credit, in the IU program at the University of Provence; participation is not limited to French majors. For one semester or one summer of study abroad, there are French programs in Paris, Rennes, Rouen, and Quebec. For further information, consult the coordinator of overseas study programs, Department of Modern Foreign Languages.

FREN F111–F112 Elementary French I–II Class 4–4, Lab. 0–0, Cr. 4–4.

P for F112: F111. Introduction to French language as well as to French and francophone cultures. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Weekly attendance at lab required. F111 is a course for beginners. Students with two years of high school French must take F113. (F111 fall; F112 spring)

FREN F113 First-Year French in One Semester Class 4, Lab. 1, Cr. 4. P: two

years of high school French (grades 9–12). Required beginning course for students with at least two years of high school French who did not place into F203 or higher. Review of selected material from F111 before proceeding to F112 material. Weekly attendance at lab required. Credit will not be given for both F112 and F113.

FREN F203–F204 *Second-Year French I–II Class 3–3, Lab. 0–0, Cr. 3–3.* P for F203: F112 or F113. P for F204: F203. Intensive review of grammar, and development of vocabulary, reading, conversation, and writing skills. Reading and discussion of modern French fiction and nonfiction, some composition. Weekly attendance in audio laboratory required.

FREN F213 *Second-Year French Composition Cr. 2.* P: F203. This course integrates the four language skills into a structured approach to composition. Review of selected points of French grammar will be included. Weekly compositions will treat topics both creative and expository and increase in length as the semester progresses. Emphasis will be on correct usage, vocabulary building, stylistic control.

Students are encouraged to enroll in W300 (required for French majors) concurrently with enrollment in their first 300-level French literature course.

FREN F305 *Chefs-D’Oeuvre de la Littérature Française I Cr. 3.* P: F204; R: F213. French literature, origins to 1789.

FREN F306 *Chefs-D’Oeuvre de la Littérature Française II Cr. 3.* P: F204; R: F213. French literature, 1789 to present.

FREN F317–F318 *French Language Skills I–II Cr. 3–3.* P: F204; R: F213. Advanced grammar, structures, composition, and conversation. Conducted in French. Required for teaching certification.

FREN F325 *Oral French for Teachers Cr. 3–8.* P: F204; R: F213. Practice in diction and phonetic analysis. Study of idiomatic expressions, and intensive review of irregular verbs. Individual diagnosis of speech difficulties, with corrective exercises in audio laboratory. Some conversation and practice-teaching presentations. May be repeated for a maximum of 8 credits. Eligible for graduate credit.

FREN F326 *French in the Business World Cr. 3.* P: F204 (or equivalent). Study of the language of business activities in France, with an introduction to the structure and functioning of various aspects of French economic life. Useful for students preparing for the proficiency examinations of the *Chambre de Commerce de Paris*.

FREN F330 *Introduction to Translating French and English Cr. 3.* P: F317. A comparative study of the style and grammar of both languages with focus on the difficulties involved in translating. Introduction to the various tools of the art of translation.

FREN F408 *Women in French Literature Cr. 3.* P: F305 and F306. Readings of texts by such writers as Marie de France, Marguerite de Navarre, Louise Labé, Christine de Pisan, Madame de Lafayette, Madame de Sévigné, George Sand, Colette, Simone de Beauvoir, Nathalie Sarraute, Marguerite Duras. Analysis of themes, imagery, and language as they relate to the feminine condition. Taught in French.

FREN F410 *French Literature of the Middle Ages Cr. 3.* Introduction to Old French language and major literary works. Readings may be broadly representative of the period or reflect a particular thematic concern. Eligible for graduate credit.

FREN F413 *The French Renaissance Cr. 3.* P: F305 and F306. Rabelais, Montaigne, the Pleiade, and others. Eligible for graduate credit.

FREN F423 *Tragedie Classique Cr. 3.* P: F305 and F306. Corneille, Racine, and others.

FREN F424 *Comedie Classique Cr. 3.* P: F305 and F306. Corneille, Racine, and others.

FREN F425 *Prose et Poesie du Dix-Septieme Siecle Cr. 3.* P: F305 and F306. Corneille, Racine, and others.

FREN F442 *La Poesie Française et Francophone Cr. 3.* Survey of French and francophone poetry from the Middle Ages to the 20th century.

FREN F443 *19th Century Novel I Cr. 3.* P: F305 and F306.

FREN F444 *19th Century Novel II Cr. 3.* P: F305 and F306. Sand, Flaubert, Zola, Maupassant, and others. Eligible for graduate credit.

FREN F446 *Poesie du Dix-Neuvieme Siecle Cr. 3.* P: F305 and F306. Survey of 19th century poetry from Lamartine to Mallarme. Readings and explications. Eligible for graduate credit.

FREN F450 *Colloquium in French Studies Cr. 2–3, 9 cr. max. (V.T.)* P: F305 and F306 or consent of instructor. Emphasis on one topic, author, or genre. Eligible for graduate credit.

FREN F453–F454 *Littérature Contemporaine I–II Cr. 3–3.* P: F305 and F306. 20th century French literature. Eligible for graduate credit.

FREN F459 *L’Autobiographie Cr. 3.* Survey of autobiographical literature from the Renaissance to present. Texts by writers such as Montaigne, Rousseau, Sand, Sartre, Duras, and Djébar will be studied considering the ways in which self-representation has changed and has stayed the same through the centuries.

FREN F460 *French Fiction in Film Cr. 3* P: F305 and F306. Involves reading the works of French fiction and studying them as works of literature, followed by the viewing of a film version of each work and the preparation of a comparative analysis of the two versions.

FREN F463 *Civilisation Française I Cr. 3.* P: 6 credits in French at the 300 level or departmental permission. French civilization from medieval period through 17th century. Eligible for graduate credit.

FREN F464 *Civilisation Française II Cr. 3.* P: 6 credits in French at the 300 level or departmental permission. French civilization from 18th century to contemporary period. Eligible for graduate credit.

FREN F495 *Individual Reading in French Literature Cr. 1–3. (V.T.)* P: 6 credits of 400-level French and consent of department chair. May be repeated for credit with a different topic.

FREN F498 *Foreign Study in France Cr. 1–6.* P: acceptance in Overseas Study Program in France and placement in fourth-year-level courses. Credit for foreign study in French language and/or literature when no specific equivalent is available among departmental offerings.

FREN W300 *Methods of Research and Criticism Cr. 3.* P: ENG W131, W135, or placement in ENG W140, and two years of

college French. Study of methods of literary analysis and bibliographical documentation. Basic techniques of research, footnoting, and intensive writing. Critical approaches to drama, novel, and poetry. Required for French majors. *Approved by Arts and Sciences for use in fulfilling the writing requirement.*

FREN W399 Internship in Modern

Foreign Language Cr. 1–3. P: third-year proficiency and department chair's approval. Practical application of French language skills. Credit may be counted toward the major with the approval of the department chair.

Geography (GEOG)

GEOG G107 Physical Systems of the Environment Class 2–3, Lab. 0–2, Cr. 3.

Physical characteristics of earth's surface and their interrelations. Landforms, vegetation, soils, weather, climate. (fall, spring)

GEOG G109 Weather and Climate Cr. 3.

Introduction to atmospheric processes responsible for weather changes. Elements of climatology and their variation in time and space. Weather forecasting, weather modification, and severe weather.

GEOG G237 Cartography and

Geographic Information Cr. 3. Use of computers in the management of geographic information, including data storage, database construction, creation and production of maps and related representation of geographic data. Computer cartography laboratory, experimentation and interactive experience using GIS and mapping software.

GEOG G315 Environmental

Conservation Cr. 3. P: two college-level science courses including G107 or GEOL G100 or G103; or written consent of instructor. Conservation of natural resources including soil, water, wildlife, and forests as interrelated components of the environment, emphasizing an ecological approach. Current problems relating to environmental quality. This course satisfies conservation requirement for teachers. Eligible for graduate credit.

Geology (GEOL)

If you are majoring in this discipline, you may want to consider the Science and Engineering Research Semester. See information under Arts and Sciences (Part 3).

GEOL G100 General Geology Class 3, Cr. 3–5. Survey of physical geology and introduction to historical geology. Elements of crystallography, mineralogy, petrology, geomorphology, seismology, structural geology, paleontology, historical geology, and plate tectonics. Optional Saturday field trip. Honors version is S100. Credit given for only one of the following: G100, S100, G103.

GEOL G103 Earth Science: Materials and Processes Class 2, Lab. 2, Cr. 3.

Introduction to origin and classification of minerals and rocks. Relationships among rock types, rock structures, surficial geological processes of running water, sub-surface water, glaciation, wind, waves, tides, and landform evolution. Geologic time. Internal processes, vulcanism, plutonism. Plate tectonics. Two lectures and a laboratory each week. Credit given for only one of the following: G100, S100, G103.

GEOL G104 Earth Science: Evolution of the Earth Class 2, Lab. 2–3, Cr. 3.

R: G100. History of geology. Principles of interpretation of earth history. Geologic age dating, correlation, facies analysis, study of geosynclines, and plate tectonics as applied to reconstructing geological events. History of plant and animal life.

GEOL G108 Selected Earth Science

Topics Cr. 1–3. (V.T.) Selected topics of general interest in earth science. No more than 3 credit hours can be applied toward a major in geology. Typically offered as Geology of the National Parks Class 3, Cr. 3. Origin of the scenery, rocks, structures, and fossils of the national parks and monuments of the United States. Emphasis on geomorphic processes and geologic history. Interpretation of geologic maps of park areas.

GEOL G113 Directed Study in Earth

Science Cr. 1–2. C: one course in geology, geography, or astronomy, and written consent of instructor. Field, laboratory, or library research in any area of the earth sciences. May be repeated for a maximum

of 3 credits. Credit not granted toward B.A. or B.S. in geology. (fall, spring)

GEOL G210 Oceanography Cr. 3. P: one college-level science course or written consent of the instructor. Introduction to the study of the oceans and marine processes. Topics include morphology of the ocean floor, life in the ocean, oceanic circulation, and submarine geology. Three lectures or two lectures with occasional laboratory-demonstration per week.

GEOL G211 Introduction to Paleobiology

Class 2, Lab. 2, Cr. 3. P: G100 or G104, (or equivalent), or written consent of instructor. Processes of fossilization; techniques of fossil preparation and methods of taxonomic description; principles of evolution and distribution of life forms; principles of paleoecology and biostratigraphy. One two-hour laboratory per week; one weekend field trip required for geology majors.

GEOL G221 Introductory Mineralogy

Class 2, Lab. 2, Cr. 3. P: G100; C: CHM 115, (or equivalent), or written consent of instructor. Crystallography, symmetry, and the crystal classes of minerals. Structure and physical and chemical characteristics of selected mineral groups. Phase diagrams and interpretation of mineral assemblages. Identification of common and important minerals using physical properties and simple chemical tests.

GEOL G222 Introduction to Petrology

Class 2, Lab. 2, Cr. 3. P: G221. Classification and identification of igneous, metamorphic, and sedimentary rocks. Genesis and tectonic significance of important igneous and metamorphic suites. Introduction to the use of the petrographic microscope. Four-day field trip.

GEOL G300 Environmental and Urban

Geology Class 2–3, Lab. 0–2, Cr. 3. P: two college-level science courses, including G100 or G103 or GEOG G107, or written consent of instructor. Significance of regional and local geologic features and processes in land use. Use of geologic factors to reduce conflict in utilization of mineral and water resources and damage from geologic hazards. Field trips.

GEOL G305 Geologic Fundamentals in

Earth Science Class 2–3, Lab. 0–3, Cr. 3–5. (V.T.) Introductory course for advanced students. Earth materials, earth processes, geological principles. Emphasis on

relationships between geology and other physical sciences.

GEOL G319 *Elementary Field Geology Class 1, Field 10–14 days, Cr. 2.* P: G222; C: G334 or consent of instructor. Geologic field methods. Section measurement, geologic mapping, construction of geologic cross-sections, and use of geologic surveying instruments. Class spends 10–14 days in upper peninsula of Michigan, near Marquette.

GEOL G323 *Structural Geology Class 2, Lab. 2, Cr. 3.* C: G222 or written consent of instructor; physics, engineering, or mathematics majors admitted with G100 or G103 and PHYS 201 (or equivalent). Nature and origin of structural features of the earth's crust, with emphasis on mechanics of deformation, and graphic and mathematical solution of structural problems. Two lectures and one laboratory per week plus a four-day field trip. Eligible for graduate credit.

GEOL G334 *Principles of Sedimentology and Stratigraphy Class 2, Lab. 2, Cr. 3.* P: G222; C: G319 or consent of instructor. Interrelationship of sedimentation and stratigraphy. Processes and factors influencing genesis of sedimentary strata: provenance, depositional environment, sedimentary facies, and paleoecology. Analytical techniques and application of principles of interpretation of stratigraphic record. Laboratory study of sediments, sedimentary rocks, and subsurface samples, logs, and seismic records.

GEOL G406 *Introduction to Geochemistry Cr. 3.* P: G222, CHM 116, or consent of instructor. Applications of solution chemistry, phase diagrams, trace elements, radioactive isotopes, and stable isotopes to the study of the earth. The chemical evolution of earth and the origin of important igneous rocks, chemical sediments, and ore deposits. Eligible for graduate credit.

GEOL G410 *Undergraduate Research in Geology Cr. 1–2; 1–6 in summer. (V.T.)* P: six courses in geology including G200, and written consent of instructor. Field, laboratory, or theoretical research in selected problems in geology. May be repeated for a maximum of 6 credits toward degree. This course (1 Cr.) may be taken in conjunction with a 300- or 400-level geology course, for honors.

GEOL G411 *Invertebrate Paleontology Class 2–3, Lab. 0–2, Cr. 3.* P: GEOL G211 or written consent of instructor. Structure, classification, habitats, and geological history and significance of the invertebrate phyla. Laboratory study of fossils.

GEOL G412 *Introduction to Vertebrate Paleontology Class 2–3, Lab. 0–2, Cr. 3.* P: G211 or written consent of instructor. Fossil record, comparative morphology, phylogeny, biogeography, and paleoecology of the major vertebrate groups. Functional modifications of the vertebrate skeleton for existence in various aquatic and terrestrial environments. Laboratory study of recent and fossil osteological specimens. Field trip to a museum with a major vertebrate paleontology collection.

GEOL G415 *Geomorphology Class 2–3, Lab. 0–4, Cr. 3–4.* P: G222 or consent of instructor. Geomorphic processes, evolution and classification of landforms. Laboratory: interpretation of topographic and geologic maps and aerial photographs. Field trips. Eligible for graduate credit.

GEOL G420 *Regional Geology Field Trip Cr. 1–2. (V.T.)* C: G100 and written consent of instructor. Field investigation of selected regions of North America for study of mineralogic, lithologic, stratigraphic, structural, paleontologic, geomorphological, or other geological relationships. Six to fifteen days in the field. May be repeated. Eligible for graduate credit. (spring)

GEOL G427 *Introduction to X-ray Mineralogy Cr. 1–2.* P: G221. Theory and practice of X-ray powder diffraction. Film and diffractometer methods and their application to the identification and characterization of minerals. One lecture and a two-hour laboratory each week.

GEOL G429 *Field Geology in the Rocky Mountains Cr. 6–8 (two summer sessions).* P: G222, G323. Six weeks, including five weeks at geologic field station in Montana. Geologic reconnaissance, measurement of stratigraphic sections, mapping on aerial photographs, construction of structure sections. Regional geomorphology, stratigraphy, and structure through South Dakota, the Black Hills, Wyoming, Montana, Yellowstone Park, and Glacier Park. Student must apply through Bloomington geology department. Eligible for graduate credit. (summer)

GEOL G451 *Principles of Hydrogeology Class 2–3, Lab. 0–2, Cr. 3.* P: G334 or consent of instructor. Water resources: occurrence, regulation, and management of water; hydrologic cycle, water movement, well hydraulics; water quality and pollution; surface and subsurface investigations; basin-wide development of water resources; legal aspects; relationship of hydrogeology to engineering geology. Eligible for graduate credit.

GEOL G490 *Undergraduate Seminar Cr. 1–2. (V.T.)* C: G200; P: five additional courses in geology or written consent of instructor. Reading and discussion of selected topics. May be repeated for a maximum of 4 credits.

GEOL G499 *Honors Research in Geology Max. Cr. 12.* P: approval of departmental honors advisor.

GEOL L100 *General Geology Laboratory Lab. 2–3, Cr. 1–2.* Laboratory studies to accompany G100, G210, GEOG G107, or AST A100. Study of crystals, minerals, rocks, fossils, and earth structures from hand specimens and models. Interpretation of landforms and earth history from topographic and geologic maps.

GEOL S100 *General Geology (Honors) Cr. 5.* P: consent of instructor, MA 153 placement, ENG W131 placement, and exemption from or completion of ENG R150. Survey of physical geology and introduction to historical geology. Similar to G100 except students also participate in a 10–14 day field exploration of some region in North America. (Field trip in May after classes end.) Credit given for only one of the following: G100, S100, or G103. (alternate springs)

GEOL S104 *Honors Earth Science: Evolution of the Earth Class 3, Lab. 2–3. Cr. 3.* Equivalent of G104 for honors students.

GEOL S222 *Honors Introduction to Petrology Class 2, Lab. 2, Cr. 3* Equivalent of G222 for honors students.

GEOL S305 *Honors Fundamentals in Earth Science Class 2–3, Lab. 0–3, Cr. 3–5. (V.T.)* Equivalent of G305 for honors students.

German (GER)

In general, grades of Incomplete are not given in 100- and 200-level language courses.

Study Abroad

Indiana University or Purdue University students with an appropriate command of German may apply for a year's study, with full credit, in the IU program at the University of Freiburg; participation is not limited to German majors. The fourth or fifth semester of German may be taken during six weeks of full-time study abroad in the summer in Graz, Austria. Semester programs are available in Munich and Freiburg. For further information, consult the coordinator of overseas study programs, Department of Modern Foreign Languages.

GER G111 Elementary German I Class 4, Lab. 0, Cr. 4. Introduction to German language as well as to cultures of German-speaking countries. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Weekly attendance at lab required. G111 is a course for beginners. Students with two years of high school German must take G113.

GER G112 Elementary German II Class 4, Lab. 0, Cr. 4. P: G111. Introduction to German language as well as to cultures of German-speaking countries. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Weekly attendance in lab required.

GER G113 First-Year German in One Semester Class 4, Lab. 0, Cr. 4. P: two years of high school German (grades 9–12). Required beginning course for students with at least two years of high school German who did not place into G203 or higher. Review of selected material from G111 before proceeding to G112 material. Weekly attendance at lab required. Credit will not be given for both G112 and G113.

GER G203–G204 Second-Year German I–II Cr. 3–3, Lab. 0–1. P for G203: G112 or G113; P for G204: G203. Intensive review of important structural problems and vocabulary primarily through the

reading and discussion of modern German fiction and nonfiction. (G203 fall; G204 spring)

GER G305 Introduction to German Literature: Types Cr. 3. (V.T.) P: G204. Study of literary types (narrative, dramatic, lyric), with examples of each selected from two or more periods. (spring)

GER G306 Introduction to German Literature: Themes Cr. 3. (V.T.) P: G204. Study of major themes in German literature as represented in two or more periods. (fall)

GER G307 Selected Works of Contemporary German Literature Cr. 3. P: G204. Works of such authors as Grass, Boll, Weiss, Frisch, and Bobrowski plus selected poems are read and discussed in German. Does not duplicate G305 or G306.

GER G315 Business German Cr. 3. P: G204 (or equivalent). Improvement of speaking, writing, listening, and reading skills. Concentration on the language of the German business world. Discussion, grammar, exercises, and letter writing. Conducted in German.

GER G318 German Language Skills I Cr. 3–5. P: G204. Composition, conversation, and diction; advanced grammar. Conducted in German.

GER G319 German Language Skills II Cr. 3. P: G204. Intensive work in conversation and composition based on readings in areas of current or topical interest with emphasis on contemporary Germany.

GER G325 German for Teachers Cr. 3. P: G204. Intensive practice in conversation and diction, with individual corrective work. Use of the audio laboratory. Intended primarily for teachers but open to students who have completed G318 and preferably also G319. May be taken twice for maximum of 6 credits. Does not count toward master's degree. Required for teaching certification.

GER G362 Deutsche Landeskunde Cr. 3. P: third-year German language proficiency or consent of instructor. An overview of contemporary West German civilization with attention to the other German-speaking countries. Political, economic, and social organization. Lectures in German; discussions in German or English.

GER G363 Deutsche Kulturgeschichte Cr. 3. P: third-year German language proficiency or consent of instructor. A survey of the cultural history of German-speaking countries, as well as contemporary civilization, with an emphasis on individual aspects of culture traced through several epochs.

GER G404 Deutsche Literatur: Seit Der Romantik Cr. 3. P: 6 credits of G305, G306, or G307. Historical survey of major literary developments from young Germany to recent writing in German-speaking Europe. Eligible for graduate credit.

GER G405 Goethe: Life and Works Cr. 3. P: 6 credits of G305, G306, or G307. Extensive readings in Goethe's poetry, drama and narrative fiction, including analysis of Faust. Special emphasis is placed on the relationship between the author's life and his works.

GER G411 Advanced German: Grammar Cr. 3. P: 6 credits of 300-level work in German or departmental permission. Survey and practice of complex grammatical structures; systematic expansion of vocabulary. Discussion and writing based on current materials, such as newspapers, films, and radio programs. Eligible for graduate credit, but not toward M.A.

GER G412 Advanced German: Composition Cr. 3. P: 6 credits of 300-level work in German or departmental permission. Systematic development of writing and speaking skills, proceeding from exercises to specific forms such as Brief, Aufsatz, Referat, Vortrag. Focus on usage and style. Conducted in German. Eligible for graduate credit, but not toward M.A.

GER G415 Perspectives on German Literature Cr. 3. (V.T.) P: G305 or G306. Study of one aspect of German literature: formal, historical, political, psychological, etc. Relationship to wider concerns in and outside of literature. Topic announced in the *Schedule of Classes*. May be repeated once with a different topic.

GER G422 19th Century German Literature Cr. 3. P: 6 credits of G305, G306, or G307.

GER G425 20th Century German Literature Cr. 3. P: 6 credits of G305, G306, or G307. Survey of major developments in the literature of the German-speaking

countries since 1890. Moments of historical and cultural interest will be discussed as they are reflected in the literature. Writing of Hofmannsthal, Rilke, Thomas Mann, Kafka, Hesse, Brecht, and others.

GER G463 German Culture Cr. 3. P: 6 credits of 300-level work or departmental permission. Taught in German.

GER G464 Kultur Und Gesellschaft Cr. 3. P: G463. The interaction of social, intellectual, and artistic forces in German life in the last one to two centuries, stressing interdisciplinary aspects.

GER G470 German Folklore Cr. 3. P: ability to read German. Development of folklore studies in German. Methods of "Volkskunde." *Marchen*, Sage, *Volkslied*, Schwanke.

GER G495 Individual Readings in Germanic Literatures Cr. 1–3. (V.T.) P: 6 credits of 400-level German and consent of department chair. May be repeated for credit with a different topic.

GER W300 Methods of Research and Criticism Cr. 3. P: ENG W131, W135, or ENG W140, and two years of college German. Study of methods of literary analysis and bibliographical documentation. Basic techniques of research, footnoting, and intensive writing. Critical approaches to drama, novel, and poetry. Required for German majors. *Approved by Arts and Sciences for use in fulfilling the writing requirement.*

GER W399 Internship in Modern Foreign Languages Cr. 1–3. P: third-year proficiency and department chair's approval. Practical application of German language skills. Credit may be counted toward the major with the approval of the department chair.

Gerontology (GERN)

GERN G231 Introduction to Gerontology Cr. 3. This course is a survey of the field of gerontology, including basic theoretical, methodological, and factual content drawn from a variety of disciplinary perspectives. Background material on the demographic, health, physiological, psychological, and social aspects of aging are provided. Structured opportunities for practical field observation and experience with the aged are included.

Health, Physical Education, and Recreation (HPER)

Letter grades are given in all HPER classes. Some classes are offered in eight-week sessions; check the Schedule of Classes for scheduling information. Activity classes cannot be repeated for credit.

HPER A361 Coaching of Football Cr. 1.5. P: P229 or consent of instructor. Fundamentals of offensive and defensive line and backfield play; technique of forward passing; outstanding rules; offensive plays, most frequently used defenses.

HPER A362 Coaching of Basketball Cr. 1.5. P: P122 or consent of instructor. Fundamentals of basket shooting, passing, ball handling, and footwork; patterns against man-to-man defense, zone defense, and zone pressure defense, full court and half court. Strategy of playing regular season and tournament play. Psychology of coaching.

HPER A363 Coaching of Baseball Cr. 1.5. P: P233 or consent of instructor. Fundamentals of pitching, catching, batting, base running, infield and outfield play; offensive and defensive strategy; organization and management.

HPER A364 Coaching of Track and Field Cr. 1.5. P: P121 or consent of instructor. Fundamental procedures in conditioning and training for cross country, track, and field. Gives basic understanding of each event's coaching strategy and coaching psychology. Home-meet organization and management.

HPER A368 Coaching of Tennis Cr. 1.5. P: P121 or consent of instructor. Theory and methods of coaching tennis covering technical, administrative, and organizational aspects involved in the process. Emphasis placed on fundamentals, tactics, conditioning, and conduct of practice sessions.

HPER A370 Coaching of Soccer Cr. 1.5. P: P122/soccer or consent of instructor. Theory and methods of coaching soccer covering technical, administrative, and organizational aspects involved in the process. Emphasis on execution of advanced skills and team offense and defense patterns, conditioning the player, and organizing practice sessions.

HPER A371 Coaching of Volleyball Cr. 1.5. P: P122/volleyball or consent of instructor. Theory and methods of coaching volleyball covering technical, administrative, and organizational aspects involved in the process. Emphasis on execution of advanced skills and team offense and defense patterns, conditioning the player, and organizing practice sessions.

HPER A383 Therapeutic Management of Sports Injuries Cr. 3. An introduction to therapeutic techniques used on ill or injured athletes to facilitate enhanced recovery and safe return to competitive conditions. Lecture and demonstration involving method of application of therapeutic equipment and exercise protocols will be covered.

HPER A480 Care and Prevention of Athletic Injuries Cr. 1. Course designed to assist student in recognizing, understanding, and managing athletic injuries. Methods of taping and bandaging are emphasized.

HPER A483 Principles of Sports Officiating Cr. 1. Topics include such sports as football, baseball, basketball, volleyball, and gymnastics. Ethics of sports officiating; mastery, interpretation, and application of sports rules. Laboratory and classroom experiences. Course may be repeated.

HPER A484 Inter-Scholastic Athletic Programs Cr. 2. An overview of the operation of athletic programs in the schools for men and women. Administrative structure on national and state levels. Policies and procedures as they pertain to budget, facilities, eligibility, contest regulations, safety, and current trends.

HPER E105 Badminton Cr. 1. Beginning instruction in basic skills and techniques of badminton for singles, doubles, and mixed doubles play. Emphasis on basic skill development, rules, and strategy.

HPER E111 Basketball Cr. 1. Instruction in fundamental skills of shooting, passing, ball handling, footwork, basic strategies of offensive and defensive play, and interpretation of rules.

HPER E113 Billiards Cr. 1. Instruction in basic skills, including bridge forming, stroke techniques, bank shots, and cue ball spin. Fee charged.

HPER E117 Bowling Cr. 1. Beginning instruction in the fundamentals of

approach, release, arm swing, methods of scoring, rules, and etiquette on the lanes. Explanation of lane construction, lane condition, and automatic machines.

HPER E119 Conditioning Cr. 1.

Instruction in basic principles of conditioning and fitness. Emphasis on muscular strength, muscular endurance, flexibility, and cardiorespiratory endurance. Designed for students without prior knowledge of conditioning methods.

HPER E133 Fitness and Jogging I Cr. 1.

Beginning instruction in the basic principles of fitness as they apply to a jogging program. Emphasis on cardiorespiratory endurance and flexibility. Basic concepts underlying Dr. Kenneth Cooper's aerobic program. For students without prior experience in jogging programs, aerobics levels I through III. Graded S/U only.

HPER E135 Golf Cr. 1. Beginning instruction in techniques for putting, chipping, pitching, iron swing, and wood strokes. Course includes rules and etiquette of golf. Students play on par 3 course.

HPER E139 Handball Cr. 1. Instruction in basic skills for beginning players. Includes both four-wall singles and doubles games.

HPER E148 T'ai Chi Ch'uan Class 3, Cr. 1.

Introduction to the slow movements of T'ai Chi Ch'uan. Course provides instruction in William C. C. Chen's 60 movement form, physics of body leverage, history, philosophy, and cultural context. One of the most popular forms of exercise in China.

HPER E150 Karate Cr. 1. Beginning instruction in techniques of blocking, kicking, striking, and punching, limited free fighting and self-defense. Students should achieve technical level of yellow belt.

HPER E151 Self-Defense Cr. 1.

Instruction in techniques for practical common-sense self-defense skills and situation. No uniform required.

HPER E155 Modern Dance Cr. 1.

Beginning instruction in modern dance technique, stressing knowledge and application of movement principles essential to dance training.

HPER E159 Racquetball Cr. 1.

Instruction in basic skills for beginning players. Includes both four-wall singles and doubles games.

HPER E165 Soccer Cr. 1. Instruction in fundamental techniques, rules, basic team tactics, and strategies. Emphasis on competitive game scrimmages and functional drills.

HPER E168 Swimming for Non-swimmers Cr. 1.

Beginning instruction in self-rescue, remedial swimming skills, and several basic strokes. For students with no swimming skills.

HPER E181 Tennis Cr. 1.

Beginning instruction in the fundamental skills of forehand and backhand strokes and serves. Competitive play in women's, men's, and mixed doubles.

HPER E185 Volleyball Cr. 1.

Instruction in fundamental skills of power volleyball. Emphasis on overhand serve, bump, set, dig, and spike. Team offensive and defensive strategies included.

HPER E186 Wall Volleyball Cr. 1.

Instruction in fundamental skills of wall volleyball, including the serve, set (with and without wall), bump, dig, and spike; team offensive and defensive strategies.

HPER E190 Yoga I Cr. 1. Hatha yoga postures for flexibility, toning, suppleness, stamina. Deep-complete breathing for vitality and in-depth relaxation. Introduction to basic yogic philosophy.

HPER E211 Advanced Basketball Cr. 1.

P: E111 or permission of instructor. Instruction in advanced skills and team play in basketball. Extension of basic skills with emphasis on improvement of techniques. Also more involved instruction in team offenses and defenses, while developing an understanding of why and when to perform certain team concepts.

HPER E217 Bowling—Intermediate Cr. 1.

Emphasis on improving hook ball delivery and an understanding of angles needed for spare bowling. Interclass competition with and without handicaps.

HPER E233 Fitness and Jogging II Cr. 1.

P: Aerobics Level III. A continuation of Fitness and Jogging I (E133). Course designed to take student from Aerobics Level III up to Level V.

HPER E250 Karate—Intermediate Cr. 1.

P: yellow belt technical level or consent of instructor. Instruction in advanced applications of basic techniques and free fighting. Students should achieve technical level of green belt.

HPER E255 Modern Dance—

Intermediate Cr. 1. P: E155 or consent of instructor. Intermediate modern dance technique, stressing knowledge and application of movement principles essential to dance training.

HPER E259 Racquetball—Intermediate Cr. 1.

P: E159 or consent of instructor. Extension of basic skills. Improvement of techniques and strategy.

HPER E268 Swimming—Intermediate Cr. 1.

Instruction designed to help the less-skilled swimmer master the five basic strokes, be proficient in self-rescue and basic rescue skills.

HPER E281 Tennis—Intermediate Cr. 1.

Instruction in spin service, volley, lob, and advanced drive placement. Emphasis on singles and doubles playing strategies.

HPER E285 Advanced Volleyball Cr. 1.

P: E185 or consent of instructor. Instruction in advanced skills of power volleyball. Emphasis on execution of advanced techniques; applying team offense and defense strategies.

HPER E290 Yoga II Cr. 1. P: E190 or consent of instructor. Intensive Hatha yoga postures, additional breathing techniques, extensive relaxation, and continuation of yoga philosophy.

HPER H160 First Aid Cr. 1–2. Lecture and demonstration of first-aid measures for wounds, hemorrhage, burns, exposure, sprains, dislocation, fractures, unconscious conditions, suffocation, drowning, and poisons, with skill training in all procedures.

HPER P122 Performance of Team Sports Cr. 1–2. Fundamental skills and strategies of basketball, volleyball, and soccer.

HPER P240 Foundations of Physical Education Cr. 2.

An introduction to physiological, psychological, sociological, and kinesiological principles related to physical education.

HPER P280 Principles of Athletic Training and Emergency Care Class 1, Practice 2, Cr. 2.

An introduction to the principles of injury prevention. Lecture and demonstration of emergency measures to treat, for example, fractures, sprains, dislocations, and spinal injuries. Skill training in bandaging, strapping, splinting techniques.

HPER P397 Kinesiology Cr. 3. P: BIOL 215. Application of facts and principles of anatomy, physiology, and mechanics to problems of teaching physical education skills and activities of daily living.

HPER P409 Physiology of Exercise Cr. 3. P: BIOL 215, 216. A survey of human physiology parameters as related to physical exercise and work and the development of physiological fitness factors. Physiological foundations will be considered.

HPER P450 Principles and Psychology of Coaching Cr. 3. P: junior or senior class standing. A study of the many psychological aspects pertaining to coaching competitive athletics, including motivation, player-coach relationships, team selection, team morale, and strategy. Emphasis on underlying sociological determinants of environment as contributing factors in competition.

HPER R160 Man, His Leisure, and Recreation Cr. 3. Study of historical development of leisure, attitudes taken toward it, and theories as to its cause. An opportunity to develop a personal philosophy of leisure and recreation and an understanding of professional preparation.

HPER R180 Recreation Leadership Cr. 2. History, theory, and philosophy of recreation. Significance of recreation in age of leisure and evolution of recreation movement. Practical leadership techniques for low organized recreation activities, especially helpful in elementary education.

HPER R399 Practicum in Parks and Recreation Cr. 1–6. Practical field experience under faculty supervision and with seminar discussions.

Health Sciences (HSC)

HSC 100 Introduction to Health Professions Cr. 3. First-year seminar course designed to enhance student learning and development and in return increase student retention. Description of specific healthcare careers will be presented concentrating on professional academic requirements and standards, professional and academic ethics, and career opportunities. Familiarization with university and computer resources, IPFW

student activities, and time and money management.

HSC 499 Special Topics in Health Sciences Cr. 2–6. P: As determined by HSC faculty. Hours, subject matter, and credit to be arranged by staff. Course may be repeated for credit up to 9 credits.

History (AFRO, HIST)

[US] = United States

[WE] = Western Europe

[OW] = Other World

AFRO A210 The Black Woman in America Cr. 3. [US] A historical overview of the black woman's role in American society, including family, social, and political relationships.

HIST A301–A302 Colonial and Revolutionary America I–II Cr. 3–3. (V.T.) [US] I. Settlement and political, social, economic, and religious development of Britain's North American colonies to 1763. II. Causes and nature of the American Revolution; Confederation period and adoption of the United States Constitution. 1763–1788. Eligible for graduate credit.

HIST A303–A304 The United States from 1789 to 1865 I–II Cr. 3–3. (V.T.) [US] I. 1789–1840. Growth of national political institutions from Washington to Jackson; international conflicts, War of 1812, territorial expansion; political, economic, intellectual, social foundations of age of common man; antebellum reform. II. 1840–1865. Slavery, antislavery movement, Mexican War, sectional crises of 1850s, Civil War. Eligible for graduate credit.

HIST A306 Sex Roles and Society in American History Cr. 3. [US] What has it meant to be female or male in America? Examination of sex/gender roles, stereotypes, family life, sexual mores, work patterns, and popular culture. Reading in original sources and scholarly interpretations.

HIST A308 American Business History Cr. 3. [US] This course examines organized profit-making activity in America since 1607. Topics include colonial business, merchant-agrarian capitalism, the business of slavery, government aid to business, industrialization, railroads and regulation, inventing and marketing, big business and

anti-trust, managerial capitalism, modern entrepreneurs, environmental and consumer regulation, merger movements, information capitalism, and globalization.

HIST A309 The South Before the Civil War Cr. 3. [US] Social, intellectual, and cultural features of the American South, from English settlement to secession. Emphasis on the development of a distinctive southern regional culture and how it helped shape the buildup to the Civil War.

HIST A310 Survey of American Indians I Cr. 3. [US] The Native American experience from pre-Columbian period through American Civil War. Lectures and readings will focus upon Native American cultural patterns and the Native American response to French, British, and American Indian policies. *Approved by Arts and Sciences for the Cultural Studies (Non-Western) requirement.*

HIST A311 Survey of American Indians II Cr. 3. [US] Native American-White relations from Civil War through 1980s. Focus on Native American attempts to defend their homelands in American West, establishment of Indian reservations in late 19th century. Impact of the Sawes and Wheeler-Howard Acts, emergence of Native American church, urbanization of Native Americans in 20th century. *Approved by Arts and Sciences for the Cultural Studies (Non-Western) requirement.*

HIST A313 Origins of Modern America Cr. 3. (V.T.) [US] Reconstruction, industrialism, immigration, urbanism, culture, foreign policy, progressivism, World War I. Eligible for graduate credit.

HIST A314 Recent U.S. History I, 1917–1945 Cr. 3. (V.T.) [US] The 1920s, the Depression, New Deal, with interpretive readings in politics, diplomacy, economics, society, thought and literature of the period, World War II. Eligible for graduate credit.

HIST A315 Recent U.S. History II, 1945–Present Cr. 3. (V.T.) [US] World War II, Cold War, problems of contemporary America; economic, social, political, and diplomatic. Eligible for graduate credit.

HIST A318 The American West Cr. 3. [US] Western expansion and development 1763–1900: economic, political, and social. Special attention to natural resources,

Native American-Anglo American relations, and the role of the West in American myth and symbol.

HIST A321–A322 *History of American Thought I–II* Cr. 3–3. [US] Major themes in American intellectual history. I. 1607–1865: Puritanism, American Enlightenment, and the rise of democratic ideology. II. 1865–1976: Social Darwinism, pragmatism, anti-intellectualism, 20th-century myths, and the new science. Eligible for graduate credit.

HIST A345–A346 *American Diplomatic History I–II* Cr. 3–3. (V.T. for A346) [US] American diplomacy from 1775 to 1823; diplomacy of American continental expansion to 1898. America as a world power. Involvement in Far Eastern affairs after 1898, diplomacy of World Wars I and II, developments to present. Eligible for graduate credit. Credit not given for both A345 and A316. Credit not given for both A346 and A316.

HIST A349 *Afro-American History* Cr. 3. [US] P: sophomore class standing or consent of instructor. A study of blacks in American history from earliest colonial days to the present. The lectures will consider such questions as the impact of slavery on the black person, the nature of racism in America, black social and cultural institutions, and changing patterns of civil rights protests.

HIST A351 *The United States in World War II* Cr. 3. [US] Examination of U.S. effect on the outcome of World War II and change in America caused by the war. Major topics: the process of U.S. involvement, strategies of the major land and sea campaigns, relations within the Grand Alliance, development of the A-bomb, and the origins of the Cold War.

HIST A382 *The Sixties* Class 2–3, Lab. 0–1, Cr. 3. [US] An intensive examination of the decade that tore apart post-World War II American society, beginning with the confident liberalism that believed the nation could “pay any price” and “bear any burden” to stop Communism abroad and to promote reform at home. Focuses on the internal contradictions and external challenges that destroyed this liberal agenda: civil rights and black power, the New Left, the counterculture, second-wave feminism, the sexual revolution, the Vietnam War, and the globalization of the

economy, and finishing with the more conservative order that emerged in the early 1970s to deal with the conflicting realities of limited national power and wealth on the one hand, and rising demands for rights and opportunities on the other.

HIST B351 *Barbarian Europe 200–1000* Cr. 3. [WE] Evolution of European civilization from the fall of Rome, development of Christianity and the Germanic invasions; through Charlemagne’s Empire and the subsequent development of feudalism, manorialism, and papacy. Eligible for graduate credit.

HIST B352 *The Age of Chivalry, 1000–1500* Cr. 3. [WE] Expansion of European culture and institutions: chivalry, Crusades, rise of towns, universities, Gothic architecture, law, revival of central government. Changes in late medieval Europe: famine, plague, Hundred Years’ War, peasant revolt, crime, Inquisition, and heresy. Eligible for graduate credit.

HIST B355 *Europe: Louis XIV to French Revolution* Cr. 3. [WE] Absolutism to enlightened despotism; the European state and its authority in fiscal, judicial, and military affairs; sources, content, diffusion of the Enlightenment; agriculture, commerce, and industry in pre-industrial economies; Old Regime France. Eligible for graduate credit.

HIST B361 *Europe in the 20th Century I* Cr. 3. (V.T.) [WE] Diplomatic, economic, intellectual, military, political, and social developments within Europe from World War I to World War II. Eligible for graduate credit.

HIST B378 *History of Germany II* Cr. 3. (V.T.) [WE] Impact of French Revolution and Treaty of Vienna (1815); struggle between reaction and liberalism; unification; industrialization; imperialism; international friction; internal political conflicts; World War I; Weimar Republic; Hitler regime; problems since 1945. Eligible for graduate credit.

HIST C388 *Roman History* Cr. 3. [WE] Development of the history of the Roman people from legendary origins through the regal period, the Republic, the Early Empire, and the Late Empire. Eligible for graduate credit.

HIST C390 *The Decline and Fall of the Roman Empire* Cr. 3. [WE] History of the Roman Empire from the Golden Age of the second century A.D. until the collapse of Roman power in the West and the rise of Islam and Germanic Europe; Christianity and the fate of classical culture in an age of political, social, and religious transformation; the impact of recent archaeological discoveries upon “the fall of Rome” as a historical problem.

HIST C393 *Ottoman History* Cr. 3. [OW] Political, social, and economic developments in the Ottoman Empire from the rise of its power in Anatolia (1299) to the end of the classical period (1826). Evolution of Ottoman institutions and relations with major European powers. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

HIST D410 *Russian Revolutions and the Soviet Regime* Cr. 3. [OW] Russia on the eve of World War I; impact of World War I on Russian society; the revolutions of 1917; civil war and allied intervention in Russia; New Economic Policy and Five-Year Plans; the Stalin and Post-Stalinist eras. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

HIST D426 *History of Balkans: 1914 to Present* Cr. 3. [OW] First World War in the Balkans; politics, economies, and societies in the Balkan countries during the 20th century; Balkan unity movements; international events and World War II; rise of socialism in the region; era of cold war; and detente; revolutions of ’80s and ’90s.

HIST E331 *African History from Ancient Times to Empires and City States* Cr. 3. [OW] Origins and groupings of peoples of Africa; political, social, and economic evolution to 1750; Africa’s contacts with ancient world, trans-Sahara and Indian Ocean trades, growth of states and empires, spread of Islam. Credit not given for both E331 and E431. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

HIST E332 *African History from Colonial Rule to Independence* Cr. 3. [OW] 1750 to present. Slave trade, European imperialism; impact of Islam and Christianity, new state formations, reassertion of African culture and identity. Credit not given for both E332

and E432. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

HIST F341 *Latin America: Conquest and Empire Cr. 3.* [OW] Geographical, Indian, Spanish, Portuguese, and African backgrounds; discovery and conquest; settlement and expansion; political, economic, social, cultural, and religious institutions; trans-European struggle for hemispheric dominance; wars of independence; 1492–1825. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

HIST F342 *Latin America: Evolution and Revolution Cr. 3.* [OW] Hispanic America since independence, with emphasis on common problems of nation building in multi-racial former colonial societies; latifundia; dependency relationships; impact of industrialization; the conservative and revolutionary responses; 1810–present. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

HIST F346 *Modern Mexico Cr. 3.* [OW] Places contemporary Mexico in historical perspective, focusing on the 19th and 20th centuries. Topics include 19th century social and political movements, the causes and consequences of the 1910 revolution, the formation of Mexico's political system, problems of economic growth, and the changing patterns of gender, class, and ethnicity in Mexican society. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

HIST F416 *History of Slavery in the Americas Cr. 3.* Slavery in the New World is explored by comparing its forms in North America and in the Caribbean and South America. Special attention is paid to the mechanisms by which slaves were held in slavery and the adaptation and accommodations that were made by both masters and slaves.

HIST F431 *19th Century Latin American Intellectual History Cr. 3* [OW] The intellectual and political foundations for independence; the creation of the nation-state; the continuing political and intellectual attempts to establish and safeguard liberty and order.

HIST F432 *20th Century Latin American Revolutions Cr. 3.* [OW] Revolutions, revolutionary movements, rapid social change, and modernization from Battle through Menem. Particular attention to the Mexican, Cuban, Bolivian, Guatemalan, Costa Rican, and Nicaraguan revolutions, to the Peron, Vargas, and Velasco Alvarado administrations and Cold War confrontations. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

HIST F447 *U.S.-Latin American Relations Cr. 3.* [OW] [US] Diplomatic and economic relations of the United States with Latin America, from American independence to the present. Evolution of Monroe Doctrine, Mexican War, development of trade and investments, establishment and abandonment of protectorates, Good Neighbor Policy, increased hemispheric interaction in the World War II and Cold War eras. Eligible for graduate credit.

HIST H105 *American History I Cr. 3.* (V.T.) Colonial period, revolution, Confederation and Constitution, National period to 1877. (fall, spring, summer)

HIST H106 *American History II Cr. 3.* (V.T.) 1877 to present. Political history forms framework with economic, social, cultural, and intellectual history interwoven. Introductions to historical literature, source material, and criticism. H105 is not a prerequisite for H106. (fall, spring, summer)

HIST H113 *History of Western Civilization I Cr. 3.* (V.T.) Ancient civilization, Germanic Europe, feudalism, medieval church, national monarchies, Renaissance. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (fall, spring, summer)

HIST H114 *History of Western Civilization II Cr. 3.* (V.T.) Reformation, Age of Louis XIV, French Revolution, Napoleonic Era, Revolutions of 1848, liberalism, socialism, nationalism, international rivalries, World War I, Russian revolutions, Nazi Germany, World War II, Cold War. H113 is not a prerequisite for H114. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (fall, spring, summer)

HIST H201–H202 *Russian Civilization I–II Cr. 3–3.* [OW] From earliest times to the present era. Political, economic, social, and cultural topics, as well as Russia's relations with other countries. Mongol conquest, Westernization, industrialization, Russian revolutions, and Stalin's purges: literature and art in historical context. *Both approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

HIST H217 *The Nature of History Cr. 3.* P: ENG W131 or equivalent. An introductory examination of (1) what history is, (2) types of historical interpretation, (3) common problems of historians, and (4) the uses of history. *Approved by Arts and Sciences for use in fulfilling the writing requirement.*

HIST H222 *Renaissance and Reformation Europe Cr. 3.* [WE] Society and civilization in the 15th and 16th centuries. Transition from medieval to modern life in political and economic behavior, culture, theology, and religion, discoveries and expansion.

HIST H225 *Special Topics in History Cr. 1–3.* (V.T.) Study and analysis of selected historical issues and problems of general import. Topics will vary from semester to semester but will usually be broad subjects that cut across fields, regions, and periods. May be repeated for credit with a different topic.

HIST H232 *The World in the 20th Century Cr. 3.* Shaping of the contemporary world with an emphasis on the reaction of non-Western peoples to Western imperialism. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* (fall, spring, summer)

HIST H260 *History of Women in the United States Cr. 3.* [US] How have women's lives changed from the colonial period to the 20th century? This introductory survey focuses on women's historical roles in the workplace, the family, and politics. Material will be drawn from legal, constitutional, political, social, demographic, economic, and religious history. Credit not given for both H216 and H260.

HIST H496 *Internship in History Cr. 1–6.* P: junior class standing, 12 credits of related course work, consent of instructor

and field supervisor. Faculty-supervised experience in museum work, historical preservation, historical societies or libraries, or other history-related fields in public or private institutions.

HIST J495 Proseminar for History

Majors Cr. 3. (V.T.) P: H217 or equivalent. Selected topics of history. May be repeated for credit with a different topic. (spring)

HIST K499 Senior Honors Thesis Cr. 3–6.

Senior-level course for honors students only. Training in research and writing, culminating in honors thesis to be written under direction of faculty member. Oral examination over thesis conducted by three faculty members. (fall, spring)

HIST S105 American History: Honors

Survey I Cr. 3. P: consent of instructor. Equivalent of HIST H105 for honors students. Colonial period to 1877.

HIST S106 American History: Honors

Survey II Cr. 3. P: consent of instructor. Equivalent of HIST H106 for honors students. 1877 to present.

HIST S113 Honors History of Western

Europe I Cr. 3. P: consent of instructor. Equivalent of HIST H113 for honors students. Ancient Greece to 1500.

HIST S114 Honors History of Western

Europe II Cr. 3. P: consent of instructor. Equivalent of HIST H114 for honors students. 1500 to present.

HIST S232 The World in the 20th

Century—Honors Cr. 3. Equivalent of HIST H232 for honors students.

HIST T325 Topics in History Cr. 3. (V.T.)

Study and analysis of selected historical issues and problems of limited scope from the perspective of the arts and humanities. Topics will vary but will usually cut across fields, regions, and periods. May be repeated for credit with a different topic.

HIST T335 Topics in Non-Western

History Cr. 3. (V.T.) [OW] Study and analysis of selected historical issues and problems in non-Western, Russian, and Latin American history from the perspective of the arts and humanities. Topics will vary. May be repeated for credit with different topics. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

HIST T425 Topics in History Cr. 1–3. (V.T.)

Intensive study and analysis of selected

historical issues and problems of limited scope from the perspective of arts and humanities. Topics will vary but will ordinarily cut across fields, regions, and periods. May be repeated for credit. Eligible for graduate credit.

HIST T426 Topics in History Cr. 3. (V.T.)

Intensive study and analysis of selected historical issues and problems of limited scope from the perspective of social and behavioral sciences. Topics will vary but will ordinarily cut across fields, regions, and periods. May be repeated for credit. Eligible for graduate credit.

HIST T495 Undergraduate Reading in

History Cr. 1–3. (V.T.) Reading course in history. May be taken three times. (fall, spring)

Honors (HON)

Questions about the Honors Program or specific honors courses may be directed to the Honors Program director or to the department sponsoring the course.

To register in an honors course, students must have Honors Program eligibility or instructor's permission.

HON H100 Freshman Honors Seminar

Cr. 1–3. (V.T.) A discussion class with limited enrollment and an interdisciplinary foundation. Topics vary and are usually focused on contemporary topics.

HON H101 Ideas and Human Experience

Cr. 1–3. A discussion class with limited enrollment and an interdisciplinary foundation. Topics vary and are usually focused on personal growth and exploration. Students are encouraged to think for themselves and look in unusual places to find the answers to life's tough questions. May be repeated for credit.

HON H150 Honors H-Option Contract

Cr. 0. (V.T.) A regularly scheduled course may be converted into an honors course through contracted changes to the course syllabus negotiated with a willing instructor. In addition to the contracted course, HON H150 with a matching title adding the word "honors" will appear on the student's transcripts indicating the honors status of the course.

HON H200 Interdepartmental Colloquium-Humanities Cr. 1–3. (V.T.)

Honors seminar focusing on issues in the humanities from an interdisciplinary perspective.

HON H201 Interdepartmental

Colloquium Sciences Cr. 3. (V.T.) Honors seminar focusing on issues in the social and behavioral sciences from an interdisciplinary perspective. *Approved by Arts and Sciences for the social and behavioral sciences requirement.*

HON H202 Interdepartmental Colloquia

Natural and Math Sciences Cr. 1–3. (V.T.) Honors seminars focusing on topics in the natural and mathematical sciences from an interdisciplinary perspective. *Approved by Arts and Sciences for the science and mathematics requirement.*

HON H250 Honors H-Option Contract

Cr. 0. (V.T.) A regularly scheduled course may be converted into an honors course through contracted changes to the course syllabus negotiated with a willing instructor. In addition to the contracted course, HON H250 with a matching title adding the word "honors" will appear on the student's transcripts indicating the honors status of the course.

HON H300 Interdepartmental

Colloquium Cr. 1–3. (V.T.) Honors seminar focusing on issues in the humanities from an interdisciplinary perspective.

HON H301 Interdepartmental

Colloquium Cr. 1–3. (V.T.) Honors seminar focusing on issues in the social and behavioral sciences from an interdisciplinary perspective. *Approved by Arts and Sciences for the social and behavioral sciences requirement.*

HON H302 Interdepartmental

Colloquium Cr. 1–3. (V.T.) Honors seminar focusing on topics in the natural and mathematical sciences areas from an interdisciplinary perspective. *Approved by Arts and Sciences for the science and mathematics requirement.*

HON H350 Honors H-Option Contract

Cr. 0. (V.T.) A regularly scheduled course may be converted into an honors course through contracted changes to the course syllabus negotiated with a willing instructor. In addition to the contracted course, HON H350 with a matching title adding the word "honors" will appear on the student's transcripts indicating the honors status of the course.

HON H399 Honors Independent Study Cr. 1–6. The Honors Program capstone course. The honors project provides an opportunity for honors students to undertake research under the guidance of a faculty mentor. The format may vary, but each project encourages intellectual independence and introduces students to proper research methods in preparation for graduate work. Projects must have some written component and will be a product that is representative of professional work in the chosen field. The project must be presented and defended before a committee including representatives of the Honors Program Council.

HON H450 Honors H-Option Contract Cr. 0. (V.T.) A regularly scheduled course may be converted into an honors course through contracted changes to the course syllabus negotiated with a willing instructor. In addition to the contracted course, HON H450 with a matching title adding the word “honors” will appear on the student’s transcripts indicating the honors status of the course.

Honors Courses Sponsored by Various Departments

BIOL 326 Heredity: A Human Perspective Cr. 3. P: 100, junior standing, and completion of General Education Area I and instructor’s permission. Advances in genetics will be examined using diverse topics such as cloning and alteration of human genes and/or embryos, genetic screening, and genetic manipulation of other organisms. Students will gain understanding of basic methods utilized by geneticists and learn to critically analyze published data. Reading the discussions related to ethical, social, political, and economic issues will help assess the impact of current developments in genetics. Research on a selected topic leading to an oral presentation and a term paper will provide opportunities for synthesis. Cannot be used as a group A or B elective for biology majors.

COM 114H Fundamentals of Speech Communication Cr. 3. Equivalent of COM 114 for honors students. A study of communication theories as applied to speech; practical communicative experiences ranging from interpersonal communication and small-group process

through problem identification and solution in discussion to informative and persuasive speaking in standard speaker-audience situations.

ENG W140 Elementary Composition, Honors Cr. 3. P: placement in W131 and honors eligibility. Instruction in analysis of selected prose models and techniques of producing researched papers for a variety of rhetorical situations. Satisfies the two-semester composition sequence for most disciplines.

ENG S233 Honors Intermediate Expository Writing Cr. 3. P: W131, W135, or W140 with a grade of C or better. Equivalent of W233 for honors students. Instruction and practice in producing researched and documented texts appropriate for public audiences. Emphasis on appropriate primary and secondary research methods, organization, writing style, and documentation.

GEOL S100 General Geology (Honors) Cr. 5. P: consent of instructor, MA 153 placement, ENG W131 placement, and exemption from or completion of ENG R150. Survey of physical geology and introduction to historical geology. Similar to G100 except students also participate in a 10–14 day field exploration of some region in North America. (Field trip in May after classes end.) Credit given for only one of the following: G100, S100, or G103. (Alternate springs)

GEOL S305 Honors Fundamentals in Earth Science Class 2–3, Lab. 0–3, Cr. 3–5. (V.T.) P: honors eligible or permission of instructor. Equivalent of G305 for honors students. Introductory course for advanced students. Earth materials, earth processes, geological principles. Emphasis on relationships between geology and other physical sciences.

HIST S105 American History: Honors Survey I Cr. 3. P: honors eligible or consent of instructor. Equivalent of HIST H105 for honors students. Colonial period, revolution, Confederation and Constitution, National period to 1877.

HIST S106 American History: Honors Survey II Cr. 3. P: consent of instructor. Equivalent of HIST H106 for honors students. 1877 to present. Political history forms framework with economic, social, cultural, and intellectual history interwoven. Introductions to historical

literature, source material, and criticism. H105 is not a prerequisite for H106.

HIST S113 Honors History of Western Europe I Cr. 3. P: consent of instructor. Equivalent of HIST H113 for honors students. Ancient Greece to 1500.

MA 163H Honors Integrated Calculus and Analytic Geometry I Cr. 5. Honors equivalent of MA 165.

MA 164H Honors Integrated Calculus and Analytic Geometry II Cr. 5. P: 163H with a grade of C or higher. Honors equivalent of MA 166; continuation of MA 163H

MUS N101 Music for the Listener—Honors Cr. 3. Survey course designed to introduce nonmusic major to materials, history, and literature of Western art music from the earliest times to present. Emphasis upon developing listening skills and an awareness of different musical styles through study of major works of outstanding composers of each historical period.

PHIL 111H Ethics—Honors Cr. 3. Honors equivalent of PHIL 111. A study of the nature of moral value and obligation. Topics such as the following will be considered: different conceptions of the good life and standards of right conduct; the relation of nonmoral and moral goodness; determinism, free will, and the problem of moral responsibility; the political and social dimensions of ethics; the principles and methods of moral judgment. Readings will be drawn from both contemporary and classical sources.

PHYS 302 Puzzles, Games, and Problem Solving—Honors Cr. 3. P: honors eligibility or consent of instructor, MA 153 or higher, and ENG W131 or higher. This course will explore scientific problem solving by comparing and contrasting it with problem solving in two other domains: puzzles and strategy developing representations, defining the problem, using heuristics, and evaluation solutions. Strategy games will be used as a way to practice problem-solving skills in a domain that can be quickly learned. No credit toward a physics major.

PSY 120H Elementary Psychology—Honors Cr. 3. Honors equivalent of PSY 120. Introduction to the fundamental principles of psychology, covering particularly the topics of personality, intelligence, emotion, abnormal behavior, attention, perception, learning, memory, and thinking.

PSY 235H Child Psychology—Honors

Cr. 3. Honors equivalent of PSY 235. P: 120 (or equivalent). General principles of children's behavior and development from conception to adolescence, including sensory and motor development, and the basic psychological processes such as learning, motivation, and socialization.

PSY 240H Introduction to Social

Psychology—Honors Cr. 3. R: 120. Honors equivalent of PSY 240. A broad survey of current knowledge about human social behavior. Topics covered include aggression, attraction and love, social influence, attitudes and attitude change, nonverbal communication, leadership, prejudice and discrimination, and application of social psychology to law, medicine, and other fields.

SPEA V450 Contemporary Issues in Public Affairs—Honors Cr. 1–3. (V.T.)

P: honors eligibility or consent of instructor, and one or more of the following courses are recommended: HIST H105, HIST H106, SOC S161, POLSY103, and/or SPEA V170. Equivalent of SPEA V450 for honors students. Extensive analysis of selected contemporary issues in public affairs. Topics vary from semester to semester. May be repeated for credit under different topics.

Horticulture (HORT), See Agriculture and Forestry

Hospitality and Tourism Management (HTM)

HTM 100 Introduction to the Hospitality and Tourism Industry Cr. 1. An overview of supervisory careers, opportunities, and responsibilities in the food service, lodging, and tourism industry including historical developments, pioneers and industry leaders; representatives or companies from the three areas.

HTM 181 Lodging Management Cr. 3.

Concepts of organization, communication, ethics, and policy formulation in hotels with emphasis on the front office. Introducing the basic techniques and trends in systems and equipment available to meet the needs of the management and the guest.

HTM 191 Sanitation and Health in Foodservice, Lodging, and Tourism Cr. 3.

Food safety and other health-related issues in the hospitality and travel industries. Application of sanitation principles in restaurants, hospitals, schools, hotels, cruise ships, airlines, and international travel are covered. Students must pass a National Sanitation Certification examination to receive credit.

HTM 212 Organization and Management in the Hospitality and Tourism Industry

Cr. 3. P: Classification 3 or higher. Basic principles of planning, organizing, directing, and controlling human and physical resources will be addressed. Students will also learn how these principles can be applied to maximize the organizational effectiveness of hospitality and tourism businesses.

HTM 231 Hospitality and Tourism

Marketing Cr. 3. Provides students with a customer-oriented approach to marketing in hospitality and tourism. Techniques available to hotels, restaurants, tourism, and travel businesses are described and evaluated, including packing, the travel trade, advertising, sales promotion, merchandising, and personal selling.

HTM 251 Computers in the Hospitality Industry Cr. 3.

P: HTM major or consent of instructor. Establishes computer competency with the DOS operating system, spreadsheet, and word processing. Explores applications of computers in the hotel and food service industry with emphasis on programs that impact the management of hospitality organizations.

HTM 291 Quantity Food Production and Service Cr. 2–3.

C: 291L. An introduction to food preparation methods and service techniques in quantity food settings. Students become familiar with ingredients and culinary terminology, and learn to read and evaluate menus. Recipe conversion and costing skills are developed. Different production schemes and product flow are examined, and the relationship between back-of-the-house and front-of-the-house activities is discussed.

HTM 291L Quantity Food Production and Service Labs Cr. 2.

C: 291. Basic knowledge of foodservice operations. Students learn and develop food production and service skills in the RHIT Cafe and the John Purdue Room. Students are exposed

to quantity cooking methods, the use and care of equipment, and service techniques as they rotate through various positions commonly found in foodservice operations. All aspects of the dining experience are experienced by students.

HTM 301 Hospitality and Tourism Industry Practicum Cr. 1.

P: 6 credits in HTM or consent of program coordinator. Training and practical experience at the entry level, totaling at least 300 hours in an approved hospitality or tourism operation.

HTM 302 Hospitality and Tourism Industry Internship Cr. 1–4.

Supervised and structured industry practical experience. Requires signed learning agreement between student and employer prior to initiating internship; a minimum of 300 work hours for each credit hour. Maximum number of credit hours given for a summer experience is 1 (one). Maximum number of credits given in a semester experience is 2 (two). May be repeated up to a total of 4 credit hours.

HTM 311 Procurement Management for Foodservice Cr. 3.

Identifies and describes food, supplies, and related merchandise used in the foodservice industry. Provides methods and criteria for recognizing quality, evaluating, specifying, purchasing, and inspecting these products. Discusses the use of technology in the purchasing component of the foodservice industry.

HTM 312 Human Resources Management for the Service Industries Cr. 3.

P: classification 3 or higher. The concepts of management of people for effective operations in foodservice, lodging, and tourism involving supervisory development and communications; the pretesting, training, and evaluating of employees; and the development of attitudes and moral of people working together.

HTM 314 Franchising Cr. 3.

The study of franchise administration, operations and marketing, with a special emphasis on hospitality related franchises. Includes a study of the legal regulation of franchises, the franchisee-franchiser relationship and unique problems in operating a franchise.

HTM 315 Club Management and Operations Cr. 3.

P: 231, 241, and 312. A study of the organization, administration, operation, and opportunities within the private club industry with emphasis on the manager's duties.

HTM 321 Equipment for Restaurants, Hotels, and Institutions Cr. 3. P: 291 and 291L. Principles of selection, operation, and maintenance of food service equipment including materials, structural details, design, cost, performance, and specification standards.

HTM 322 Hospitality Facilities Management Cr. 3. Technical and managerial issues related to the operation and maintenance of the physical plant and equipment in hospitality industry facilities.

HTM 323 Foodservice Layout and Design Cr. 3. P: 291, 291L, and 321. Arrangement of foodservice equipment for efficient use of space. An introduction to computer-aided design for equipment placement within space constraints. Development of work-flow patterns and human engineering considerations.

HTM 341 Cost Controls in Foodservice and Lodging Cr. 3. P: BUS A201, HTM 241 and 312. Application of cost controls; development of cost reduction methods through management policy and decisions; examination of cost control techniques for food, labor, and supplies in addition to the emphasis on beverage management control.

HTM 371 Introduction to Tourism Cr. 3. P: 3 hours of economics. Principles, practices, and philosophies that affect the economic, social, cultural, psychological, and marketing aspects of human travel and the tourism industry.

HTM 391 Specialty Foodservice and Catering Class 1, Lab. 6, Cr. 3. P: 291 and 291L. Exploration and creative use of specialty foods and unusual cuisine for the hospitality field. Concepts of management for the effective operation of quantity specialty food service organized in a financial framework involving menu-planning, customer relations, and production-service logistics.

HTM 411 Hospitality and Tourism Law Cr. 3. Rights and duties of innkeepers, food operators, and tourism organizations. Topics include civil rights, contracts, negotiable instruments.

HTM 491 Beverage Management Cr. 2. P: must be a minimum of 21 years of age and HTM major. Principles and practices regarding the production, selection, purchasing, storage, and service of beverage alcohol in the hospitality industry.

Certification in a Responsible Beverage Service Course is required to earn course credit.

HTM 492 Advanced Foodservice Management Cr. 4. P: 212, 291, 291L, 341, and 491. Utilize managerial skills and techniques with planning, organizing, directing, and controlling a full-service restaurant operation. Management teams of two to three students develop, market, and operate an international theme restaurant that is open to the public. Emphasis is placed on utilizing effective management skills to create a high quality, profitable operation with well planned systems and highly motivated, organized employees.

HPER, see Health, Physical Education, and Recreation

Human Services (HSRV)

HSRV 100 Introduction to Human Services Cr. 3. An orientation to human services. History, current concepts, and roles of the various workers in the field are discussed. This course is open to non-HSRV majors.

HSRV 103 Helping Relationship Techniques Cr. 3. This course will provide the student with opportunities to increase their effectiveness in helping people. This course will examine the helping process in terms of skills, helping relationship. This course is appropriate for anyone who is entering a career dealing with people.

HSRV 105 Basic Interviewing Skills Class 3, Cr. 3. This course is designed to introduce and develop skills associated with interviewing clients. The focus will be on skill-building and competencies in attending behaviors, client observation skills, open and closed questions, encourager skills, paraphrasing and summarizing, and reflection of feelings and meaning. Advanced interviewing skills will include confrontation, probes, focusing, and information giving. This course is open to non-HSRV majors.

HSRV 211 The Dynamics of Group Behavior Cr. 3. P: 210, P: for HSRV majors only: 205. Focus is upon the properties of groups, awareness of personal factors in group interaction, dimensions of leadership

behavior in achieving group effectiveness, characteristics of larger social systems, and the dynamics of change. Small-group experiences are supplemented by skill practice sessions and theory presentations.

HSRV 299 Human Services Cr. 1–3. (V.T.) Hours and subject matter to be arranged. See department for current course selection.

HSRV 315 Introduction to Theories and Therapies Cr. 3. P: PSY 120. Discusses specific theories and therapies that are essential for human service professional practice. This course also provides knowledge that is required to pass the Indiana certification examination for addiction counselors.

HSRV 320 Case Methods Cr. 3. P: 100, 105. This course will provide theoretical knowledge of techniques in case management related to human service clients and agencies. Case management with a wide range of populations will be discussed.

HSRV 325 Current Trends in Psychosocial Rehabilitation Cr. 3. P: PSY 120. Current models of psychiatric rehabilitation emphasize community integration and support for persons with serious mental illnesses and developmental disorders. This course examines historical attitudes toward those classified with these disorders; current theoretical perspectives; physiological evidence of a disease process; and research into the various intervention models for psychopharmacological, social-environmental, and individual treatment. One semester of Abnormal Psychology is strongly recommended, but not required, prior to taking this course.

HSRV 330 Psychopharmacology for Human Services Cr. 1. P: PSY 350. An overview of the effects and side effects of psychiatric medications. Focus of the course will be knowledge useful in identifying 1) whether or not a client is responding to pharmacological treatment and 2) client behaviors indicating adverse effects of medication that should be reported to the client's healthcare provider.

HSRV 350 Drugs and Society Cr. 3. Emphasizes the social, psychological, biological, and cultural contexts in which addiction develops and occurs. Encourages an understanding of substance use, abuse,

and addictive behaviors within a larger pattern. For this reason, the course is applicable to anyone who will be in a position in which they must a) work with people on a daily basis, b) provide supervision or support services within an organization, or c) work in any aspect of the helping professions.

HSRV 369 Wellness and Stress

Management Cr. 3. Introduction to the philosophies and techniques for achieving individual wellness (optimum health). Includes topics in stress management, nutrition awareness, lifestyle planning, nontraditional approaches to building healthy lifestyles, exercise, and psycho-physiological well-being. Class sessions will incorporate experiential and participatory styles of learning, lecture, discussion, and small-group interaction. This course may not be used to fulfill requirements for the B.S.

HSRV 399 Special Topics Cr. 1–3. (V.T.)

Hours, credits, and subject matter to be arranged by department. See department for current course selection.

HSRV 400 Internship I Cr. 1–4. P: 315, 320; P or C: 401. This course will provide experiential learning related to human service agencies. Students will be assigned to a human service agency and work with an agency supervisor to apply knowledge of case management skills including intake, client assessment, and development and implementation of intervention plans. Course is limited to students admitted to the B.S. in human services program.

HSRV 401 Internship Seminar I Cr. 1.

C: HSRV 400. This course will focus on professionalism, ethical issues, and social welfare policy as applied with human service clients and agencies. Course is limited to students admitted to the B.S. in human services program.

HSRV 420 Substance Abuse Prevention

Cr. 3. Provides an overview of substance abuse theory, practice, and prevention. Includes concepts related to substance abuse prevention in the educational setting.

HSRV 450 Internship II Cr. 2–4. P: 400, 401; C: 451. This course will provide advanced experiential learning related to human service agencies. Students will be assigned to a human service agency and

work with an agency supervisor to apply knowledge of program evaluation, legal implications related to human service practice, and management issues related to directing human service programs. Course is limited to students admitted to the B.S. in human services program.

HSRV 451 Internship Seminar II Cr. 1.

P: 400, 401; C: 450. This course will provide a forum for discussion of advanced theories and skills applicable to developing, assessing, and managing human service agencies. Topics will include program evaluation, legal implications related to human service practice, and management issues related to implementing human service programs. Course is limited to students admitted to the B.S. in human services program.

IDIS, see Interdisciplinary Studies

Industrial Engineering Technology (IET)

IET 105 Industrial Management Cr. 3.

An overview of industrial engineering technology including manufacturing organization and quality production.

IET 204 Techniques of Maintaining

Quality Class 2, Lab. 2–3, Cr. 3. C: MA 159 or MA 153. An analysis of the basic principles of quality control, includes statistical aspects of tolerances, basic concept of probabilities, frequency distribution, X and R charts and uses of mechanical, electronic, air, and light devices for checking and measuring to determine quality levels of acceptance.

IET 224 Production Planning and Control

Class 3, Cr. 3. P: MA 159. A survey of production inventory control procedures including material requirements planning, just-in-time methods, and project management.

IET 257 Ergonomics Class 3, Cr. 3.

P: MET 106. The course covers application of ergonomic principles to the design of interface between human and machine systems, and consideration of human abilities and limitations in relation to design of equipment and work environment.

IET 267 Work Methods Design Class 3,

Cr. 3. P: 105. An introduction to work place design and work measurement, including

time and motion study, ergonomics, and process standardization.

IET 274 Industrial Practice I Cr. 1.

P: admission to the Cooperative Education program. Practice in industry and written reports of this practice for co-op students.

IET 275 Industrial Practice II Cr. 1.

P: 274. Practice in industry and written reports of this practice for co-op students.

IET 295 Industrial Practicum Cr. 1.

For full-time students who have completed one year of study. Practical problems in local industry limited to about 10 hours per week for which the student receives some remuneration. May be repeated.

IET 296 Industrial Engineering Technology Case Problems Cr. 2.

Application of theories developed in several industrial engineering technology courses to select general case problems to provide practice in the integration of principles.

IET 299 Industrial Engineering Technology

Class 0–5, Lab. 0–9, Cr. 1–9. Hours as arranged with staff. Special studies in industrial engineering technology. Primarily for students who have completed most of the requirements for the associate degree in applied science and desire to take an additional course in a specialized phase.

IET 310 Plant Layout and Material

Handling Class 3, Cr. 3. P: MET 104, MA 159. Analysis of material flow in a manufacturing facility.

IET 350 Engineering Economy Class 3,

Cr. 3. P: 105, and MA 159. Analysis of the time value of money as applied to the manufacturing environment.

IET 362 Technological Optimization

Class 3, Cr. 3. P: 105, MA 159. An introduction to linear programming applied to optimization in a manufacturing environment.

IET 369 Manufacturing Simulation

Class 3, Cr. 3. P: 105, STAT 301, CS 114. An introduction to computer simulation of complex manufacturing systems.

IET 375 Industrial Practice III Cr. 1.

P: 275. Practice in industry and written reports of this practice for co-op students.

IET 376 Industrial Practice IV Cr. 1.

P: 375. Practice in industry and written reports of this practice for co-op students.

IET 401 Manufacturing Process Planning Class 3, Cr. 3. P: MET 104, MET 335. Analysis and planning of common production processes.

IET 454 Statistical Process Control Class 3, Cr. 3. P: 204, STAT 301. Online process control including design and analysis of process control charts and sampling plans.

IET 464 Offline Quality Control Class 3, Cr. 3. P: 204, STAT 301. Off-line quality methods, including experimental designs and standards.

IET 475 Industrial Practice V Cr. 1. P: 376. Practice in industry and written reports of this practice for co-op students.

IET 480 Cost Estimating and Design Class 3, Cr. 3. P: 204, 267, 310, 401; senior status. Economic design of manufacturing systems. Includes a capstone project.

IET 499 Industrial Engineering Technology Class 0–5, Lab. 0–9, Cr. 1–3. (V.T.) Hours and subject matter to be arranged by staff. *May be repeated up to 9 credits.*

Interdisciplinary Arts and Sciences (COAS)

COAS W398 Internship in Professional Practice Cr. 1–6. P: sophomore standing and written consent of instructor. Designed to provide opportunities for students to receive credit for a selected career-related full-time paid work experience. Evaluation by employer and faculty sponsor. May be repeated for a maximum of 12 credits.

Interdisciplinary Studies (IDIS)

IDIS 100 Freshman Honors Seminar Cr. 3. (V.T.) P: consent of instructor. A discussion class with limited enrollment. Topics vary and are usually focused on contemporary topics. Typical titles might be Creative Problem Solving, Language as Culture, or Death and Dying.

IDIS 110 Freshman Success Course Cr. 1-3. P: freshman classification. Freshman Success is a course designed to increase the success of freshmen by assisting them with the skills necessary to reach their educational goals. Topics in this

course include academic concerns (academic major information, learning skills, study skills, time management) and personal-social concerns (interpersonal relationship skills, communication skills, setting goals). Credit for only one of: IDIS 110, G102, G103, G104.

IDIS 115 Career Beginnings Cr. 2. P: freshman classification. Eight-week course designed for the undecided student entering IPFW who wants to begin career exploration. Includes strategies to confirm major choice through topics such as decision making, goal setting, self-assessment, major information, career information, and employment trends.

IDIS 199 Freshman Learning Community Cr. 0. Conglomerate course used for registration purposes.

IDIS 200 Interdepartmental Colloquium Cr. 1–3. P: consent of instructor. A more advanced seminar but similar to IDIS 100 with limited enrollment. Typical titles might be Lectures on the History of Science, 1984 and Beyond, or War Crimes and Individual Responsibility.

IDIS G102 Freshman Seminar/Physical and Natural World Cr. 3. (V.T.) Introduction to scientific study of the physical and natural world. Interdisciplinary approach integrating mastery of subject-matter content with improvement of learning strategies, critical thinking, and problem solving. *Meets criteria of IPFW General Education Area II.* Topic varies. Open only to freshmen. Credit for only one of: IDIS 110, G102, G103, G104.

IDIS G103 Freshman Seminar/The Individual, Culture, and Society Cr. 3. (V.T.) Introduction to study of the nature and diversity of individuals, cultures, and societies. Interdisciplinary approach integrating mastery of subject-matter content with improvement of learning strategies, critical thinking, and problem solving. *Meets criteria of IPFW General Education Area III.* Topic varies. Open only to freshmen. Credit for only one of: IDIS 110, G102, G103, G104.

IDIS G104 Freshman Seminar/Humanistic Thought Cr. 3. (V.T.) Introduction to major questions, traditions, and tools of humanistic inquiry. Interdisciplinary approach integrating mastery of subject-matter content with improvement of learning strategies, critical thinking, and

problem solving. *Meets criteria of IPFW General Education Area IV.* Topic varies. Open only to freshmen. Credit for only one of: IDIS 110, G102, G103, G104.

Interior Design (INTR)

INTR 111 Residential Interior Design I Cr. 3. Introduction to requirements of design with emphasis on people, space, scale, light, color, materials, furniture, accessories, and budget in the residential environment.

INTR 112 Residential Interior Design II Cr. 3. P: 111. Advanced techniques of furniture arrangements and design principles. Coordination of interior design principles throughout a complete residential environment (i.e., house, apartment, condominium). Estimating of drapery, floor, and wall coverings as it applies to various projects.

INTR 121 Freehand Sketching Cr. 3. Drawing in the “freehand” (nonmechanical) method will be presented in pencil, ink, and markers. The course is aimed at the beginning design student. It will utilize objects of interior environment as a means of understanding various drawing principles and familiarize the student with basic rendering techniques.

INTR 123 Perspective Drawing Cr. 3. P: 121. Perspective drawing of building interiors and rooms in one- or two-point projection incorporating light, shadow, and furnishings are emphasized. Application of texture and color are presented in multimedia.

INTR 131 Decorative Materials and Accessories I Cr. 3. History of textiles, fiber content, weaves, and designs. Functional uses of fabrics for interiors (i.e., windows, upholstery). Emphasizes decorative treatment of textile patterns and uses of materials through design problems. The assembling of notebooks is required.

INTR 132 Decorative Materials and Accessories II Cr. 3. Study of area rugs, hand-made and machine-made carpeting and hard surface floorcovering with regards to practical application. Construction techniques of carpeting, upholstery, and case goods.

INTR 141 Interior and Furniture Styles I Cr. 3. All courses in historical interiors and

furniture styles include slides or photographs of each period. Each student will be required to keep a notebook. I. Historical interiors and furniture styles of the ancient world: Egyptian, Greek, Roman, Byzantine, Romanesque, Gothic, and 15th, 16th, and 17th centuries of Renaissance Europe.

INTR 201 CAD for Interior Design Cr. 3.

The study and application of computer-aided design and drafting (CADD) as a means of visualizing complex spatial designs of the built environment, reducing the amount of time needed to produce complicated hand-constructed drawings.

INTR 210 Interior and Furniture Styles II Cr. 3.

All courses in historical interiors and furniture styles include slides or photographs of each period. Each student will be required to keep a notebook. I. Historical interiors and furniture styles of the 18th, 19th, and 20th centuries in France, England, and the United States.

INTR 220 Architecture and Urban Form Cr. 3.

Survey of styles and influence of cultures that led to the development of architecture and engineering from the earliest times to the early 20th century.

INTR 231 Contract Interior Design I Cr. 3.

P: 112. An environmental study of the principles of commercial/institutional design with special emphasis on sociophysiological factors relating to the design elements of individual contract projects.

INTR 232 Contract Interior Design II Cr. 3.

P: 231. The development and application of spatial concepts through the design of a commercial/institutional interior project. Incorporates contents of all prerequisite courses. Presentation techniques will be emphasized.

INTR 241 Lighting and Color Design Cr. 3.

Study of how natural and artificial lighting and color affect the human environment. Principles of physical and psychological aspects of lighting and color (i.e., hue, value, and intensity) are applied to design theory.

INTR 251 Professional Practice Cr. 3.

The study of professional office and business procedures for the practice of interior design. Includes public relations, marketing, legal, accounting and financial considerations, professional organizations

and conduct, resourcing, project management, contracts, forms, and documents.

INTR 261 Interior Design Practicum Cr. 3.

P: Consent of interior design program. Special problems in planning, furnishing, design, crafts, or work-study.

INTR 299 Interior Design Cr. 1–3. (V.T.)

P: Consent of interior design program. Special topics of study with concentration on developing a working knowledge in a specific area of interior design. May be repeated for up to 6 credits.

INTR 320 Architecture and Urban Form in the Modern World Cr. 3.

P: ARET 210 or INTR 220. A survey of architectural and engineering developments of the 20th century.

International Studies (INTL)

INTL I200 Introduction to International Studies: Emerging Global Visions Cr. 3.

P: sophomore standing. An interdisciplinary, team-taught course for students who wish to deepen their understanding of an increasingly interdependent world and broaden their perspective of a variety of international topics such as international politics and history, global environmental issues, international business and economics, and international cultural studies.

INTL I208 International Cinema Cr. 3.

In this course students will study international cinema in order to increase their critical thinking, analytical, and communicative ability through reading and writing about films made outside of the United States. It will focus on the international filmmakers that work consciously to express their own sense of national identity.

Journalism (JOUR)

JOUR C200 Mass Communications Cr. 3.

Survey of functions, responsibilities, and influence of various mass communications media. For nonmajors. Directed toward the consumer and critic of mass media in modern society.

JOUR C201 Topics in Journalism Cr. 1–3. (V.T.)

P: sophomore or junior class standing.

Topical course dealing with changing subjects and material from semester to semester. Variation of fundamental concepts presented in C200. May be repeated once for credit with a different topic. Does not count toward journalism major.

JOUR C300 Citizen and the News Cr. 3.

A study of the institutions that produce news and information about public affairs for the citizen of American mass society. The problems about the selection of what is communicated. Case studies. International comparisons.

JOUR C327 Writing for Publication Cr. 3.

R: J200 and a grade of A or B in ENG W131. A workshop for nonmajors to improve writing skills and learn basic requirements of writing for publication. Instruction in market analysis and interpreting specific editorial requirements, gathering and researching background materials, and preparing manuscripts. Examination of various types and styles of published writing. Does not count toward journalism major.

JOUR J110 Foundations of Journalism and Mass Communication Cr. 3.

Survey of the institutions of journalism and mass communication, their philosophical foundations, history, processes, economic realities, and effects. Required course for journalism majors and IPFW journalism minor.

JOUR J200 Reporting, Writing and Editing I Class 3, Lab. 0–1, Cr. 3.

P: ENG W131 or equivalent and typing ability of 35 words per minute. Small working seminar relating communication theory to practice in journalistic writing. Emphasis on narration, exposition, description, and argumentation. Development of skills in conceptualization, organization, gathering evidence, and effective presentation of articles for publication in various mass media. Required course for journalism majors and IPFW journalism minor.

JOUR J210 Visual Communication

Class 2–3, Lab. 0–2, Cr. 3. Basic principles, theories, and history of channels of human communication other than written and spoken language; development of elementary skills and experimentation in producing nonverbal messages and combining nonverbal with verbal messages. Some darkroom lab activities. Adjustable camera required. Required

course for journalism majors and IPFW journalism minor.

JOUR J280 *Sophomore Seminar in Journalism Cr. 3. (V.T.)* P: 6 hours of journalism including C200. Selected topics in journalism, e.g., professional ethics, government and the press, contemporary problems of the press.

JOUR J290 *Internship in Journalism Cr. 1-3.* P or C: J200. Work as staff member on campus publications. Work will include reporting and writing, layout and pasteup work, photo work, and advertising sales work.

JOUR J300 *Communications Law Cr. 3.* History and philosophy of laws pertaining to free press and free speech. Censorship, libel, contempt, obscenity, right of privacy, copyright, government regulations, and business law affecting media operations. Stresses responsibilities and freedoms in a democratic communications system. Required course for journalism majors and IPFW journalism minor. Also required course for radio and television students.

JOUR J310 *Editorial Practices Cr. 3.* P: J200. Workshop in fundamentals of editing and reporting with special emphasis on news judgment, fairness, accuracy, and editorial balance. Practical experience in gathering, writing, and editing news and public affairs materials. Stress on principles applying to all mass media.

JOUR J315 *Feature Writing Cr. 3.* P: J200. The course aims to develop skill in gathering and presenting feature story material, exploring the realm between straight news and editorials. It follows feature-story practice in combining information with entertainment stressing the imperative of research, accuracy, and mechanical correctness.

JOUR J360 *Journalism Specialties Class 1-3, Cr. 1-3. (V.T.)* Provides a concentrated study of a well-defined area of specialization. The specialty areas vary each semester. The range of offerings includes such courses as Writing for Magazines, Advertising Copywriting, and Producing Company Publications. May be repeated for credit.

JOUR J390 *Corporate Publications Cr. 1-3. (V.T.)* This course focuses on the practical and specialized concerns of editing and designing newsletters, tabloids,

magazines, and newspapers for business, industry, institutions, or other organizations. Attention is given to audience surveys, readability, copy editing, headlines, photographs, cutlines, copy-fitting, and printing instruction, with special emphasis on design techniques for the four major types of organizational publications. Includes practice in all facets of publication design. Recommended for persons interested in print communications programs or in developing limited circulation publications. Limited enrollment; consent of instructor required.

JOUR J413 *Magazine Article Writing Cr. 3.* P: J200. In-depth explanation of the nonfiction magazine article field. Examination of trends and problems in nonfiction writing for both general and specialized magazines. Criticism of student articles written for publication. Seminar sessions with editors and freelance writers. Transfer students advised to complete this course at IUPUI or Bloomington. Eligible for graduate credit.

JOUR J425 *Supervision of School Publications Cr. 3.* P: 12 credit hours of journalism courses. Lectures and discussion on designing, producing, and financing school newspapers, magazines, and yearbooks. Management of school news bureau. Eligible for graduate credit.

JOUR J427 *Public Relations in a Democratic Society Cr. 3.* Lectures and discussion on dissemination of public information by industry and institutions. Examination of procedures and policies and evaluation of public relations efforts. Contrasts public relations practices in America with those in other nations and cultures.

JOUR J492 *Media Internship Cr. 1-3.* Must have permission to enroll. Supervised professional experience in communications media. Does not contribute to 27 credit hours of required course work in journalism major but will count toward 33 credit hours maximum allowed in journalism and telecommunications. May be repeated, but student may take no more than 3 hours of internship credit for the B.A. either through the Journalism Program or any other academic unit.

Labor Studies (LSTU)

LSTU L100 *Survey of Unions and Collective Bargaining Cr. 3.* A survey of labor unions in the United States, focusing on their organization and their representational, economic, and political activities. Includes coverage of historical development, labor law basics, and contemporary issues.

LSTU L101 *American Labor History Cr. 3.* A survey of the origin and development of unions and the labor movement from colonial times to the present. The struggle of working people to achieve a measure of dignity and security will be examined from social, economic, and political perspectives.

LSTU L110 *Introduction to Labor Studies: Labor and Society Cr. 3.* An introduction to the changing role of labor in society. The course will emphasize a comparative approach to issues confronting labor organizations.

LSTU L199 *Portfolio Development Workshop Cr. 1.* Emphasis on developing learning portfolios as foundation documents for academic self-assessment and planning and as applications for self-acquired competency (SAC) credit. Applies only as elective credit to labor studies degrees.

LSTU L200 *Survey of Employment Law Cr. 3.* Statutes and common law actions protecting income, working conditions, and rights of workers. Topics include workers' compensation, unemployment compensation, fair labor standards, Social Security, retirement income protection, privacy, and other rights.

LSTU L201 *Labor Law Cr. 3.* A survey of the law governing labor-management relations. Topics include the legal framework of collective bargaining, problems in the administration and enforcement of agreements, protection of individual employee rights.

LSTU L203 *Labor and the Political System Cr. 3.* Federal, state, and local governmental effects on workers, unions, and labor-management relations; political goals; influences on union choices of strategies and modes of political participation, past and present; relationships with community and other groups.

LSTU L205 Contemporary Labor

Problems Cr. 3. An examination of some of the major problems confronting society, workers, and the labor movement. Topics may include automation, unemployment, international trade and conglomerates, environmental problems, minority and women's rights, community relations, changing government policies.

LSTU L210 Workplace Discrimination

and Fair Employment Cr. 3. Examines policies and practices that contribute to workplace discrimination and those designed to eliminate discrimination. Explores effects of job discrimination and occupational segregation. Analyzes Title VII, ADA, and related topics in relation to broader strategies for addressing discrimination.

LSTU L220 Grievance Representation

Cr. 3. Union representation in the workplace. The use of grievance procedures to address problems and administer the collective bargaining agreement. Identification, research, presentation, and writing of grievance cases. Analysis of relevant labor law and the logic applied by arbitrators to grievance decisions.

LSTU L230 Labor and the Economy Cr. 3.

Analysis of the political economy of labor and the role of organized labor within it. Emphasis on the effects on workers, unions, and collective bargaining of unemployment investment policy, and changes in technology and corporate structure. Patterns of union political and bargaining response.

LSTU L240 Occupational Health and

Safety Cr. 3. Elements and issues of occupational health and safety. Emphasis on the union's role in the implementation of workplace health and safety programs, worker and union rights, hazard recognition techniques, and negotiated and statutory remedies, in particular the Occupational Safety and Health Act of 1970.

LSTU L250 Collective Bargaining Cr. 3.

The development and organization of collective bargaining in the United States. Union preparation for negotiations, bargaining patterns and practices, strategy and tactics; economic and legal considerations.

LSTU L251 Collective Bargaining

Laboratory Cr. 1–3. P: or C: L250.

Designed to provide collective bargaining simulations and other participatory experiences in conjunction with L250.

LSTU L255 Unions in State and Local

Government Cr. 3. Union organization and representation of state and municipal government employees, including patterns in union structure, collective bargaining, grievance representation, and applicable law.

LSTU L260 Leadership and

Representation Cr. 3. Organizational leadership issues for the union, community, and other advocate organizations. Analyzes leadership styles, membership recruitment, and leadership development. Examines the role of leaders in internal governance and external affairs including committee building, delegation, negotiations, and coalition building.

LSTU L270 Union Government and

Organization Cr. 3. An analysis of the growth, composition, structure, behavior, and governmental processes of U.S. labor organizations, from the local to national federation level. Consideration is given to the influence on unions of industrial and political environments, to organizational behavior in different types of unions, and to problems in union democracy.

LSTU L280 Union Organizing Cr. 3.

Explores various approaches and problems in private and public sector organizing. Traditional approaches are evaluated in light of structural changes in labor markets and workforce demographics. Topics range from targeting and assessments to committee building and leadership development.

LSTU L285 Assessment Project Cr. 1.

Capstone experience for associate degree.

LSTU L290 Topics in Labor Studies

Cr. 1–3. (V.T.) This is a number under which a variety of topics may be addressed in classroom-based programs on the campuses. Courses may focus on contemporary or special areas of labor studies. Others are directed toward specific categories of employees and labor organizations. Inquire at the Division of Labor Studies office.

LSTU L299 Self-Acquired Competencies,

Labor Studies Cr. 1–15. Credit for labor-related competencies demonstrated, assessed, and approved according to established procedures. Maximum of 15

credits applicable to Associate of Science and/or Bachelor of Science in Labor Studies.

LSTU L315 The Organization of Work

Cr. 3. Examines how work is organized and jobs are evaluated, measured, and controlled. Explores social and technical elements of work through theories of scientific management, the human relations school of management, and contemporary labor process literature.

LSTU L320 Grievance Arbitration Cr. 3.

R: L220 or consent of instructor. The legal and practical context of grievance arbitration, its limitations and advantages in resolving workplace problems. Varieties of arbitration clauses and the status of awards. Participants analyze, research, prepare, and present cases in mock arbitration hearings.

LSTU L350 Issues in Collective

Bargaining Cr. 3. Readings and discussions of selected problems. Research paper ordinarily required.

LSTU L360 Union Administration and

Development Cr. 1–3. Practical and theoretical perspectives on strategic planning, budgeting, and organizational decision making. Addresses needs and problems of union leaders by studying organizational change, staff development, and cohesiveness within a diverse workforce. May be repeated for up to 3 credits with departmental approval.

LSTU L375 Comparative Labor

Movements Cr. 3. Labor movements and labor relations in industrial societies from historical, analytical, and comparative perspectives. Emphasis on interaction between unions and political organizations, national labor policies, the resolution of workplace problems, the organization of white-collar employees, and the issues of workers' control and codetermination.

LSTU L380 Theories of the Labor

Movement Cr. 3. Perspectives on the origin, development, and goals of organized labor. Theories include those that view the labor movement as a business union institution, an agent for social reform, a revolutionary force, a psychological reaction to industrialization, a moral force, an unnecessary intrusion.

LSTU L385 Class, Race, Gender, and

Work Cr. 3. Historical overview of the impact and interplay of class, race, and gender on shaping U.S. labor markets,

organizations, and policies. Examines union responses and strategies for addressing class, race, and gender issues.

LSTU L390 *Topics in Labor Studies* Cr. 1–3. (V.T.) Advanced courses in areas described under L290.

LSTU L420 *Labor Studies Internship* Cr. 1–6. Application of knowledge gained in the classroom in fieldwork experience.

LSTU L430 *Labor Research Methods* Cr. 3. Study of research design, methods, techniques, and procedures applicable to research problems in labor studies.

LSTU L480 *Seminar on Labor Education* Cr. 3. (V.T.) Education designed specifically for workers began early in the 20th century and included ESL and literacy; union skills; and subjects such as economics, politics, and history. This course will examine various innovative adult labor programs and focus on the character of labor education today, analyzing its mission, content, and methodologies.

LSTU L495 *Directed Labor Study* Cr. 1–6. A contract course to suit the special and varied needs and interests of individual participants. The contract with the faculty member might include reading, directed application of prior course work, tutorials, or internships. Competencies assessed through written papers, projects, reports, or interviews. Repeatable to a maximum of 6 credits.

LSTU L499 *Self-Acquired Competencies, Labor Studies* Cr. 1–15. Credit for labor-related competencies demonstrated, assessed, and approved according to established procedures. To include only credits beyond 15 and up to 30 applicable to Bachelor of Science in Labor Studies.

Linguistics (LING)

LING L103 *Introduction to the Study of Language* Cr. 3. P: placement at or above ENG W131 (or equivalent) and exemption from or completion of ENG R150. Linguistics as a body of information; nature and function of language; relevance of linguistics to other disciplines, with reference to modern American English.

LING L303 *Introduction to Linguistic Analysis* Cr. 3. P: L103. Introduction to

basic concepts of linguistic analysis, exemplifying the general principles of structural approaches to the study of language. Application of analytical methods to problems in phonology, syntax, and semantics.

LING L307 *Phonology* Cr. 3. R: L103 or L303. Basic concepts such as phoneme and distinctive feature as defined and used within particular theories. The relationship of phonology to phonetics and morphology; exploration of salient aspects of sound structure and some characteristic modes of argumentation; extensive phonological analysis with some practice in writing phonological rules.

LING L310 *Syntax* Cr. 3. P: L103 or L303. Examination of the basic concepts, assumptions, and argumentation of modern syntactic theory to describe and analyze common syntactic structures in English and other languages. Practice in constructing and evaluating grammars.

LING L321 *Methods and Materials for TESOL I* Cr. 3. This course provides an overview of teaching English to speakers of other languages with an emphasis on methodology, examining different approaches, techniques, and various instructional options in light of different teaching contexts and learners' needs.

LING L322 *Methods and Materials for TESOL II* Cr. 3. This course aims at enhancing participants' understanding of theoretical principles underlying the preparation of ESL instructional materials as well as course participants' knowledge and skills in materials preparation and effective implementation. It also addresses issues related to course design, content selection and organizing, and language assessment.

LING L325 *Semantics* Cr. 3. P: L103 or L303. An introduction to the systematic investigation of the relation between linguistic form, its use, and interpretation.

LING L360 *Language in Society* Cr. 3. P: L103 or L303. A general introduction to sociolinguistics, for the non-specialist. Topics covered include regional and social dialects, the politics of language use in social interaction, language and social change, and men's and women's language, as well as issues in applied sociolinguistics such as bilingualism and black English in education.

LING L366 *Linguistics and Adjacent Arts and Sciences* Cr. 3. P: L103 or L303. Introduction to basic interdisciplinary problems involving linguistics, with special reference to language and culture, sociolinguistics, linguistics or literature, psycholinguistics.

LING L430 *Language Change and Variation* Cr. 3. P: L103 or L303. Basic principles of diachronic linguistics. The comparative method. Phonological and morphological development. Growth of lexicon. Eligible for graduate credit.

LING L431 *Field Methods* Cr. 3. P: permission of instructor. Introduction to the procedures involved in the structural description of language, using a native speaker of an unfamiliar language whose speech will be analyzed.

LING L470 *TENL Practicum* Cr. 3. P: permission of instructor. Under supervision, students teach English as a new language. The course provides experience in instruction, assessment, placement, and materials preparation. Classroom lectures, discussions, and assigned readings focus on teaching English as a new language.

LING L485 *Topics in Linguistics* Cr. 3. (V.T.) P: varies according to topic. Studies in special topics not ordinarily covered in departmental courses. May be repeated, with different topics for a maximum of 9 credits. Eligible for graduate credit.

LING L490 *Linguistic Structures* Cr. 3. (V.T.) P: consent of instructor. The linguistic analysis of particular aspects of the structure of one language or a group of closely related languages. May be repeated with different topics for a maximum of 9 credits.

LING S103 *Honors Introduction to the Study of Language* Cr. 3. Equivalent of L103 for honors students.

LSTU, see Labor Studies

Mathematical Sciences (MA, STAT)

If you are majoring in this discipline, you may want to consider the Science and Engineering Research Semester. See information under Arts and Sciences (Part 3).

MA 009 Topics In Elementary Algebra Class 1, Cr. 0. P: consent of math department. A continuation of selected topics in elementary algebra. Offered pass/not pass only. Repeatable, maximum three times.

MA 013 Topics in Intermediate Algebra Class 1, Cr. 0. P: consent of math department. A continuation of selected topics in intermediate algebra. Offered pass/not pass only. Repeatable, maximum three times.

MA 091 Professional Practicum I Cr. 0. P: Must be accepted for the program by the cooperative program coordinator. For Cooperative Education program students only.

MA 092 Professional Practicum II Cr. 0. P: 091. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

MA 093 Professional Practicum III Cr. 0. P: 092. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

MA 094 Professional Practicum IV Cr. 0. P: 93. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

MA 095 Professional Practicum V Cr. 0. P: 94. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

MA 101 Mathematics for Elementary Teachers I Cr. 3. P: 109 with a grade of C or higher or placement at or above the MA 113 level and one year of high school geometry. A teacher's perspective of the mathematics of the elementary school curriculum; in particular, mathematical problem solving, sets, numeration, and operations on the whole numbers.

MA 102 Mathematics for Elementary Teachers II Cr. 3. P: 101 with a grade of C or higher. A teacher's perspective of the mathematics of the elementary school curriculum, including operations on the integers and rationals, probability, and statistics.

MA 103 Mathematics for Elementary Teachers III Cr. 3. P: 102 with a grade of C or higher and one year of high school geometry. Geometry and measurement concepts appropriate for the elementary

school curriculum, including metric and nonmetric properties of geometric figures, measurement, coordinate geometry, graphs, and real-world applications of geometry.

MA 109 Elementary Algebra Cr. 3. Review of decimals, fractions, percents, and integers. Fundamentals of algebra, linear equations and inequalities, word problems, polynomials, factoring, graphs, exponents, quadratic equations, and rational expressions. No credit toward any degree at IPFW.

MA 113 Intermediate Algebra Cr. 3. P: 109 with a grade of C or higher or placement by departmental exam. Rational equations, functions, graphs of lines, slope, equations of lines, systems of equations in two variables, absolute value equations and inequalities, distance formula and midpoint formula, radical expressions and equations, rational exponents, quadratic equations and functions and their graphs, applications, and exponential and logarithmic equations and functions and their graphs. No credit toward any degree at IPFW.

MA 149 Basic and College Algebra Cr. 5. P: 109 with a grade of B or higher, or placement by departmental exam. A one-semester version of 113 and 153. Only 3 credits may be counted toward graduation in Arts and Sciences, Business and Management Sciences, or Public and Environmental Affairs.

MA 153 Algebra and Trigonometry I Cr. 3. P: 113 with a grade of C or higher or placement by departmental exam. Review of algebraic operations, factoring, exponents, radicals and rational exponents, and fractional expressions. Linear and quadratic equations and modeling, problem solving, and inequalities. Graphs of functions and transformations, including polynomial, rational, exponential, and logarithmic functions with applications.

MA 154 Algebra and Trigonometry II Cr. 3. P: 149 or 153 with a grade of C or higher or placement by departmental exam. Trigonometric functions and graphs, vectors, complex numbers, conic sections, matrices, and sequences.

MA 159 Precalculus Cr. 5. P: 113 with a grade of B or higher or placement by departmental exam. Algebra and trigonometry topics designed to prepare students for calculus.

MA 163H Honors Integrated Calculus and Analytic Geometry I Cr. 5. Honors equivalent of MA 165.

MA 164H Honors Integrated Calculus and Analytic Geometry II Cr. 5. P: 163H with a grade of C or higher. Honors equivalent of MA 166; continuation of MA 163H.

MA 165 Analytic Geometry and Calculus I Cr. 4. P: 154 or 159 with a grade of C or higher or placement by departmental exam. Introduction to differential and integral calculus of one variable, with applications. Conic sections.

MA 166 Analytic Geometry and Calculus II Cr. 4. P: 165 with a grade of C or higher. Continuation of MA 165. Vectors in two and three dimensions. Techniques of integration, infinite series, polar coordinates, surfaces in three dimensions.

MA 168 Mathematics for the Liberal Arts Student Cr. 3. P: 113 with a grade of C or higher or placement by departmental exam. A course for liberal arts students that shows mathematics as the language of modern problem solving. The course is designed around problems concerning management science, statistics, social choice, size and shape, and computer science. Applications in quality control, consumer affairs, wildlife management, human decision making, architectural design, political practices, urban planning, space exploration, and more may be included in the course.

MA 175 Introductory Discrete Mathematics Cr. 3. P: 165 or 153 and CS 160; or MA 153 and EET 264 with a grade of C or higher in each course. Sets, logical inference, induction, recursion, counting principles, binary relations, vectors and matrices, graphs, algorithm analysis.

MA 213 Finite Mathematics I Cr. 3. P: 149 or 153 with a grade of C or higher or placement by departmental exam. Basic logic, set theory. Elementary probability, Markov chains. Vectors, matrices, linear systems, elementary graph theory. Applications to finite models in the managerial, social, and life sciences; and computer science.

MA 227 Calculus for Technology I Cr. 4. P: 154 or 159 with a grade of C or higher or placement by departmental exam. Functions, derivatives, integrals. Applications to problems in the engineering technologies.

MA 228 Calculus for Technology II Cr. 3. P: 227 with a grade of C or higher. Continuation of 227. Further topics in differentiation and infinite series, integration. Introduction to infinite series, harmonic analysis, differential equations, and Laplace transforms. Applications to problems in the engineering technologies.

MA 229 Calculus for the Managerial, Social, and Biological Sciences I Cr. 3. P: 153 or 149 with a grade of C or higher or placement by departmental exam. Differential and integral calculus of one variable. Applications to problems in business and the social and biological sciences.

MA 230 Calculus for the Managerial, Social, and Biological Sciences II Cr. 3. P: 229 with a grade of C or higher. A continuation of 229 covering topics in elementary differential equations, calculus of functions of several variables, and infinite series.

MA 261 Multivariate Calculus Cr. 4. P: 166 with a grade of C or higher. Solid analytic geometry, vector calculus, partial derivatives, and multiple integrals.

MA 263 Multivariate and Vector Calculus Class 4, Cr. 4. P: 166 with a grade of C or higher. This course is primarily for students majoring in mathematics, but is appropriate for students majoring in engineering and the physical sciences who want a stronger background in vector calculus than is available in MA 261. Geometry of Euclidean space; partial derivatives, gradient; vector fields, divergence, curl; extrema, Lagrange multipliers; multiple integrals, Jacobian; line and surface integrals; theorems of Green, Gauss, and Stokes.

MA 275 Intermediate Discrete Math Cr. 3. P: 261 or 263. Formal logic, proof techniques, elementary number theory, mathematical induction, functions, recurrence relations, sets, combinatorics, elementary graph theory, and applications. Students may not count both MA 175 and MA 275 toward graduation.

MA 305 Foundations of Higher Mathematics Cr. 3. P: 166 and 175 with a grade of C or higher. Fundamental concepts used in higher courses, including logic and proof techniques, set theory, functions and relations, cardinality, number systems, the real numbers as a complete ordered field, and Epsilon-delta techniques.

MA 314 Introduction to Mathematical Modeling Cr. 3. P: CS 160 (or equivalent) knowledge of computer programming and at least one course in calculus, finite mathematics, or probability with grades of C or higher. This course is intended to be accessible to students outside the mathematical and physical sciences. Formulation of mathematical models for applications in the biological, physical, and social sciences. Discrete and continuous models employing random and nonrandom simulation will be studied, with projects selected to fit the background and interests of the students.

MA 321 Advanced Technical Mathematics Cr. 3. P: 228 with a grade of C or higher. Designed primarily for EET majors. Ordinary differential equations with emphasis on linear equations and their applications. Laplace transforms. Fourier series, and an introduction to partial differential equations and their applications. No credit for math majors.

MA 351 Elementary Linear Algebra Cr. 3. P: two semesters of calculus with grades of C or higher. Linear transformations, finite dimensional vector spaces, matrices, determinants, systems of linear equations, and applications to areas such as linear programming. Markov chains and differential equations.

MA 363 Differential Equations Cr. 3. P: 261 or 263, and 351 with grades of C or higher. First order differential equations, higher order linear differential equations, systems of first order equations, series solutions, integral transforms, introduction to partial differential equations: separation of variables, Fourier series, Sturm-Liouville equations.

MA 417 Mathematical Programming Cr. 3. P: 261 or 263 and one of: 262, 351 or 511 with grades of C or higher. This course is appropriate for majors in engineering, computer science, and mathematics. Construction of linear programming models; the simplex methods and variants, degeneracy and uncertainty in linear programming, gradient methods, dynamic programming, integer programming, principles of duality; two-person zero-sum, nonzero-sum, n-person, and cooperative games.

MA 418 Computations Laboratory for MA 417 Practice 2, Cr. 1. P: CS 160 or

CS 114; C: or P: 417. Implementation on digital computer of those appropriate algorithms created in class to solve mathematical programming problems.

MA 441 Real Analysis Cr. 3. P: 305. The theory of functions of a real variable; continuity, theory of differentiation and Riemann integration, sequences and series of functions, uniform convergence, interchange of limit operations.

MA 453 Elements of Algebra Cr. 3. P: 305 and 351. Fundamental properties of homomorphisms, groups, rings, integers, polynomials, fields.

MA 490 Topics in Mathematics for Undergraduates Cr. 1–5. (V.T.) Supervised reading and reports on approved topics in various fields.

Dual Level, Undergraduate-Graduate

MA 510 Vector Calculus Cr. 3. P: 261 or 263. Calculus of functions of several variables and of vector fields in orthogonal coordinate systems; optimization problems; the implicit function theorem; Green's, Stokes', and the Divergence theorems; applications to engineering and the physical sciences.

MA 511 Linear Algebra with Applications Cr. 3. P: 351. Real and complex vector spaces; linear transformations; Gram-Schmidt process and projections; least squares; QR and LU factorization; diagonalization, real and complex spectral theorem; Schur triangular form; Jordan canonical form; quadratic forms.

MA 521 Introduction to Optimization Problems Cr. 3. P: 510, and 351 or 511. Necessary and sufficient conditions for local extrema in programming problems and in the calculus of variations. Control problems, statement of maximum principles, and applications. Discrete control problems.

MA 523 Introduction to Partial Differential Equations Cr. 3. P: 266 or 366, 440 and 362 or 410 or 510. First-order quasi-linear equations and their application to physical and social sciences; the Cauchy-Kovalevsky theorem; characteristics, classification, and canonical form of linear equations; equations of mathematical physics; study

of the Laplace, wave, and heat equations; methods of solution.

MA 525 Introduction to Complex Analysis Cr. 3. P: 263, 441 or 510. Complex numbers and complex-valued functions of one variable; differentiation and contour integration; Cauchy's theorem; Taylor and Laurent series; residues; conformal mapping; applications.

MA 540 Analysis I Cr. 3. P: 441. Metric spaces, compactness and connectedness, sequences and series, continuity and uniform continuity, differentiability, Taylor's Theorem, Riemann-Stieltjes integrals.

MA 541 Analysis II Cr. 3. P: 540. Sequences and series of functions, uniform convergence, equicontinuous families, the Stone-Weierstrass Theorem, Fourier series, introduction to Lebesgue measure and integration.

MA 553 Introduction to Abstract Algebra Cr. 3. P: 453. Group theory: Sylow theorems, Jordan-Holder theorem, solvable groups. Ring theory: unique factorization in polynomial rings, and principal ideal domains. Field theory: straightedge and compass constructions, roots of unity, finite fields, Galois theory, and solubility of equations by radicals.

MA 554 Linear Algebra Cr. 3. P: 453. Review of basics: vector spaces, dimension, linear maps, matrices determinants, linear equations. Bilinear forms; inner product spaces; spectral theory; eigen values. Modules over a principal ideal domain; finitely generated abelian groups; Jordan and rational canonical forms for a linear transformation.

MA 556 Introduction to the Theory of Numbers Cr. 3. P: 263 or 261. Divisibility, congruences, quadratic residues, Diophantine equations, the sequence of primes.

MA 560 Fundamental Concepts of Geometry Cr. 3. P: 305. Foundations of Euclidean geometry, including a critique of Euclid's Elements and a detailed study of an axiom system such as that of Hilbert. Independence of the parallel axiom and introduction to non-Euclidean geometry.

MA 571 Elementary Topology Cr. 3. P: 441. Fundamentals of point-set topology with a brief introduction to the fundamental group and related topics; topological and metric spaces; compactness and

connectedness; separation properties; local compactness; introduction to function spaces; basic notions involving deformations of continuous paths.

MA 575 Graph Theory Cr. 3. P: 305 or 351. Introduction to graph theory with applications.

MA 580 History of Mathematics Cr. 3. P: two semesters of calculus and MA 305 or permission of instructor. The origins of mathematical ideas and their evolution over time, from early number systems and the evolution of algebra, geometry, and calculus to 20th-century results in the foundations of mathematics. Connections between mathematics and society, including the role of applications in the development of mathematical concepts.

MA 581 Introduction to Logic for Teachers Cr. 3. P: 351 or consent of instructor. Sentential and general theory of inference and nature of proof, elementary axiom systems.

MA 598 Topics in Mathematics Cr. 1–5. (V.T.) Supervised reading courses as well as dual-level special topics courses are given under this number.

Statistics

STAT 125 Communicating with Statistics Cr. 3. P: MA 109 with a grade of C or higher. An introduction to the basic concepts and methods in statistical reasoning that are commonly referenced in the print media. Topics include data collection methods, descriptive statistics, basic techniques of estimation, and theory testing. Students will analyze and interpret statistics relating to contemporary problems in politics, business, science and social issues.

STAT 240 Statistical Methods for Biology Cr. 3. P: MA 149 or MA 153 with a grade of C or higher. An introduction to the basic concepts and methods in a statistical analysis, with emphasis on applications in the life sciences. Descriptive statistics, discrete and continuous distributions, confidence interval estimation, hypothesis testing, and contingency tables.

STAT 301 Elementary Statistical Methods I Cr. 3. P: MA 149 or MA 153 or MA 168 with a grade of C or higher. Not open to majors in mathematics or engineering. Credit should be allowed in no

more than one of STAT 301, 350, 433, 501, 503, or 511. Introduction to statistical methods with applications to diverse fields. Emphasis on understanding and interpreting standard techniques. Data analysis for one and several variables, design of samples and experiments, basic probability, sampling distributions, confidence intervals and significance tests for means and proportions, correlation and regression. Software is used throughout.

STAT 340 Elementary Statistical Methods II Cr. 3. P: 240, 301, ECON 270, PSY 201 (or equivalent), one semester statistics course with a grade of C or higher. Statistical methods of simple linear regression, multiple linear regression, experimental design, analysis of variance, and nonparametric analysis. One or more statistical computer programs will be used. Student projects required, typically using data from the student's major.

STAT 490 Topics in Statistics for Undergraduates Cr. 1–5. (V.T.) Directed study for students who wish to undertake individual reading on approved topics.

Dual Level, Undergraduate-Graduate

STAT 511 Statistical Methods Cr. 3. P: two semesters of calculus with a grade of C or higher. Descriptive statistics; elementary probability; sampling distributions; inference, testing hypotheses, and estimation; normal, binomial, Poisson, hypergeometric distributions; one-way analysis of variance; contingency tables; regression.

STAT 512 Applied Regression Analysis Cr. 3. P: 511 or 517 or 528 with a grade of C or higher. Inference in simple and multiple linear regression, residual analysis, transformations, polynomial regression, model building with real data, nonlinear regression. One-way and two-way analysis of variance, multiple comparisons, fixed and random factors, analysis of covariance. Use of existing statistical computer programs.

STAT 514 Design of Experiments Cr. 3. P: 512 with a grade of C or higher. Fundamentals, completely randomized design; randomized complete blocks; latin square; multi-classification; factorial; nested factorial; incomplete block and

fractional replications for $2n$, $3n$, $2m \times 3n$; confounding; lattice designs; general mixed factorials; split plot; analysis of variance in regression models; optimum design. Use of existing statistical programs.

STAT 516 Basic Probability and

Applications Cr. 3. P: MA 261, MA 263 with a grade of C or higher. A first course in probability intended to serve as a background for statistics and other applications. Sample spaces and axioms of probability, discrete and continuous random variables, conditional probability and Bayes' theorem, joint and conditional probability distributions, expectations, moments and moment generating functions, law of large numbers and central limit theorem. (The probability material in Course 1 of the Society of Actuaries and the Casualty Actuarial Society is covered by this course.)

STAT 517 Statistical Inference Cr. 3.

P: 516 with a grade of C or higher. A basic course in statistical theory covering standard statistical methods and their application. Estimation including unbiased, maximum likelihood and moment estimation; testing hypotheses for standard distributions and contingency tables; confidence intervals and regions; introduction to nonparametric tests and linear regression.

STAT 519 Introduction to Probability

Cr. 3. P: MA 510 with a grade of C or higher or C: MA 441. Algebra of sets, sample spaces, combinatorial problems, independence, random variables, distribution functions, moment generating functions, special continuous and discrete distributions, distribution of a function of a random variable, limit theorems.

STAT 528 Introduction to Mathematical

Statistics Cr. 3. P: 519 with a grade of C or higher. Distribution of mean and variance in normal samples, sampling distributions derived from the normal distribution, Chi square, t and F . Distribution of statistics based on ordered samples. Asymptotic sampling distributions. Introduction to multivariate normal distribution and linear models. Sufficient statistics, maximum likelihood, least squares, linear estimation, other methods of point estimation, and discussion of their properties. Cramer-Rao inequality and Rao-Blackwell theorem. Tests of statistical hypotheses, simple and composite hypotheses, likelihood ratio tests, power of tests.

Materials Engineering (MSE),
see Engineering

Mechanical Engineering (ME),
see Engineering

Mechanical Engineering Technology (MET)

MET 104 Technical Graphics

Communications Class 2, Lab. 3, Cr. 3.

C: MA 159 or 153. An introduction to the graphic language used to communicate design ideas using CAD. Topics include sketching, multiview drawings, auxiliary views, pictorial views, working drawings, dimensioning practices, and section views.

MET 106 Analytical and Computational Tools in MET Class 1, Lab 2, Cr. 2.

Introduction to analytical and computational problem-solving techniques. The electronic calculator, the factor-label method of unit conversions, engineering graphs, and the computer are used to solve problems. Computer emphasis is on spreadsheet analysis, graphics, and generation of technical reports through the integrated use of software packages.

MET 180 Materials and Processes Class 2, Lab. 2, Cr. 3.

P: 106; C: MA 159 or 153. Application and characteristics, both physical and chemical, of the materials most commonly used in industry; the mechanical processes by which materials may be shaped or formed.

MET 201 Statics, Stress, and Strain

Class 3, Cr. 3. P: MA 159. Force and moment systems, resultants and equilibrium; trusses, frames, beams; friction; properties of areas; stress, strain, axial systems.

MET 202 Strength of Materials Class 3,

Cr. 3 P: MET 201. Principles of applied strength of materials, primarily with reference to mechanical design.

MET 216 Machine Elements Class 4, Cr. 4.

P: 202, 223, CS 114, STAT 301; C: 335. The design and analysis of machine components with emphasis on safety factors based on various failure theories in consideration of fluctuating loads, stress concentration, and other factors affecting failure. A study of standard machine elements such as brakes, clutches, belts, chains, gears, screws, springs, and bearings; their application,

operational behavior, efficiency, economy, and standardization.

MET 223 Introduction to Computer-Aided Modeling and Design Class 2, Lab. 3,

Cr. 3. P: 104, 106. An introduction to computer-aided modeling and design (CAMD) with hands-on experience in the operation of an interactive computer graphics system. Generation of 3-D computer models and preparation of working drawings including geometric dimensioning and tolerancing.

MET 247 Computer-Aided Tool and Fixture Design Class 2, Lab. 3, Cr. 3.

P: 223; C: 202. Tool design methods; tooling materials and heat treatment; design of cutting tools; gage design; design of drill jigs and fixtures; tool design for NE and CNC machines; tool design on the CAD system. Term projects using the CAD system are required.

MET 275 Industrial Practice I Cr. 1.

P: admission to the Cooperative Education program. Practice in industry and written reports of this practice for co-op students.

MET 276 Industrial Practice II Cr. 1.

P: 275. Practice in industry and written reports of this practice for co-op students.

MET 295 Industrial Practicum Cr. 1.

For full-time students who have completed one year of study. Practical problems in local industry limited to about 10 hours per week for which the student receives some remuneration. May be repeated.

MET 299 Mechanical Engineering

Technology Cr. 1-3. (V.T.) Independent project laboratory work is conducted under the supervision of appropriate MET faculty. Hours and subject matter must be arranged by instructor and approved by MET Curriculum Subcommittee.

MET 300 Applied Thermodynamics

Class 3, Cr. 3. P: MA 227, PHYS 218. The fundamentals of thermodynamics including application of the first and second laws, enthalpy, entropy, reversible and irreversible processes.

MET 312 Dynamics and Mechanisms

Class 3, Cr. 3. P: 201, MA 227, PHYS 218. The slider crank, four-bar linkage and Scotch Yoke mechanisms along with cam and follower systems will be studied. Both the kinematics and dynamics of the mechanisms will be covered. Dynamic

studies will include both Newton's Second Law and energy methods.

MET 330 Introduction to Fluid Power Class 2–3, Lab. 0–2, Cr. 3. P: MA 159. A study of the development, transmission, and utilization of power through fluid power circuits and controls.

MET 335 Basic Machining Class 2, Lab. 3, Cr. 3. P: 104, 180, PHYS 218. A comprehensive survey of machine tools as they are used in converting workpieces into finished products with consideration of cost, quality, quantity, and interchangeability and safety requirements. Actual operation analysis of many machine tools set-ups will be provided for comparison studies.

MET 347 Computer Numerical Control Class 2, Lab. 3, Cr. 3. P: ECET 114 (or equivalent) programming course, 335, C: 223. Study of fundamental concepts in computer numerical control (CNC) technology. Cutter centerline programming, cutter diameter compensation, tool nose radius (TNR) compensation, coordinate transformation, canned cycles, subprograms, user macros. The lab includes programming and operation of CNC turning and milling machines, CAD/CAM programming, and integration of design and manufacturing through computer network.

MET 350 Applied Fluid Mechanics Class 2–3, Lab. 0–2, Cr. 3. P: PHYS 218. The fundamentals of fluid mechanics including properties of fluid, pressure, hydrostatic force on submerged areas; kinematics and dynamics of fluid flow; friction losses and sizing of pipe.

MET 360 Heating, Ventilating, and Air Conditioning Class 2–3, Lab. 0–2, Cr. 3. P: 300. A study of heat losses, heat-producing equipment, and cooling equipment in addition to the design of the direct systems. Includes controls and cost-estimating for commercial, industrial, and residential systems. Codes and standards are emphasized throughout the course.

MET 375 Industrial Practice III Cr. 1. P: 276. Practice in industry and written reports of this practice for co-op students.

MET 376 Industrial Practice IV Cr. 1. P: 375. Practice in industry and written reports of this practice for co-op students.

MET 381 Engineering Materials Class 3, Cr. 3. P: 180. C: CHM 111. Applications and characteristics of engineering

materials used in industry with special emphasis on plastics and other nonferrous materials such as elastomers, composites, ceramics, and glass, including a survey of the processes involved. Also, metallurgy, failure analysis, corrosion resistance, and surface treatments of metallic and nonmetallic materials.

MET 475 Industrial Practice V Cr. 1–2. P: 376. Practice in industry and written reports of this practice for co-op students.

MET 487 Instrumentation and Automatic Control Class 2, Lab. 2, Cr. 3. P: junior class standing, 216. Instrumentation for pressure, temperature, velocity, rpm, strain, force, displacement, acceleration, counting, and sound will be studied. Automatic control will be studied covering topics of on-off and proportional control, programmable controllers, and computer control.

MET 494 Senior Design and Analysis Class 3, Cr. 3. P: senior class standing. This course will focus on mechanical design, finite element analysis, environmental concerns, and/or ethical challenges. Technical reports will be written and one will involve an oral presentation.

MET 499 Mechanical Engineering Technology Class 0–3, Lab. 2–6, Cr. 1–6. (V.T.) Hours and subject matter to be arranged by staff.

Medical Technology, see Clinical Laboratory Sciences

MET, see Mechanical Engineering Technology

MSE (Materials Engineering), see Engineering

Music (MUS)

Applied Music

Elective (100) level: Work for students will be outlined by the instructor to meet individual needs and aims, evaluation will be based upon quality and content of work covered.

Secondary (200) level: Designed to give the student certain proficiencies so that the student may use this application as a tool rather than as a medium for performance.

Concentration (300) level: Music majors only. A student concentrating in a specific music performance area is expected to show evidence of considerable prior study and to give a half-recital. By recital time the student is expected to have attained levels reached by the applied music major at the end of the sophomore year.

Major (400) level: Music majors only. A student majoring in applied music must show talent for solo performance before being admitted to the curriculum and must give a junior and senior recital.

MUS A410 Violin Undergraduate Major Cr. 1-6.

MUS A420 Viola Undergraduate Major Cr. 1-6.

MUS B110–B410 French Horn Cr. 2, 2, 1–2, 2.

MUS B410 Horn Undergraduate Major Cr. 1-6.

MUS B120–B420 Trumpet and Cornet Cr. 2, 2, 1–2, 5-6.

MUS B420 Trumpet and Cornet Undergraduate Major Cr. 1-6

MUS B130–B430 Trombone Cr. 2, 2, 1–2, 2.

MUS B430 Trombone Undergraduate Major Cr. 1-6.

MUS B140–B440 Baritone Horn Cr. 2, 2, 1–2, 2.

MUS B440 Euphonium Undergraduate Major Cr. 1-6

MUS B150–B450 Tuba Cr. 2, 2, 1–2, 2.

MUS D100–D400, D700 Percussion Cr. 2, 2, 1–2, 2. 700 (2–4).

MUS H100–H300 Harp Cr. 2, 2, 1–4.

MUS L100–L300 Guitar Cr. 2, 2, 1–4.

MUS P100–P800 Piano Cr. 2, 2, 1–2, 2; 700 (2), 800 (1–6).

MUS P400 Piano Undergraduate Major Cr. 1-6.

MUS Q100–Q300 Organ Cr. 2, 2, 1–2, 2; 700 (2).

MUS S110–S810 Violin Cr. 2, 2, 1–2, 2; 710 (2), 810 (1–6).

MUS S120–S820 Viola Cr. 2, 2, 1–2, 2; 820 (1–6).

MUS S130–S830 Cello Cr. 2, 2, 1–2, 2; 730 (2), 830 (1–6).

MUS S430 Cello Undergraduate Major Cr. 1-6.

MUS S140–S440 String Bass Cr. 2, 2, 1–2, 2.

MUS S440 Double Bass Undergraduate Major Cr. 1-6.

MUS V100–V800 Voice Cr. 2, 2, 1–2, 2; 700 (2), 800 (1–6).

MUS W110–W410, W710 Flute and Piccolo Cr. 2, 2, 1–2, 2, (710) 2.

MUS W320 Oboe and English Horn Cr. 1-2 P: Audition or prior enrollment.

MUS W410 Flute and Piccolo Undergraduate Major Cr. 1-6.

MUS W420 Oboe and English Horn Undergraduate Major Cr. 1-6.

MUS W430 Clarinet Undergraduate Major Cr. 1-6.

MUS W440 Bassoon Undergraduate Major Cr. 1-6.

MUS W450 Saxophone Undergraduate Major Cr. 1-6.

MUS W120–W420 Oboe and English Horn Cr. 2, 2, 1–2, 2.

MUS W130–W730 Clarinet Cr. 2, 2, 1–2, 2; 730 (2).

MUS W140–W440 Bassoon Cr. 2, 2, 1–2, 2.

MUS W150–W750 Saxophone Cr. 2, 2, 1–2, 2, 750 (2).

Recitals

Baritone Horn Recital: Senior concentration, MUS B341; junior major, MUS B441; senior major, MUS B442.

Bassoon Recital: Senior concentration, MUS W341; junior major, MUS W441; senior major, MUS W442.

Cello Recital: Senior concentration, MUS S331; junior major, MUS S431; senior major, MUS S432.

Clarinet Recital: Senior concentration, MUS W331; junior major, MUS W431; senior major, MUS W432.

Flute and Piccolo Recital: Senior concentration, MUS W311 P: W310; junior major, MUS W411; senior major, MUS W412.

French Horn Recital: Senior concentration, MUS B311; junior major, MUS B411; senior major, MUS B412.

Guitar Recital: Senior concentration, MUS L301.

Harp Recital: Senior concentration, MUS H301.

Oboe and English Horn Recital: Senior concentration, MUS W321 P: W320; junior major, MUS W421; senior major, MUS W422.

Organ Recital: Senior concentration, MUS Q301.

Percussion Recital: Senior concentration, MUS D301; junior major, MUS D401; senior major, MUS D402.

Piano Recital: Senior concentration, MUS P301; junior major, MUS P401; senior major, MUS P402.

Saxophone Recital: Senior concentration, MUS W351; junior major, MUS W451; senior major, MUS W452.

String Bass Recital: Senior concentration, MUS S341; junior major, MUS S441; senior major, MUS S442.

Trombone Recital: Senior concentration, MUS B331; junior major, MUS B431; senior major, MUS B432.

Trumpet Recital: Senior concentration, MUS B321; junior major, MUS B421; senior major, MUS B422.

Tuba Recital: Senior concentration, MUS B351; junior major, MUS B451; senior major, MUS B452.

Viola Recital: Senior concentration, MUS S321; junior major, MUS S421; senior major, MUS S422.

Violin Recital: Senior concentration, MUS S311; junior major, MUS S411; senior major, MUS S412.

Voice Recital: Senior concentration, MUS V301; junior major, MUS V401; senior major, MUS V402.

Other Courses

MUS E193–E194 Piano Pedagogy I–II Cr. 2–2. Consent of instructor. E193 is P: for E194. Observation and assistance in piano classes for young students. Class discussion will involve evaluation of teaching; readings from pedagogical literature and on the business of music; survey of methods, teaching materials, and

literature. Both courses involve one hour of observation per week.

MUS E253 Functional Music Skills Cr. 2. P: permission of instructor. Required for music therapy majors. Basic strumming, picking, and chording of the guitar with emphasis on the use of the guitar as an accompaniment instrument in music therapy, education, and recreational settings. Includes song leadership skills for groups.

MUS E293–E294 Piano Pedagogy III–IV Cr. 2–2. P: E194. Class meetings cover assigned readings, teaching techniques, and materials. Editions and business practices. Students assist and teach in class piano labs, and teach three private students in the preparatory program.

MUS E353 Orff Techniques for Music Therapy and Special Education Cr. 1–6. P: X299, E 253, U353, or permission of instructor. Music therapy majors only. Techniques of using music, movement, dance, and improvisation in music therapy situations. Emphasis on adaptation of Orff music education techniques for use with special populations and inclusive classrooms. Includes integration of Orff skills with other music therapy techniques, including the Nordoff and Robbins creative piano approach.

MUS E400 Undergraduate Readings in Music Education Cr. 1–6. P: X297, permission of instructor. Examination of current topics relevant to the field of music education as found in the professional literature. Sample topics include teaching competencies, curricular content, choral and instrumental techniques, and innovative methodology.

MUS E459 Instrumental Pedagogy Cr. 1-3. Pedagogy classes pertaining to the individual instruments.

MUS E490 Psychology of Music Teaching Cr. 3. For all undergraduate applied music majors. Principles of the psychology of music, growth, development, and learning; the implications of teaching music.

MUS E493 Piano Pedagogy Cr. 2-3. P: consent of instructor. Required of senior piano majors. Methods and materials for teaching individuals and class on the intermediate and advanced levels.

MUS E494 Voice Pedagogy Cr. 3. P: consent of instructor. Survey and

analysis of various aspects of vocal pedagogy, including the physiology of the vocal mechanism, vocal terminology, teaching methods, vocal health, and the relationship of the singing process to vocal artistry. Class will include student presentations, teaching demonstrations, and lab experience.

MUS F316 Jazz Arranging I Cr. 3.
Scoring and arranging for jazz ensembles.

MUS F321 Jazz Improvisation Cr. 2.
P: T114. Theory and techniques of jazz improvisation with emphasis on functional harmony, melodic form, special scales, tune studies, ear training, and development of style.

MUS G261 String Techniques Cr. 1-2.
Class instruction and teaching methods for developing proficiency on violin, viola, violoncello, and double bass.

MUS G272 Clarinet and Saxophone Techniques Cr. 1-2. Class instruction for developing proficiency on clarinet and saxophone. Study of methods and materials for teaching these two instruments in class or private lessons.

MUS G281 Brass Instrument Techniques Cr. 1-2. Class instruction for developing proficiency on trumpet, French horn, trombone, euphonium, and tuba. Study of methods and materials for teaching brass instruments in class or private lessons.

MUS G337 Woodwind Techniques Cr. 1-2. Class instruction and teaching methods for flute, oboe and bassoon.

MUS G338 Percussion Techniques Cr. 1-2. Class instruction to learn the rudiments of snare drum, tympani, and mallet instruments. Study of methods and materials for teaching percussion instruments in class or private lessons.

MUS G370 Techniques for Conducting Cr. 2. P: T214, T216 and X296. Introduction to philosophy and fundamentals of conducting. Score preparation, baton and hand gestures for the right hand and use of left hand; all standard meters and time patterns: varying dynamics, accents, musical characteristics and styles.

MUS G371 Choral Conducting I Cr. 2.
P: G370. Further development of basic conducting technique with a concentration on choral concepts. Emphasis on period style elements, analytical listening, aspects of choral tone, text analysis, score preparation, rehearsal planning, vocal

techniques, and other advanced problems in choral conducting. Conduct representative works from varying style periods.

MUS G373 Instrumental Conducting Cr. 2. P: G370. Further development of score reading and conducting techniques. Emphasis on experience conducting live instrumental ensembles.

MUS K131-K132 Composition Workshop I-II Cr. 1-1. P: T113, T115 or consent of instructor. Elementary compositional procedures.

MUS K312 Arranging for Instrumental and Vocal Groups Cr. 2. P: T214, T216, U109. Fundamentals of orchestrations, arranging and scoring for orchestra, band, and chorus.

MUS K416 Jazz Arranging I Cr. 3.
Arranging and scoring for various jazz ensembles.

MUS L153 Introduction to Music Therapy Cr. 3. Introduction to the influence of music on behavior, the healing properties of music, the use of music therapy with a variety of populations, and the development of the music therapy profession. Includes an introduction to the clinical process and music therapy procedures as well as participation in experiential activities and observations of music therapy sessions. *Approved general education course in artistic expression.*

MUS L253 Music Therapy Observation Practicum Cr. 1. P: L153. Observation of professional music, recreation, and occupational therapy groups in a variety of settings with client populations of varying needs.

MUS L254 Music Therapy Practicum I Cr. 1. P: X298, concurrent enrollment in L420. Students provide services to individual client's music therapy assessments. Two or more hours per week and attendance at weekly seminar. May be repeated. Liability insurance required.

MUS L340 Music Therapy in Healthcare Settings Cr. 3. P: L153 or permission of instructor. Study of music therapy methods and materials commonly used in assessment and treatment with adults and children in healthcare settings with an emphasis on older adult and rehabilitation services, wellness and stress management, pain management, and spiritual issues.

MUS L353 Music Therapy Practicum II Cr. 1. P: L254; continuation of L254.

Students provide music therapy services to an individual client or group with emphasis on developing treatment interventions and plans. Two or more hours per week and attendance at a weekly seminar. May be repeated. Liability insurance required.

MUS L354 Music Therapy Practicum III Cr. 1. P: L353. Students provide music therapy services to a group of clients in a local agency with an emphasis on assessment, treatment, planning, and evaluation. Involves three or more hours per week and attendance at a weekly seminar. May be repeated. Liability insurance required.

MUS L410 Administrative and Professional Issues in Music Therapy Cr. 3.
P: L340 or L420. Study of government and professional guidelines that influence music therapy services and documentation practice. Includes development of administrative skills such as proposal writing, public relations, budgeting, staff relationships, interviewing, program development, and professional standards and ethics.

MUS L418 Psychology of Music Cr. 3.
P: junior standing or permission of instructor. Introduction to the physical, psychological, and physiological aspects of sound and music. Survey of the theories related to sound production, acoustics, music perception and learning, and the effects of sound and music on the behavior of humans. Overview of music psychology research, and the scientific method and research techniques.

MUS L419 Introduction to Music Therapy Research Methods Cr. 3.
Overview and implementation of research methods, statistics, and techniques applied to psychology of music principles. Includes completion of experimental project related to psychology of music or musical behaviors.

MUS L420 Clinical Processes in Music Therapy Cr. 3. P: L153 or consent of instructor. Overview of the influence of music on behavior and the use of music in treatment plans with clients. Includes principles of behavior therapies as they apply to the music therapy clinical treatment process.

MUS L421 Music Therapy Practicum IV Cr. 1. P: L354. Students provide music therapy services in a hospice or medical

setting with an emphasis on conducting music therapy in a single-session format. Involves three or more hours per week and attendance at a weekly seminar. May be repeated. Liability insurance required.

MUS L422 Music Therapy Theories and Techniques Cr. 3. P: L420 or consent of instructor. Study of philosophies, theories, and techniques of various music therapy, music education, and counseling models including Analytic, Creative, and Orff music therapy. Emphasis on the integration of models to develop personal philosophies and theories of music therapy practice.

MUS L423 Advanced Music Therapy Practicum Cr. 1–3. P: L353 and permission of the music therapy director. Completion of L340 and/or L410 recommended. An advanced, intensive field work course where students provide two or three hours of clinical music therapy services in a community agency. May involve program planning, techniques development, and/or a research project. Development of a learning contract is expected. Liability insurance required.

MUS L424 Music Therapy Internship Cr. 1-2. P: All degree course work must be completed prior to registration. Acceptance to internship program required prior to registration. A six-month internship completed under the supervision of a professional and credentialed music therapist at an AMTA-approved clinical site. This course must be completed within two years of all academic work. Internship is completed after all degree course work is completed and before conferring of the degree. Liability insurance required.

MUS M201 Music Literature I Cr. 2. P: T114 or consent of instructor. Survey of music from classical antiquity to 1750. Designed to develop a perspective on the evolution of music in its socio-cultural milieu, a repertoire of representative compositions, and a technique for listening analytically.

MUS M202 Music Literature II Cr. 2. P: M201 with grade of C or better or consent of instructor. Survey of music from the classical era to the present. Designed to develop a perspective on the evolution of music in its socio-cultural milieu, a repertoire of representative compositions, and a technique for listening analytically.

MUS M216 Music Education Lab/Field Experience Cr. 0. Taken concurrently with M236. Field experiences and observations in vocal and instrumental music program K–12.

MUS M236 Introduction to Music Education Cr. 2. An overview of the music education profession, including the study of philosophical and historical foundations of music teaching and learning. Includes examination of curriculum and current issues in music education.

MUS M317 Music Education Lab/Field Experience Cr. 0. Taken concurrently with M337. Field experiences and observations in instrumental music education.

MUS M318 Music Education Lab/Field Experience Cr. 0. Taken concurrently with M338. Field experiences and observations in choral music education.

MUS M319 Music Education Lab/Field Experience Cr. 0. Taken concurrently with M339. Field experiences and observations in elementary general music.

MUS M337 Methods and Materials for Teaching Instrumental Music Cr. 2. P: T214, T216, X296, X297, X299; three of the following: G261, G272, G281, G337, G338. Must be taken concurrently with M317. Development and organization of instrumental music programs, including methods, and materials, rehearsal techniques, and a survey of band and orchestra literature.

MUS M338 Methods and Materials for Teaching Choral Music Cr. 2. P: T214, T216, V201(if applicable), X296, X297, X299. Must be taken concurrently with M318. Development and organization of administration of choral music programs in the middle and secondary school. Emphasis on auditioning and placement, vocal production, rehearsal techniques, and appropriate choral literature.

MUS M339 General Music Methods K–8 Cr. 2. P: T214, T216, V201(if applicable), X296, X297, X299. Must be taken concurrently with M319. The study of curriculum, methods, and materials for the elementary general music program. Includes sequential planning of lessons, introduction to important methodologies, and directing the elementary-age choir.

MUS M400 Undergraduate Readings in Musicology Cr. 1–4. P: Consent of

instructor. Guided readings in selected topics in music history and research.

MUS M403 History of Music I Cr. 3. P: X296, M201, M202 (or equivalent), T214, and ENG W131. Study of music from the beginnings of Western civilization to 1700. Analysis of representative compositions; relationship of music to the socio-cultural background of each epoch.

MUS M404 History of Music II Cr. 3. P: M403. Study of music from 1700 to the present. Analysis of representative compositions; relationship of music to the socio-cultural background of each epoch.

MUS M411 History of Music in the Americas Cr. 3. P: M201, M202. Music in relation to culture and society in the western hemisphere, 16th century to present. Style analysis of representative works.

MUS M431 Song Literature Cr. 3. Musical, historical, and interpretive study of songs and arias from the Western art tradition. Class will consist of lectures, listening, and in-class performances.

MUS M443 Survey of Keyboard Literature Cr. 2-3. P: M404. Study of keyboard literature from its beginnings to the present. Emphasis on works originally composed for piano.

MUS M445 Instrumental Literature Cr. 2-3. P: M202, M404 or concurrent enrollment. Survey of symphonic literature from the Classic Era to the present and Chamber literature from the Baroque Era to the present.

MUS N101 Music for the Listener—Honors Cr. 3. Survey course designed to introduce non-music major to materials, history, and literature of Western art music from the earliest times to present. Emphasis upon developing listening skills and an awareness of different musical styles through study of major works of outstanding composers of each historical period.

MUS P110 Piano Class, Non-music Majors Cr. 1-2. Class piano for beginning piano students who are not music majors.

MUS P111 Class Piano I Cr. 2. Concurrent enrollment in MUS T113. Music majors only. Preparation of students other than keyboard concentrations/majors in the skills necessary for the Keyboard Proficiency Examination. Six sequential packets prepare the students to meet the

requirements of the exam (see X299). Three performance examinations during the semester evaluate poise, facility, and general musicianship at the keyboard.

MUS P121 Class Piano II Cr. 2. P: P111, T113. Music majors only. Preparation of students other than keyboard concentrations/majors in the skills necessary for the Keyboard Proficiency Examination. Six sequential units prepare the students to meet the requirements of the exam (see X299). Three performance examinations during the semester evaluate poise, facility, and general musicianship at the keyboard.

MUS P131 Class Piano III Cr. 2. P: P121 and T114, or placement examination (including transfer students). Continuation of Keyboard Proficiency work, passing the individual items on the examination during the semester. Three performance examinations during the semester evaluate poise, facility, and general musicianship at the keyboard.

MUS P141 Class Piano IV Cr. 2. P: P131 or placement examination (including transfer students) for students only who have completed at least five items on the Keyboard Proficiency Examination. Simultaneous enrollment in X299 (Cr. 0) with the permission of the instructor. Individual study, with students remaining enrolled in this level until the examination requirements are met.

MUS P210 Keyboard Skills Cr. 1-2. For music education and music therapy students. Extended study in materials and effective performance skills for these professions.

MUS P211 Keyboard Techniques Cr. 2. P: T114. C: X299. Music majors only. Preparation of the functional skills necessary on the keyboard proficiency examination. Consent of instructor required.

MUS R151 Introduction to Musical Theatre Cr. 2. Study of music theatre from beginning to present. Basic skills in all areas for production of a musical in high school, community, and college.

MUS R453 Project in Opera Stage Direction Cr. 1. Staging for public performance of one-act opera with piano accompaniment and minimal decor.

MUS T109 Rudiments of Music I Cr. 2-4. Fundamentals of notation, ear training,

music reading. Grade of B or better required for admission into T113 and T115.

MUS T113 Music Theory I Cr. 3. P: T109 with a B or better or placement examination. Required for all music majors. Study of the elements of basic musicianship; intervals, scales, triads, rhythm and meter, music nomenclature, rudiments of two-part writing and diatonic harmony.

MUS T114 Music Theory II Cr. 3. P: T113 or placement examination. Required for all music majors. Continuation of the study of harmony in context with four-part writing, diatonic harmony, secondary functions and modulation. Examination of musical forms and structures. Emphasis on musical analysis and compositional applications.

MUS T115 Sightsinging and Aural Perception I Cr. 1. P: Music major or instructor's consent. Must be taken concurrently with T113. Required of all music majors. Introduction to solfeggio. Development of basic music dictation and sight-singing skills through the use of diatonic melodic and harmonic examples.

MUS T116 Sightsinging and Aural Perception II Cr. 1. P: T115 Must be taken concurrently with T114. Required of all music majors. Further development of music dictation and sight-singing skills through the use of more extended melodic and harmonic examples.

MUS T213 Music Theory III Cr. 3. P: T114. Required of all music majors. Historical survey of the elements, forms, and aesthetics of musical styles through written analysis, listening examples, and structured composition activities. Medieval through classical sonatas, including the entire harmonic vocabulary of the Common Practice Era.

MUS T214 Music Theory IV Cr. 3. P: T213. Required of all music majors. Historical survey of the elements, forms, and aesthetics of musical styles through written analysis, listening examples, and structured composition activities. Classical through 20th century.

MUS T215 Sightsinging and Aural Perception III Cr. 1. P: T114, T116. Must be taken concurrently with T213. Required of all music majors. Music dictation and sight-singing of chromatic melodic and harmonic materials and modulation.

MUS T216 Sightsinging and Aural Perception IV Cr. 1. P: T213, T215. Must be taken concurrently with T214. Required of all music majors. Music dictation and sight-singing of extended examples as well as 20th century melodic and harmonic elements.

MUS T315 Analysis of Musical Form Cr. 3. P: T214, T216, M202, X296. Analysis of formal and harmonic structure of representative Baroque, Classical, and early Romantic compositions.

MUS T400 Undergraduate Readings in Theory Cr. 1-6. P: consent of instructor.

MUS U109 Computer Skills for Musicians Cr. 2. (V.T.) Computer music notation systems and the use of word processing, graphics, database, and other computer programs in music research and teaching.

MUS U233 Applied French Diction for Singers Cr. 1. Drill on phonetics and application to song and opera.

MUS U243 Applied German Diction for Singers Cr. 1. Drill on phonetics and application to song and opera.

MUS U253 Applied Italian Diction for Singers Cr. 1. Drill on phonetics and application to song and opera.

MUS U354 Introduction to Creative Arts Therapies Cr. 3. P: one course in the creative or expressive arts or permission of instructor. Overview of the use of nonverbal and creative arts therapies throughout the lifespan. Includes art, drama, dance, music, and poetry.

MUS U355 Music in Recreation and Special Education Cr. 2-3. P: E153 or the equivalent experience; sophomore standing or the permission of the instructor. Basic accompaniment skills on the autoharp, guitar, or piano are desirable prerequisites. Introduction to using therapeutic and recreational music activities with individuals who have special needs. Includes development of skills in planning and adapting music activities for specific goals, sequencing and leading music experiences, and structuring experiences to facilitate participant success.

MUS U356 Creative Arts and Early Childhood Cr. 3. P: Completion of Z241 or the equivalent recommended but not required. Overview of the use of creative arts and action-oriented activities in early

childhood and special education settings. Includes practice in creating, planning, and leading arts-based activities on the enhancement of communication, academic, motor, and social-emotional skills.

MUS U361 English Diction for Singers

Cr. 1. Drill on phonetics with application to song and opera.

MUS U410 The Creative Arts, Health, and Wellness Cr. 3.

P: Sophomore standing and completion of one course in artistic expression or the equivalent or permission of instructor. Overview of the use of creative arts and action-oriented experiences throughout the lifespan. Involves the study of creativity and applications designed to facilitate healthy living practices, wellness, and personal growth from a humanistic perspective. Students will create, design, and lead creative arts experiences by the semester's end. No artistic performances are required.

MUS V201 Voice Class Cr. 1. Class instruction on vocal production and vocal hygiene. A repertoire of patriotic, religious, folk, musical theatre, and art songs will be developed.

MUS X002 Piano Accompanying Cr. 1–2.

P: Consent of instructor. Study of the art and practice of accompanying singers and instrumentalists. Areas covered include sight-reading, ensemble playing, coaching techniques, style and interpretation, transposition, and score reading.

MUS X040 University Instrumental Ensembles Cr. 1.

All instrumental ensembles may perform on and off campus. Rehearsals consist of work on musical, instrumental, and aural techniques and stylistic nuances germane to the ensemble. Admittance by audition.

Jazz Ensemble: Open to all IPFW students by audition. Rehearsal and performance of literature representing the various styles of the jazz ensemble repertoire.

University Wind Ensemble: Open to all IPFW students by audition. Rehearsal and performance of literature representing the wind ensemble and concert band.

Fort Wayne Area Community Band:

Open to all IPFW students by audition. Personnel includes musicians from the Fort Wayne area. Rehearsal and performance of literature representing the concert band repertoire.

IPFW/Community Symphony Orchestra:

Open to all IPFW students by audition. Rehearsal and performance of orchestral literature.

MUS X070 University Choral Ensembles Cr. 1.

University Singers, Chamber Singers, Vocal Jazz Ensemble

University Singers: A large choral ensemble open to all IPFW students who wish to perform choral literature from throughout music history. Audition is primarily for seating placement, but may also be used to determine entry.

Chamber Singers: **P:** consent of instructor. A small, select choral ensemble designed for music majors and minors, performing works primarily a capella and from memory. Repertoire intended for a smaller vocal ensemble, selected from throughout music history. Audition is extensive.

Vocal Jazz Ensemble: **P:** consent of instructor. A small, select vocal ensemble dedicated to performing works in the jazz genre. Vocal and microphone techniques, singing in tight harmony, and improvisation skills will be developed. Traditional and progressive jazz will be explored. Audition is extensive.

MUS X095 Performance Class Cr. 0.

Required of all music majors (section 01) and minors (section 02). Performance laboratory for all areas of musical performance for music majors; concert attendance required of both music majors and minors. (Music minors submit written reports on concerts attended.)

MUS X296 Applied Music Upper

Divisional Jury Examination Cr. 0.

P: Enrollment in or successful completion of MUS T214, T216, M202, and the fourth semester of applied music at the 300 or 400 level on the same instrument. A 15-minute performance of literature selected by the applied music instructor and presented for the applied music instructor and the resident faculty. Successful completion of X296 is required to begin preparation for a recital. For further information and requirements, see the *Department of Music Student Handbook*.

MUS X297 Music Education Upper

Divisional Skills Examination Cr. 0.

P: T214, T216, X296, M236, W200, W313, and math requirement. An oral examination

of knowledge and professional development for the purpose of evaluating progress toward the Bachelor of Music Education.

MUS X298 Music Therapy Upper Divisional Skills Examination Cr. 0.

P: L153, L420, U355, application to the IPFW Music Therapy Practicum Program, permission of instructor. To be taken concurrently with or after successful completion of X296. A written application and oral examination of observation techniques, clinical music therapy skills, and functional music and accompaniment skills. This test is an evaluation of progress toward the Bachelor of Science in Music Therapy. Required of all music therapy majors and equivalency students.

MUS X299 Piano Proficiency

Examination Cr. 0. **P:** P131 or P141, permission of the instructor required, in the semester of completion of the examination. Requirements are passed individually: technique; sight reading of a hymn, a piano piece, and a rhythmic pattern; transposition of simple folk songs and accompaniment; sight reading of a lead sheet and a harmonized melody without cords notated; keyboard theory skills, including realization of Roman numeral progressions; improvisation; folk songs by ear with accompaniment. Complete information available in the music department office.

MUS X341 Guitar Ensemble Cr. 1.

P: Consent of instructor, for music majors only. Guitarists receive coaching in duet, trio, and quartet ensembles. Provides students the opportunity to perform with other guitarists as well as with other instrumentalists/vocalists.

MUS X420 Brass Ensemble Cr. 1.

P: Consent of instructor. The University Brass performs the best available literature for brass instruments; traditional and more diverse literature of recent decades included.

MUS X425 Early Music Chamber

Ensemble Cr. 1. **P:** Permission of instructor. Study and performance of original literature for various consorts and combinations of instruments on replicas of instruments that were used prior to 1700. Emphasis on musical styles and forms of the Middle Ages, Renaissance, and early Baroque.

MUS X450 String Instrument Ensembles

Cr. 1. **P:** Permission of instructor. Students receive coaching in quartet, trio, and other string chamber groups.

MUS X460 *Woodwind Ensembles Cr. 1.* Admission to the various woodwind ensembles by audition. Rehearsal and performance of literature from the appropriate chamber repertoire.

MUS X470 *Opera Ensemble Cr. 1–2.* Musical and dramatic training for opera and musical theatre through movement improvisation, analysis of emotional and psychological components of roles, and preparation of scenes and arias for public performance.

MUS X490 *Percussion Ensembles Cr. 1.* Provides an opportunity for students to perform on all percussion instruments in a variety of musical styles.

MUS Y110 *Early Instruments, Early Voice Cr. 2.* Applied music lessons in early instruments or in early vocal performance techniques.

MUS Z101–Z102 *Music for the Listener Cr. 3.* Introduction to the elements of music through the mode of listening and a historical survey of the way those elements have been used in various types of musical compositions. For non-music majors.

MUS Z105 *Traditions in World Music Cr. 3.* A survey of non-Western music concentrating on traditional Asian, Middle Eastern, and African styles. Students will learn how to listen to and understand music based on cultural context and technical characteristics. No previous musical experience required.

MUS Z140 *Introduction to Musical Expression Cr. 3.* Introduction to the fundamentals of music and their appreciation in the process of writing and performing music. Students will learn to read musical notation and develop skills in playing folk guitar as an accompaniment instrument. Students must provide their own guitar.

MUS Z201 *History of Rock and Roll Music Cr. 3.* A survey of the major trends, styles, and genres of rock music from the earliest recordings to the present day, focusing on the work of the artists and groups who have proven to be of the most enduring significance. Credit given for non-music majors only.

MUS Z241 *Introduction to Music Fundamentals Cr. 2.* Introduction to musical knowledge and skills including

music reading, singing, playing piano and recorder. Prerequisite for EDUC M323.

MUS Z393 *History of Jazz Cr. 3.* A survey of periods, major performers and composers, trends, influences, stylistic features, and related materials in the history of jazz music.

Nursing (NUR)

NUR 100 *Guided Readings in Nursing Cr. 1.* For nursing students with an interest related to nursing practice. Current literature and events related to nursing are explored. Independent study.

NUR 106 *Medical Terminology Cr. 3.* The study of the language of medicine, including word construction, definitions, spelling, and abbreviations; emphasis on speaking, reading, and writing skills.

NUR 113 *Communication in the Healthcare Setting Class 2, Cr. 2.* P: completion of ENG W130 with a C or better or exemption by placement test. Provides the student with the skills necessary to communicate therapeutically with clients and effectively with coworkers. In addition, the student will gain an introductory knowledge of computer skills necessary to function in the healthcare work setting. Study and test-taking skills will also be included.

NUR 115 *Nursing I: Introduction to Nursing Class 4, Lab. 6, Cr. 6.* C: BIOL 203, NUR 113, PSY 120, CHM 111, or CHM 104, NUR 113, PSY 120. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. Explores the concepts of health, illness, man's pursuit of wholeness, and nursing intervention through the use of the nursing process. Basic human needs, interpersonal relationships, and dynamics of behavior are studied. Laboratory experience is provided in the clinical setting.

NUR 116 *Nursing II: Medical-Surgical Nursing of Adults Class 4, Lab. 6, Cr. 6.* P: 113, 115, C: BIOL 203, 204, 220, PCTX 201, ENG W131 or W135. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. Applies the nursing process to the care of adults who experience problems related to selected basic human

needs. Surgical intervention as a stress situation is studied. Laboratory experiences are provided in hospitals and other community agencies.

NUR 117 *LPN to RN Mobility Track Seminar Cr. 2.* P: graduate of state-approved licensed practical nursing program, 12 credits of required general education courses. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites.

NUR 130 *Physical Assessment Cr. 2.* An elective course enabling students to practice beginning skills of physical examination and to develop an integrated bedside physical assessment.

NUR 224 *Nursing III (Medical-Surgical Nursing of Adults) Class 5, Lab. 9, Cr. 8.* P: 115–116. Utilizes the nursing process in caring for adults who experience complex problems related to selected basic human needs. Laboratory experiences are provided in hospitals and other community agencies.

NUR 225 *Parent-Child Health Class 4, Lab. 6, Cr. 6.* P: 115–116. Applies the nursing process in caring for the emerging family group throughout the maternity cycle, childhood, and adolescence. Includes the study of normal growth and development and the care of children with diseases unique to childhood. Laboratory experiences are provided in hospitals and other community agencies.

NUR 240 *Psychiatric Mental Health Nursing Class 3, Lab. 6, Cr. 5.* P: 115–116. Integrates the pursuit of wholeness with the study of personality structure and common psychiatric disorders. Applies principles of individual and group behavior to the emotionally ill. Laboratory experiences are provided in hospitals and other community agencies.

NUR 245 *Basic Cardiac Dysrhythmias Class 1, Cr. 1.* This course is designed to educate the student in the theory and interpretation of cardiac monitor rhythms. Basic monitoring procedures and guidelines are taught. Emphasis is on the factors that determine whether a cardiac rhythm is normal or abnormal (dysrhythmia). Critical-thinking skills are utilized in identifying and prioritizing appropriate interventions related to the occurrence of dysrhythmias. This course is open to non-nursing students.

NUR 281 Nursing Issues and Manager of Care Class 2, Lab. 2, Cr. 4. P: 224; P or C 240, 281, and 225. Provides opportunity to acquire understanding essential to making an effective transition to the role of a registered nurse. Emphasis is placed upon contemporary nursing issues and manager of care concepts. Laboratory experience incorporates concentration of clinical hours with a preceptor.

NUR 290 Guided Study Cr. 1–6. (V.T.) Designed to provide core curriculum requirements in nursing for individual students enrolled in the nursing programs.

NUR 295 Advanced Concepts in Critical Thinking Cr. 1. P: 224; P or C 240, 281, or 225. This one-credit course will help students apply advanced concepts in critical thinking. It is taken the semester in which the student will graduate. Teaching strategies challenging the learner to apply critical thinking include the use of scenarios, integration of computer-assisted learning, and exploration of effective healthcare delivery. Must be taken during last semester of associate degree program.

NUR 309 Transcultural Healthcare Cr. 3. Examines healthcare practices and beliefs in various cultural and religious groups. Cultural phenomena including communication, space, biological variations, environmental control, time, and social organization are reviewed.

NUR 319 Alternative and Complementary Therapies Cr. 3. This survey course examines current alternative and complementary therapies used in America. Research activities of the National Institutes of Health (NIH) are reviewed.

NUR 329 Health Law and Finance Cr. 3. An examination of case and statutory law that relates to the access, structure, and operation of healthcare organizations. An overview of the liability and legal responsibility as well as legal recourse healthcare facilities may exercise. This course will discuss policies and standards relating to health facility administration. Also included is a discussion of financial aspects unique to the hospital/healthcare facility environment, such as third-party payments and federal assistance.

NUR 334 Clinical Pathophysiology Cr. 4. P: BIOL 203–204 (or equivalent) and CHM 104 (or equivalent). A functional study of pathophysiology of major physiological

systems of a human with special emphasis on clinical applications for baccalaureate nursing and allied health professionals. Major topics to be covered include fluid and electrolyte balance, medical genetics, and the pathophysiology of the cardiovascular, respiratory, digestive, hepatic, endocrine, immune, renal, and neural systems.

NUR 338 Concepts in Nursing Cr. 3. P: ENG W233, NUR 224. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and corequisites. Builds upon previous knowledge of nursing while presenting concepts and processes derived from the philosophy and objectives of the baccalaureate nursing program. Current theories of nursing will be examined.

NUR 339 Research in Healthcare Cr. 3. P or C: undergraduate statistics and ENG W233. Provides the opportunity to explore the methodology and significance of the research process relative to healthcare settings. Strategies are identified to analyze research reports and transfer relevant findings to research-based practice. (General Study Area VI Inquiry and Analysis)

NUR 341 Health Assessment Class 2, Lab. 3, Cr. 3. P: ENG W233, NUR 224; C: NUR 338, NUR 339. This course is designed to increase nursing skills in the collection and interpretation of psychosocial, developmental, and physical health data. Through the data gathering process, the physical and psychosocial aspects of the individual's adaptive capacity are examined.

NUR 342 Community Health Nursing Class 3, Lab. 6, Cr. 5. P: 338, 341; P or C: 339. Blends the profession of nursing with the science of public health. The primary focus of community health nursing is healthcare for individuals, families, and groups in the community. The goals are to preserve, protect, and promote or maintain health. Epidemiology is applied in the community setting.

NUR 345 Trauma Nursing Class 1, Cr. 1. P: 224 or equivalent. NUR 345 provides a comprehensive overview of the trauma patient. Course content emphasizes the epidemiology of trauma, mechanisms of injury, anatomy and physiology of systems as they relate to trauma, and the assessment and management of injuries.

This course is designed to enhance the practitioner's knowledge, refine skills, and build a firm foundation of trauma nursing.

NUR 362 Acute Care Nursing Cr. 3. P: 224, 290 (or equivalent). This course provides the student with critical care nursing concepts and theory to better prepare the nurse to work with acutely ill clients not only in critical care units but throughout the hospital. Nursing care of the critically ill client will be addressed system by system. Some advanced arrhythmia interpretation will be included.

NUR 369 Wellness and Stress Management Cr. 3. Introduction to the philosophies and techniques for achieving individual wellness (optimum health). Includes topics in stress management, nutrition awareness, lifestyle planning, nontraditional approaches to building healthy lifestyles, exercise, and psychophysiological well-being. Class sessions will incorporate experiential and participatory styles of learning, lecture, discussion, and small-group interaction. Not open to students with credit in NUR 399 Wellness and Stress Management.

NUR 399 Special Topics Class 0–4, Lab. 0–6, Cr. 1–6. (V.T.) Hours, credit, and subject matter to be arranged by staff. Repeatable up to 9 credits.

NUR 434 Advanced Nursing Cr. 4. P: All junior level nursing and non-nursing courses. Focus on assisting patients and families cope with acute and chronic illnesses using case management and disease management approaches. Emphasizes the nurse's use of critical thinking, nursing process, communication, research, and knowledge of community resources when working with clients through the continuum of illness toward optimum health.

NUR 441 Advanced Health Assessment Cr. 3. Through didactic and clinical instruction, this course examines 1) a variety of processes and tools used to assess health status, 2) the interpretation of assessment data, and 3) the use of assessment data to guide nursing actions. Builds upon basic assessment skills.

NUR 442 Leadership in Nursing Class 3, Lab. 6, Cr. 5. P: 434, C: 445. Concepts presented focus on leadership. Practicum with first-level leadership provides opportunities to explore and develop ability

to effectively influence others in healthcare settings. (Leadership is viewed as interpersonal action that influences group members, through the communication process, toward setting and attaining goals.)

NUR 445 Seminar in Professional

Nursing Class 2, Cr. 2. P: 434, C: 442.

Current issues in professional nursing are analyzed in a seminar. Legal responsibilities and the professional role are emphasized.

Organizational Leadership and Supervision (OLS)

OLS 121 Keyboarding Cr. 1. This course is designed for students who have had no previous typewriting experience. Students will develop basic keyboarding skills that will enable them to use the alphabetic and numeric keys by the touch method and to input and retrieve information on microcomputers.

OLS 211 Professional Practice I Cr. 1.

P: admission to the Cooperative Education program. The participant will engage in a variety of work activities under the supervision of the employer and the Division of Organizational Leadership and Supervision. A report of the experience will be required.

OLS 212 Professional Practice II Cr. 1.

P: 211. The participant will engage in a variety of work activities under the supervision of the employer and the Division of Organizational Leadership and Supervision. A report of the experience will be required.

OLS 252 Human Relations in

Organizations Cr. 3. A survey of the concepts that provide a foundation for the understanding of individual and group behavior in organizations of work, with special emphasis on typical interpersonal and leadership relationships.

OLS 262 Practical Applications for

Supervisors Cr. 3. P: 252 and currently working as a supervisor. May be repeated to a maximum of 9 credits. Supervised work experience directed toward providing orientation, background, and insight into work situations and operations.

OLS 268 Elements of Law Cr. 3. An introductory law course with a brief

comparison of the American federal system and the parliamentary system of government; covering law with emphasis on judicial review, court jurisdiction and procedure, generally, and basic law in particular.

OLS 274 Applied Leadership Cr. 3.

Introduction to and overview of the fundamental concepts of leadership. Emphasis is placed on the supervisor's major functions and essential areas of knowledge, his or her relations with others, and his or her personal development.

OLS 280 Computer Applications for

Supervisors Cr. 3. P: CS 106 or approved substitute. Selection and use of microcomputer software tools for business, industrial, and technical applications. Representative tools include word processors, electronic mail, spreadsheets, graphics, database managers, computer-based training, project managers, telecommunications, and others.

OLS 295 Leadership Practicum Cr. 1.

P: 252. For sophomore-level students who have completed at least 30 credit hours. Practical work experience related to the OLS major in local industry for which the student receives compensation. May be repeated to a maximum of 2 credit hours.

OLS 311 Professional Practice III Cr. 1.

P: 212. The participant will engage in a variety of work activities under the supervision of the employer and the Division of Organizational Leadership and Supervision. A report of the experience will be required.

OLS 312 Professional Practice IV Cr. 1.

P: 311. The participant will engage in a variety of work activities under the supervision of the employer and the Division of Organizational Leadership and Supervision. A report of the experience will be required.

OLS 320 Customer Service and

Commitment Cr. 3. P: 252 and 274. Emphasis in this course is on developing techniques to gain customer commitment from both external (end user) and internal customers. Empowerment, quality commitment, risk-taking, customer feedback, and decentralized decision making are covered.

OLS 324 Advanced Word Processing, Desktop Publishing, Presentation Graphics Cr. 3. P: OLS 280. Emphasis on the skills

and knowledge necessary to create documents for college assignments and business use through the manipulation of word processing, desktop publishing, and presentation graphics software tools. Study of document formats, design and layout fundamentals, typographic principles, principles of graphing theory, and business presentation methods.

OLS 326 Comprehensive Spreadsheet

Concepts, Cr. 3. P: 280. The course covers basic to advanced concepts of spreadsheets. They will include planning, design, documentation, and purpose of the spreadsheet; the ability to create charts, do business-related analysis, work with data lists, create and edit macros, and create pivot tables and charts; and displaying worksheets on the Web.

OLS 329 Comprehensive Database

Management Concepts, Cr. 3. P: 280. The course covers basic to advanced database concepts and skills such as planning, designing, documentation, and creating a database using indexing and multiple databases; modifying and editing database structures and tables; entering data and validating the input data; creating and modifying queries and views; creating and modifying labels, reports, and forms; and using queries and views to print reports and forms. The course uses the advanced features of graphics, programming, object linking and embedding, and displaying worksheets on the Web.

OLS 331 Occupational Safety and Health

Class 3, Cr. 3. P: 252. A presentation of those aspects of occupational safety and health that are most essential to the first-line supervisor. Emphasis is placed on developing an understanding of the economic, legal, and social factors related to providing a safe and healthful working environment.

OLS 342 Interviewing Strategies in

Organizations Cr. 3. A study of the various interviews supervisors conduct in organizational settings. This course focuses on general interviewing principles as well as specific types of interviews including selection, information gathering, disciplinary, and performance appraisals.

OLS 350 Applied Creativity for Business and Industry Cr. 3.

A study of the ways individuals can become more creative and how they can develop an environment that encourages creativity from employees.

OLS 351 Innovation and

Entrepreneurship Cr. 3. P: 268 and 376. An in-depth study of innovation in existing organizations as well as entrepreneurship in start-up businesses, franchises, family-owned firms, and other business formats.

OLS 361 Safety Department Supervision

Cr. 3. P: 331 or consent of instructor. The analysis, design, and implementation of safety programs in work settings. Will include systems safety and evaluation techniques for the loss-control functions.

OLS 362 Cooperative Occupational

Internship Cr. 3. P: consent of department. May be repeated to a maximum of 6 credits. Organized and supervised work experience directed toward preparation for supervisory, personnel, and related positions. Planned and supervised by OLS staff in cooperation with employing organizations.

OLS 364 Professional Development

Program Cr. 3. A survey course covering many professional and personal facets relative to entering the workforce upon graduation. Major areas addressed include résumé preparation, interviewing techniques, development of job search plans, social skills, and analysis of career fields and opportunities.

OLS 370 Managing Job Stress and

Health Cr. 3. P: 252. This course deals with the causes of work-related stress, how individuals respond to stressors, what effects stress may have on employee health and job performance, and what may be done to prevent or neutralize stress outcomes. Both stress and stress reduction are treated on an individual and organizational basis.

OLS 375 Training Methods Cr. 3. P: 252.

Principles, practices, and variations of basic methods of instruction as related to training situations found in the world of work. Emphasis on the role of the supervisor in on-the-job training.

OLS 376 Human Resources Issues Cr. 3.

P: 252. A survey of modern personnel practices including the legal environment, EEO and affirmative action, human resources planning, recruitment and selection, training and development, compensation and benefits, safety, and labor relations. Emphasis is on practice and applications.

OLS 378 Labor Relations Cr. 3. P: 376 or instructor permission. An introduction to labor relations and the organization of labor unions and federations. Certification, contracts, collective bargaining, grievances, and arbitration are covered. Applicable labor legislation and court decisions are also discussed.

OLS 384 Leadership Process Cr. 3.

P: 252 and 274. An in-depth study of a sequence of supervisory actions that influence employees to achieve desired performance results. Also covered are ways in which these supervisory actions are transformed by employees into desired performance.

OLS 395 Leadership Practicum Cr. 1.

P: 252 and junior class standing. Practical work experience related to the OLS major in local industry for which the student receives compensation. May be repeated to a maximum of 2 hours credit.

OLS 399 Special Topics Cr. 3. (V.T.)

P: determined by course offered. Hours, credit, and subject matter to be arranged by OLS faculty.

OLS 410 Survival Skills in Organizational

Careers Cr. 3. P: within 30 credits of a bachelor's degree or consent of instructor. Focus is on the organization as a social system within which careers develop through the reciprocal influences of organization and people. Examines how occupations are chosen, the stages of an unfolding career, and factors that influence successful careers. Emphasizes coping with change and developing personal strategies.

OLS 411 Professional Practice VCr. 1.

The participant will engage in a variety of work activities under the supervision of the employer and the Division of Organizational Leadership and Supervision. A report of the experience will be required.

OLS 454 Gender and Diversity in

Management Cr. 3. P: 252 or instructor permission. The workforce of the future will represent multiple differences, including gender, race, culture, ethnicity, physical abilities, and age. Following this broad-based perspective of diversity, this course will focus on using knowledge of diversity to develop the leadership potential of individuals in organizations.

OLS 468 Personnel Law Cr. 3. P: 268 and 376. A consideration of personnel law, including EEO, pensions, wage contracts and payments, worker's compensation and insurance, and other statutes, as well as labor laws and arbitration.

OLS 474 Conference Leadership Cr. 3.

P: 375 and COM 114. The practical application of presenting technical information and conducting problem-solving and decision-making conferences or meetings. Emphasis is placed on leading and facilitating interactive conferences as well as structuring information for effective presentations.

OLS 475 Topics: Contemporary

Supervisory Training Issues Cr. 3. P: 375. This course will build on the topics covered in OLS 375. Topics will include needs analysis, advanced training and development methods, techniques of evaluation, and meeting the job-training needs of special groups. Additional topics of special interest will be covered.

OLS 476 Compensation Planning and

Management Cr. 3. P: 376. A technical course in how to plan and implement a total compensation system, including practical experience in job analysis and description, job evaluation, salary survey and analysis, and the development of a structured pay policy. Includes environmental study of behavioral implications and legal environment.

OLS 477 Conflict Management Cr. 3.

P: 376. A study of the methods for dealing with inter-personal, interpersonal, and political disputes by means generally outside the traditional court system. Students will investigate the theoretical and practical aspects of conflict assessment, negotiation, problem solving, mediation, and arbitration.

OLS 479 Staffing Organizations Cr. 3.

P: 376. An applications-oriented study of key concepts in staffing organizations, including principles and issues in conducting job analysis, preparing job descriptions/specifications, and screening/selecting employees. Special emphasis on the design, validation, and operation of high-volume staffing systems.

OLS 484 Leadership Strategies for Quality and Productivity Cr. 3.

P: 376. A study of how organizational leaders create an environment conducive to high levels of employee self-motivation, quality, and

productivity. Actual case situations are used to illustrate the application of course content.

OLS 485 Leadership for Team

Development Cr. 3. P: 252 and 274. An in-depth study of self-directed work teams and team processes in the work setting with a view to understanding team functions under varying task conditions. Especially emphasized will be the leadership of teams for effective performance and maximum member satisfaction. This course deals extensively with maintenance and task behaviors of team members.

OLS 486 Leadership: Management of

Change Cr. 3. P: 252 and 274. A survey of the concepts that provide a foundation for the understanding of leadership and its relationship to the management of organizational change, with special emphasis upon the identification, practice, and development of leadership skills.

OLS 487 Leadership Philosophy Cr. 3.

P: 376. Review of current managerial education and development theories and practices; discussion of fundamental social, economic, and political changes affecting business and the work of managing; implications of these changes for individual manager development and continued growth. Credit will not be given for both OLS 487 and OLS 574.

OLS 490 Senior Research Project Cr. 3.

P: supervision majors only and consent of instructor. Opportunity to study specific problems in the field of personnel, safety, supervision, and training under the guidance of an OLS faculty member.

OLS 495 Leadership Practicum Cr. 1.

P: 252, OLS major and senior class standing. Practical work experience related to the OLS major in local industry for which the student receives compensation. *May be repeated to a maximum of 2 credit hours.*

PCTX (Pharmacology and Toxicology), See Biology, Pharmacology, and Toxicology

Peace and Conflict Studies (PACS)

PACS P200 Introduction to Peace and Conflict Studies—Humanities Perspectives Cr. 3. An initial survey of

major themes, approaches, and issues of peace and conflict, including violence and nonviolence, war and peace, social oppression and justice, conflict and conflict resolution. Texts and approach are interdisciplinary, with a humanities focus. Either PACS P200 or P201 is required for Peace and Conflict Studies Certificate.

PACS P201 Introduction to Peace and Conflict Studies—Social/Behavioral

Sciences Perspectives Cr. 3. An initial survey of major themes, approaches, and issues of peace and conflict, including violence and nonviolence, war and peace, social oppression and justice, conflict and conflict resolution. Texts and approach are interdisciplinary, with a social/behavioral sciences focus. Either PACS P200 or P201 is required for Peace and Conflict Studies Certificate.

PACS P497 Humanities Readings and Research in Peace and Conflict Studies

Cr. 1–3. P: P200 or P201 and three courses in peace and conflict studies or consent of PACS director. Readings and research with a humanities focus. May be repeated for a maximum of 6 hours credit.

PACS P498 Social and Behavioral Sciences Readings and Research in Peace and Conflict Studies Cr. 1–3.

P: P200 or P201 and three courses in peace and conflict studies or consent of PACS director. Readings and research with a social and behavioral sciences focus. May be repeated for a maximum of 6 hours credit.

PACS P499 Social and Behavioral Sciences Internship in Peace and Conflict Studies Cr. 1–3.

P: P200 or P201 and three courses in peace and conflict studies or consent of PACS director. Internship in an organization related to peace and conflict studies with social and behavioral sciences focus. May be repeated for a maximum of 6 hours credit.

Pharmacology and Toxicology (PCTX), See Biology, Pharmacology, and Toxicology

Philosophy (PHIL)

PHIL 110 Introduction to Philosophy Cr. 3. An introduction to basic problems and types of philosophy, with special emphasis on the problem of knowledge

and nature of reality. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

PHIL 111 Ethics Cr. 3. A study of the nature of moral value and obligation. Topics such as the following will be considered: different conceptions of the good life and standards of right conduct; the relation of nonmoral and moral goodness; determinism, free will, and the problem of moral responsibility; the political and social dimensions of ethics; the principles and methods of moral judgment. Readings will be drawn from both contemporary and classical sources.

PHIL 111H Ethics—Honors Cr. 3. Honors equivalent of PHIL 111.

PHIL 112 Religion and Culture Cr. 3.

A study of traditional patterns of encounter with the sacred. Topics considered will typically include the secularization of Western culture and religious elements in contemporary American culture. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

PHIL 120 Critical Thinking Cr. 3. This course is designed to introduce students to the structure of successful reasoning. Topics covered will include language, definitions, vagueness and ambiguity; recognizing arguments; distinguishing between arguments and explanations; patterns for diagramming arguments; informal fallacies; nondeductive reasoning (the structure of explanations); and disciplinary reasoning (the structure of arguments as encountered in such disciplines as ethics or business). Students who have earned credit in PHIL 150 are encouraged not to register for PHIL 120.

PHIL 150 Principles of Logic Cr. 3.

A study of the principles and methods employed in the logical appraisal of arguments. Topics covered will include informal fallacies; syllogistic logic and Venn diagrams; sentence logic (truth tables and rules of inference); and first-order predicate logic, up to but not including definite descriptions and identity.

PHIL 206 Philosophy of Religion Cr. 3.

An introduction to the philosophic study of religion. Topics covered will include the nature and origin of religion, a critical examination of the idea of God, the nature of evil, immortality, and worship.

PHIL 240 Social and Political Philosophy Cr. 3. A study of the dominant types of social and political thought from Plato to Dewey, and including Marx, Rousseau, and Hegel. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

PHIL 250 Inductive Logic Cr. 3. P: 150 or consent of instructor. A presentation and analysis of various types of nondeductive logical inference, those used in the physical and social sciences and in everyday problem-solving situations. Some basic work may be done in statistics and probability calculus. Familiarity with deductive logic is required.

PHIL 260 Philosophy and Law Cr. 3. A discussion of philosophical issues in the law. Topics will include a critical examination of such basic concepts in law as property, civil liberty, punishment, right, contract, crime, and responsibility; and a survey of some main philosophical theories about the nature and justification of legal systems. Readings will be drawn from both law and philosophy.

PHIL 275 The Philosophy of Art Cr. 3. A survey of the principal theories concerning the nature, function, and value of the arts from classical times to the present.

PHIL 301 History of Ancient Philosophy Cr. 3. P: 110. A survey of ancient Western philosophy from Thales through Plotinus. Selected readings on and by the Presocratic philosophers, Plato, Aristotle, Hellenistic, and Roman philosophy. This is the first in the five-course history of philosophy sequence (PHIL 301, 302, 303, 304, 405), but any one of these may be taken without the others, and they may be taken in any order, although it is preferable to take them chronologically. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

PHIL 302 History of Medieval Philosophy Cr. 3. P: 110; R: 301. A survey of medieval philosophy, with selected readings from major thinkers. Topics covered include the Greek and Jewish background of Medieval thought; the development of Christian Platonism; the rise of the universities and scholastic philosophy; the recovery of Aristotle and the period of High Scholasticism; the development of logical analysis; the rise of experimental natural

philosophy and the decline of scholasticism. Detailed attention will be given to Augustine, Anselm, Abelard, Aquinas, Duns Scotus, and William of Ockham.

PHIL 303 History of Modern Philosophy Cr. 3. P: 110; R: 301. Readings in, lectures on, and discussions about the major and minor philosophical figures from the Renaissance through Kant. This includes fairly intensive study of the works of Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, and Kant. Contemporary nonphilosophical figures such as Newton and Calvin may also be considered.

PHIL 304 19th Century Philosophy Cr. 3. P: 110; R: 303. A study of the major movements and directions of 19th century philosophy, including such figures as Hegel, Comte, Mach, Schopenhauer, Nietzsche, Mill, Royce, and Peirce.

PHIL 305 Philosophical Theories of Feminism Cr. 3. This course focuses on an analysis of ancient, medieval, and contemporary philosophical theories of gender and the role that these theories play in current political structures. In addition to classical readings, current philosophical issues such as pornography, abortion, family values ideology, body and self-image, biological determinism, and racism in the context of historical ideologies are discussed.

PHIL 312 Medical Ethics Cr. 3. A critical examination of various issues, such as abortion, euthanasia, the healthcare system, and experimentation on humans. Topics will be dealt with from medical, ethical, religious, and legal perspectives.

PHIL 326 Business Ethics Cr. 3. Philosophic examination of such topics as morality and self-interest, freedom and coercion, distributive justice, limits of the law, moral and legal rights, fair equality of opportunity, justice between nations. These topics are seen from a new perspective when they are connected to discussions of fair wages and capitalism, legal constraints on manufacturers and advertisers, affirmative-action programs, environmentalism, and multinational corporations.

PHIL 327 Environmental Ethics Cr. 3. A study of traditional ethical theory applied to environmental issues such as population control, conservation, human rights and pollution, nuclear energy, extinction and

animal rights, our obligations to future generations, toxic waste, and issues in agriculture.

PHIL 328 Ethics and Animals Cr. 3. A study of traditional philosophical positions on questions of animal rights. Topics covered typically include human rights and doctrines of duty and obligation, vivisection, animals and food, extinction, the pet industry, hunting, the fur industry, and animal-rights organizations.

PHIL 331 Religions of the West Cr. 3. A study of the origins and present institutions of Judaism, Christianity, and Islam. This will include a brief study of the influences upon Western religion of ancient Egypt, Mesopotamia, Greece, Rome, and Persia. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

PHIL 351 Philosophy of Science Cr. 3. This course examines topics at the intersection of science and philosophy. Primary topics: fundamental principles of the scientific method; the nature of scientific change; the epistemology of science and the debate over scientific realism; scientific convergence and the future of science; consilience of science with nonscience; science and pseudoscience; science and human values. Secondary topics: the strange world of contemporary physics; ethical issues in scientific research; science and religion; science and education; science and the meaning of life.

PHIL 425 Metaphysics Cr. 3. P: at least one course in philosophy or consent of instructor. A concentrated investigation of some of the basic problems concerning essence, existence, time, space, substance, causality, permanence, and change. Readings and discussions will center on representative metaphysical thinkers.

PHIL 432 Theory of Knowledge Cr. 3. P: one course in philosophy or consent of instructor. An examination of some central issues in the philosophy of mind. Attention is given to such topics as the knowledge of other minds, the relation between mind and body, the nature of persons, and the analysis of certain relevant concepts such as action, emotion, and perception. Readings are selected primarily from the writings of contemporary philosophers.

PHIL 450 Symbolic Logic Cr. 3. P: 150 or consent of instructor. Topics considered include advanced techniques of the logic of quantification, identity, and definite description, intuitive set theory, Russell's paradox, and modal logic.

PHIL 480 Practicum in Applied Ethics Cr. 3. P: junior class standing and consent of instructor. Students will be assigned a definite task relevant to their educational interests in applied ethics. Students may be placed in appropriate cooperating local social-service agencies, educational institutions, legal services offices, businesses, or medical facilities. Work will be supervised by the department and the agency. Research and written reports will be required.

PHIL 493 Interdisciplinary Undergraduate Seminar Cr. 1–3. (V.T.) P: consent of instructor. May be repeated for credit. Subject matter will vary.

Dual Level, Undergraduate-Graduate

PHIL 510 Phenomenology Cr. 3. P: 110. May be repeated for credit. A detailed, critical examination of some major issue(s) in phenomenology. Attention will be given to either the historical development or contemporary relevance of phenomenological philosophy. Readings will be drawn from the works of Husserl, Heidegger, Merleau-Ponty, and others.

PHIL 514 Twentieth-Century Analytical Philosophy I Cr. 3 P:150 and one other course in philosophy. The origins of contemporary philosophical analysis. An examination of the most important philosophical writings of Gottlob Frege, and Bertrand Russell, as well as the *Tractatus Logico-Philosophicus* of Ludwig Wittgenstein.

PHIL 515 20th Century Analytical Philosophy II Cr. 3. P:150 and one other course in philosophy. The development of philosophical analysis through logical positivism and the various forms of linguistic philosophy. An examination of some of the important writings of Moore, Ayer, Ryle, Wisdom, Austin, and the later Wittgenstein. Need not be preceded by PHIL 514.

PHIL 524 Contemporary Ethical Theory Cr. 3. P: 110 or 111. A critical review of 20th century developments in ethical and

value theory, with particular reference to the dispute between utilitarianism and deontological theories and to the problem of justification.

PHIL 525 Studies in Metaphysics Cr. 3. P: 301 or 303. May be repeated for credit with consent of instructor. An intensive and critical review of one or more of the basic problems of ontology and cosmology, such as substance, existence, causality, change, time, space, teleology, freedom, and universals. Variable content.

PHIL 530 Deconstructionist and Postmodernist Philosophy Cr. 3 P:110 or 111. An examination of the main currents of deconstructionist and postmodernist thought in the latter part of the 20th century. Texts to be studied will be selected from the writings of Heidegger, Derrida, Foucault, Kristeva, Irigaray, Deleuze, Guattari, Lyotard, Baudrillard, and Rorty.

PHIL 575 Problems in Esthetics Cr. 3. (V.T.) P: 275 . An intensive examination of some of the characteristic questions of contemporary aesthetic theory. Variable content. May be repeated for credit with consent of instructor.

PHIL 580 Proseminar in Philosophy Cr. 3. (V.T.) P: 6 credits of philosophy. May be repeated for credit. Designed primarily for majors in philosophy. Other students may be admitted to the course with the special consent of the instructor. Topic to be selected by the department staff.

PHIL 590 Directed Readings in Philosophy Cr. 1–3. (V.T.) P: 6 credits of philosophy, plus basic work in area to be investigated. May be repeated for credit. A reading course directed by the instructor in whose particular field of specialization the content of the reading falls. Approval of each reading project must be secured from the department.

Physics (PHYS)

If you are majoring in this discipline, you may want to consider the Science and Engineering Research Semester. See information under Arts and Sciences (Part 3).

PHYS 091 Professional Practice I Cr. 0. P: must be accepted for the program by Cooperative Education program coordinator. Course shall include

supervised experience and/or training as a professional physicist.

PHYS 092 Professional Practice II Cr. 0. P: 091. Course shall include supervised experience and/or training as a professional physicist.

PHYS 093 Professional Practice III Cr. 0. P: 092. Course shall include supervised experience and/or training as a professional physicist.

PHYS 094 Professional Practice IV Cr. 0. P: 093. Course shall include supervised experience and/or training as a professional physicist.

PHYS 095 Professional Practice V Cr. 0. P: 094. Course shall include supervised experience and/or training as a professional physicist.

PHYS 105 Sound and Music Cr. 3. A nonmathematical course that deals with the physical properties of sound and sound patterns, the physiological response to sound and the psychological sensations of music. The physical principles covered include wave motion, wave properties, resonance, and analysis of tones and complex waveforms. How sound patterns are produced using musical instruments, how these sounds propagate and how they are detected and interpreted will be examined.

PHYS 115 Introduction to Lasers Class 2, Lab. 2, Cr. 3. Two-hour lecture and two-hour laboratory class about the theory and operation of lasers. Lectures will discuss basic optics, the operation of lasers, laser safety, and the uses of lasers in science, industry, construction, communication, entertainment, and medical fields. Laboratory will reinforce classroom discussions. Class intended for non-physics majors.

PHYS 120 Physics of Sports Cr. 3. This course enables students to learn fundamental physical principles and concepts from examples of situations occurring in sports. The numerous recent applications of physics toward enhancing sports performance, both by improving techniques and equipment, will be selectively studied. Physical concepts such as velocity and acceleration, force, momentum, impulse, rotational motion, torque, pressure, fluid flow, energy, and power will be introduced and exemplified

through sports. The course is intended for non-science majors.

PHYS 125 *Light and Color* Cr. 3. This course is an introduction to the phenomena associated with electromagnetic waves having visible wavelength, i.e., light. Topics will include characteristics of light, optical instruments such as telescopes and cameras, rainbows, human seeing, color and color mixing, lasers, Polaroid lenses, and tricks with mirrors. The course will emphasize phenomenological and conceptual consideration of these topics using many demonstrations and activities. This course is intended for non-science majors.

PHYS 127 *Physics for Computer Graphics and Animation* Cr. 3. A study of the physics of light and its interactions with objects, Newtonian mechanics and an introduction to biomechanics as these topics apply to 3D computer graphics and computer animations. The course will investigate these phenomena through use of 3D graphics programs. In particular, animation will be explored to understand how to make animations that look and feel realistic.

PHYS 128 *Physics of Martial Arts* Cr. 3. P: MA 153 or MA 168. A conceptual study in physics as it applies to martial arts. In particular, Newtonian mechanics, rotational dynamics, material study, and center of mass will be addressed. No martial arts experience is necessary nor will any martial art be taught. Unlike other conceptual physics courses, this course will very much focus on the forces a human can exert on another object. From these beginnings, the course will develop the student's conceptual understanding of momentum, work, energy, power, and intensity to achieve a final goal of understanding collisions. The course will also examine leverage, rotational dynamics, and center of mass (throwing, grappling, and joint maneuvers).

PHYS 130 *Exploring the New Physics* Cr. 3. This course is a survey for non-science majors of the conceptual foundations, applications, and implications for the future of the recent major discoveries in physics. Examples of topics are quantum electronics, high temperature superconductivity, lasers, chaos, fractals, the cold fusion controversy, the search for the fifth force, quarks, and dark matter in the universe. Topics are

presented in a descriptive and conceptual manner without mathematics.

PHYS 131 *Concepts in Physics I* Class 2, Lab. 2, Cr. 3. A nonmathematical course describing the concepts, language, methods, history, philosophy, and impact on society of physics. Topics include motion, electricity, light, relativity, and quantum physics with applications to areas such as the energy crisis and nuclear energy.

PHYS 132 *Concepts in Physics II* Class 2, Lab. 2, Cr. 3. P: 131. A continuation of PHYS 131.

PHYS 135 *The First Three Minutes* Cr. 3. This course is a descriptive introduction to the major concepts of contemporary physics and their relationship to theories of the origin of the universe. The course presents a historical survey of cosmological thought, leading to today's recent developments. Topics include stars and galaxies, the four forces, relativity, quantum physics, elementary particles, and the Big Bang. The course is intended for non-science majors. There is no need for a background in college math. However, knowledge of mathematics at high school level is required.

PHYS 136 *Chaos and Fractals* Cr. 3. This course explores novel ideas in geometry and dynamical systems as they appear in natural phenomena. Irregular patterns in nature can be understood in terms of a fractal geometry. Physical processes that appear to be random actually obey a deterministic law. The concepts of chaos and fractals help us to understand these processes. The course is intended for non-science majors. There is no need for a background in college math. However, knowledge of mathematics at high school level is required.

PHYS 152 *Mechanics* Class 4, Lab. 2, Cr. 5. C: MA 166. Statics, uniform, and accelerated motion; Newton's laws; circular motion; energy, momentum, and conservation principles; dynamics of rotation; gravitation and planetary motion; properties of matter; simple harmonic and wave motion; sound.

PHYS 170 *Special Topics in Physics* Class 0–3, Lab. 0–3, Cr. 1–4. (V.T.) Specialized topics in introductory physics, including laboratory experiments if appropriate. May be repeated for credit.

PHYS 201 *General Physics I* Class 4, Lab. 2, Cr. 5. P: college algebra and trigonometry. Newtonian mechanics, wave motion, heat, and thermodynamics. Application of physical principles to related scientific disciplines including life sciences.

PHYS 202 *General Physics II* Class 4, Lab. 2, Cr. 5. P: 201. Electricity and magnetism, geometrical and physical optics, quantum theory, introduction to concepts of relativity, atomic, and nuclear physics.

PHYS 210 *The Nature of Physical Science I* Class 2, Lab. 3, Cr. 3. P: ENG W130 or placement at or above ENG W131; MA 109 with a grade of at least C or placement at or above MA 113. An integrated, activity-based introduction to some of the basic phenomena, concepts, principles, and reasoning in physics and chemistry. This course is designed for non-science majors and is especially appropriate for education majors since many of the activities can be readily modified for use with younger students. Course does not count toward degrees in science, engineering, or technology.

PHYS 218 *General Physics* Class 3, Lab. 2, Cr. 4. P: MA 150 or 151 or 153 and 154. Mechanics, heat, and sound, primarily for technology students.

PHYS 219 *General Physics II* Class 3, Lab. 2, Cr. 4. P: 218. Electricity, light, and modern physics, primarily for technology students.

PHYS 220 *General Physics* Class 3, Lab. 2, Cr. 4. P: college algebra and trigonometry. Mechanics, heat, and sound, for students not specializing in physics.

PHYS 221 *General Physics* Class 3, Lab. 2, Cr. 4. P: 220. Electricity, light and modern physics, for students not specializing in physics.

PHYS 241 *Electricity and Optics* Cr. 3. P: 152. Electrostatics, current electricity, electromagnetism, magnetic properties of matter. Electromagnetic waves, geometrical and physical optics.

PHYS 270 *Special Topics in Physics* Cr. 1–5. (V.T.) P: special permission. Specialized topics in physics. May be repeated for credit.

PHYS 302 *Puzzles, Strategy Games, and Problem Solving in the Physical Sciences* Cr. 3. P: successful completion of General

Education Areas I and II. This course will explore scientific problem solving by comparing and contrasting it with problem solving in two other domains: puzzles and strategy developing representations, defining the problem, using heuristics, and evaluation solutions. Strategy games will be used as a way to practice problem-solving skills in a domain that can be quickly learned. No credit toward a physics major.

PHYS 310 Intermediate Mechanics Cr. 4. P: MA 261 and two semesters of general physics; calculus. Elements of vector algebra; statics of particles and rigid bodies; theory of couples; principle of virtual work; kinematics; dynamics of particles and rigid bodies; work, power, and energy.

PHYS 315 Lasers in Art and Science Class 2, Lab. 3, Cr. 3. P: one of the following: 115, 125, 132, 202, 219, 222, 251, 261. Laser safety and operation (in greater detail than in earlier courses), laser alignment and optics for students in science, fine and performing arts, engineering and technology. Significant experimental projects tailored to students' interests, such as color holography, light shows, fiber optics and communications, laser gyroscopes, extraction of chlorophyll and spectroscopy of diatomic molecules. Course project required.

PHYS 322 Optics Cr. 3. P: 251 (or equivalent). Wave optics and properties of light including reflection, refraction interference, Fraunhofer and Fresnel diffraction dispersion, polarization, double refraction, introduction to lasers and holography.

PHYS 325 Scientific Computing Cr. 3. P: 241 or 251 or 261. Programming in C. Numerical techniques in Integration Root finding, and solution of systems of ordinary and partial differential equations. These techniques will be applied to models in the natural sciences (physics, chemistry, biology) and engineering. Includes the use of mathematical subroutine libraries.

PHYS 330 Intermediate Electricity and Magnetism Cr. 3. P: 251; C: MA 262. Electrostatics; electric currents; magnetostatics; electromagnetic induction; Maxwell's equations; electromagnetic waves.

PHYS 331 Electricity and Magnetism II Cr. 3. P: 330. Applications of Maxwell's equations to electromagnetic waves, boundaries, dispersion, and radiation.

PHYS 342 Modern Physics Cr. 3. P: 241 or 251 or 261. A survey of basic concepts and phenomena in atomic, nuclear, and solid-state physics.

PHYS 343 Modern Physics Laboratory Lab. 3, Cr. 1. C: 342. Laboratory experiments to accompany PHYS 342.

PHYS 345 Optics Laboratory I Lab. 3, Cr. 1. C: 322. Laboratory experiments in geometrical and physical optics and spectrometry.

PHYS 346 Advanced Laboratory I Lab. 3, Cr. 1. P: 343. Experiments in atomic, molecular, solid state, and nuclear physics, electricity and magnetism, and physical optics. Students will have the opportunity to work intensively on a particular experiment.

PHYS 361 Electronics for Scientists Class 3, Lab. 3, Cr. 4. P: 251 (or equivalent). DC and AC circuit theory. Fourier methods, electronic structure of crystals, semiconductor devices, common scientific instrumentation.

PHYS 370 Special Topics in Physics Class 0–3, Lab. 0–3, Cr. 1–4. (V.T.) Specialized topics in intermediate physics, including laboratory experiments if appropriate. May be repeated for credit.

PHYS 405 Atomic and Molecular Physics Cr. 3. P: 342 and 343. Basic topics of atomic and molecular physics will be covered in lecture and demonstrations. The course will use fundamental quantum mechanics to describe the hydrogen atom, multi-electron atoms, and simple molecules. The course will also cover the interaction of atoms with other atoms, electrons and photons, and include discussions of various forms of atomic and molecular spectroscopy.

PHYS 470 Special Topics in Physics Cr. 1–5. (V.T.) P: special permission. May be repeated for credit.

Dual Level, Undergraduate-Graduate

PHYS 515 Thermal and Statistical Physics Cr. 3. P: 310, 330 and a course in differential equations or advanced calculus. Equilibrium states, the concept of heat, and the laws of thermodynamics; the existence and properties of the entropy; different thermodynamic potentials and their uses;

phase diagrams; introduction to statistical mechanics and its relation to thermodynamics; treatment of ideal gases.

PHYS 520 Mathematical Physics Cr. 3. P: 310, 322, 330 or consent of instructor. Portions of selected areas of mathematics that are of particular importance in physics are covered. These are drawn from vector and tensor operators, infinite series, analytic functions, and the calculus residues, partial differential equations, and the special functions of mathematical physics.

PHYS 522 Coherent Optics and Quantum Electronics Cr. 3. P: 322, 330, 550. Recent experimental and theoretical developments in optics emphasizing concepts of coherence, Fourier optics, and the quantum theory of radiation. Applications to lasers and masers, nonlinear optics, holography, and quantum electronics.

PHYS 524 Physical Optics and Experimental Spectroscopy Cr. 4. P: 322 or equivalent. Theory and applications of spectroscopic instruments including Fourier spectrometer, scanning and photographic interferometer, grating and prism spectrometers, and spectrographs. Emphasis on the analysis of the instruments and their fundamental and practical limitations. Theory and structure of spectra and their regularities and the Zeeman effect.

PHYS 536 Electronic Techniques for Research Cr. 4. P: 251 or equivalent. A summary of principles of modern electronics currently used in research. The emphasis is on broad coverage of the field rather than on in-depth study of selected topics or applications.

PHYS 545 Solid State Physics Cr. 3. P: 550 (or equivalent). Crystal structure; lattice vibrations, and electronic band structure of crystals; electrical, optical, and thermal properties of solids; transport and other nonequilibrium phenomena in uniform and nonuniform materials.

PHYS 550 Introduction to Quantum Mechanics Cr. 3. P: 342 and at least one other junior-level course in each of mathematics and physics (or equivalent). Brief historical survey of the development of quantum mechanics; waves in classical physics; wavepackets; uncertainty principle; wave functions; operators; expectation values of dynamical

observables; Schrodinger equation; application of Schrodinger equation to one-dimensional problems; the hydrogen atom; electron spin; periodic table; and selected topics in perturbation theory, scattering theory, and compounding of angular moments.

PHYS 570 Selected Topics in Physics Cr. 3. (V.T.) Specialized topics in physics selected from time to time.

PHYS 590 Reading and Research Cr. 1–3. (V.T.)

Political Science (POLS)

POLS S103 Introduction to American Politics—Honors Cr. 3. Equivalent of Y103 for honors students.

POLS S105 Introduction to Political Theory—Honors Cr. 3. Equivalent of Y105 for honors students.

POLS S200 Political Topics Cr. 1–6. (V.T.) P: consent of instructor. Equivalent of Y200 with a variable title for honors students.

POLS S211 Introduction to Law—Honors Cr. 3. Equivalent of Y211 for honors students.

POLS S401 Studies in Political Science Cr. 3. (V.T.) Equivalent of Y401 for honors students.

POLS Y103 Introduction to American Politics Cr. 3. Introduction to the nature of government and the dynamics of American politics. Origin and nature of the American federal system and its present political party base. (fall, spring, summer)

POLS Y105 Introduction to Political Theory Cr. 3. Perennial problems of political philosophy, including relationships between rulers and ruled, nature of authority, social conflict, character of political knowledge, and objectives of political action. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (fall, spring, summer) Credit not given for both Y105 and Y215.

POLS Y107 Introduction to Comparative Politics Cr. 3. Similarities and differences in political processes, governmental institutions, and policy issues across major contemporary states. Cases for comparison

include industrial democratic (such as Western Europe and the United States), communist or former communist (such as Russia and Cuba), and developing countries. Credit not given for both Y107 and Y217.

POLS Y109 Introduction to International Relations Cr. 3. Causes of war, nature, and attributes of the state, imperialism, international law, national sovereignty, arbitration, adjudication, international organization, major international issues. Credit not given for both Y109 and Y219.

POLS Y200 Contemporary Political Topics Cr. 1–6, Lab. 0–3. (V.T.) Extensive analysis of selected contemporary political problems. Topics vary from semester to semester and are listed in the *Schedule of Classes*. May be repeated for credit with a different topic.

POLS Y205 Elements of Political Analysis Cr. 3. P: ENG W131, or placement in ENG W140. Introduction to the scope and methods of political science. Stresses the development of writing skills appropriate to the discipline. *This course may be used to fulfill the Arts and Sciences writing requirement.* (spring)

POLS Y211 Introduction to Law Cr. 3. An introduction to law as a method for dealing with social problems and as an aspect of the social and political system. An introduction to legal reasoning, procedures, and materials. Will usually include comparison of United States and other societies and their approaches to law.

POLS Y301 Political Parties and Interest Groups Cr. 3. P: Y103 or consent of instructor. Examination and evaluation of the behavior of political parties, voters, interest groups, and other institutions and procedures by which Americans try to control their government.

POLS Y303 Formation of Public Policy in the United States Cr. 3. P: Y103 or consent of instructor. Processes and institutions involved in formation of public policy in a democratic society, with emphasis on American experience.

POLS Y304–Y305 American Constitutional Law I–II Cr. 3–3. P: Y103 or equivalent and consent of instructor. Nature and function of law; selected Supreme Court decisions interpreting American constitutional system.

POLS Y306 State Politics in the United States Cr. 3. P: Y103 or consent of instructor. Comparative study of politics in the American states. Special emphasis on the impact of political culture, party systems, legislatures, and bureaucracies upon public policies.

POLS Y307 Indiana State Government and Politics Cr. 3. Constitutional foundations, political development, organizational and functional process and growth, and current problems of Indiana government as a focal point for understanding role of states as instruments of social policy. Readings, case studies, problems.

POLS Y318 The American Presidency Cr. 3. P: Y103 or consent of instructor. Development of the presidency and its relationship to the political system; problems of the contemporary presidency; personality and presidential roles, with emphasis on political leadership. Credit not given for both Y318 and Y322.

POLS Y319 The United States Congress Cr. 3. P: Y103 or consent of instructor. Congress is both a policy-making institution and a body of professional politicians representing state and local interests. This course examines Congress within the frameworks created by making each of these goals paramount. The conflicts and contrasts that arise in interpretation and evaluation of Congress by the differences in these points of view are explored.

POLS Y320 Judicial Politics Cr. 3. Examines the American judicial system in the contemporary context. Analysis of the trial and appellate courts with a focus on the United States Supreme Court. Topics include analysis of the structure of the judicial system, the participants in the system, and the policy-making processes and capabilities of the legal system. The course concludes with an assessment of the role of courts in a majoritarian democracy.

POLS Y324 Women and Politics Cr. 3. (V.T.) Analysis of women in contemporary political systems, domestic or foreign, with emphasis on political roles, participation, and public policy. Normative and/or empirical examination of how political systems affect women and the impact women have on the system. Topics vary semester to semester. May be repeated once for credit with a different topic.

POLS Y328 *Women and the Law Cr. 3.*
Exploration of origins and underlying rationale of women's status in the American legal tradition and the role that law plays in helping to shape political climate and structure of the nation. Course will provide basic knowledge of various fields of law as they pertain to women.

POLS Y335 *Western European Politics Cr. 3.* Development, structure, and functioning of political systems in Western Europe. Political dynamics of European integration.

POLS Y339 *Middle Eastern Politics Cr. 3.*
Political culture and change in selected Middle Eastern and North African countries. Topics include political elites, traditional cultures, modern political ideology, institutions of political control, conflict management, and social reform policies. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

POLS Y340 *East European Politics Cr. 3.*
The study of the evolution of the governmental and political processes in the states of Eastern Europe. Traditional, ideological, and political aspects of the individual communist societies will be discussed, with special emphasis on ideological differentiation and nationalism. Eligible for graduate credit.

POLS Y350 *Politics of the European Union Cr. 3.* Study of the politics of the European Community. Assesses the process and dynamics of economic and political integration in Western Europe, the structure and work of EC institutions, and public policies of the EC.

POLS Y360 *U.S. Foreign Policy Cr. 3.*
Mechanics of the foreign-policy-making process in the United States. Analysis of competing concepts of the national interest; isolationism, the Open Door, Monroe Doctrine, national security, containment, military and political alliances, the new nations; their relation to substantive policies and to the character of American democracy.

POLS Y367 *International Law Cr. 3.*
P: Y109 or consent of instructor. Sources and consequences of international law; relationship to international organizations and world order; issues of national sovereignty, human rights, conflict resolution, international property rights,

world trade, environmental change, and other topics. Eligible for graduate credit.

POLS Y371 *Workshop in International Topics Cr. 3. (V.T.)* Includes such topics as development of the international system, politics of food and populations, law of the sea, human rights, trade, U.S. foreign policy, United Nations issues, etc. May be repeated for credit with a different topic. Eligible for graduate credit.

POLS Y376 *International Political Economy Cr. 3.* Theories about the interaction between the international economic and political systems are the subject of this course. Specific topics covered will include (among others) the politics of trade, aid, foreign investment, and international monetary affairs; theories of dependency and imperialism; the politics of international competition in specific industries; the stability/instability of international economic regimes.

POLS Y381–Y382 *History of Political Theory I–II Cr. 3–3.* An exposition and critical analysis of the major political philosophers and philosophical schools. I. From Plato to Machiavelli. II. From Machiavelli to the present. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* Eligible for graduate credit.

POLS Y395 *Quantitative Political Analysis Cr. 3.* P: MA 153 or MA 168 (or equivalent), or consent of instructor. Introduction to methods and statistics used in political inquiry, including measures of central tendency and dispersion, probability, sampling, statistical inference and hypothesis testing, measures of association, analysis of variance, and regression. (fall)

POLS Y398 *Internship in Urban Institutions Cr. 1–6.* P: consent of instructor. This course is designed to provide opportunities for students to observe or participate directly in the policy-making process of those urban institutions requesting the assistance of paraprofessionals. Research and written reports are required. Evaluations will be made by both the agency and the instructor. Open to sophomores, juniors, and seniors. Students working in city and county institutions may repeat the course for a maximum of 9 credits. (fall, spring, summer)

POLS Y401 *Studies in Political Science Cr. 3. (V.T.)* Topic varies with the instructor and year; consult the *Schedule of Classes* for current information. May be repeated for credit with a different topic.

POLS Y480 *Undergraduate Readings in Political Science Cr. 1–6. (V.T.)* P: consent of instructor. Individual readings and research. (fall, spring, summer)

POLS Y482 *Practicum Cr. 1–6; 9 cr. maximum.* P: consent of instructor. Faculty-directed study of aspects of the political process based upon field experience. Directed readings, field research, research papers. (fall, spring, summer)

POLS Y490 *Senior Seminar in Political Science Cr. 3. (V.T.)* P: Y205 or consent of instructor. Open to senior majors and others with consent of instructor. Readings and discussion of selected problems; research paper ordinarily required. May be repeated once for credit with a different topic. (fall, spring)

POLS Y496 *Foreign Study in Political Science Cr. 3–8.* P: consent of instructor. Course involves planning of research project during year preceding summer abroad. Time spent in research abroad must amount to at least one week for each credit hour. Research paper must be presented by end of semester following foreign study. May not be repeated.

POLS Y499 *Honors Thesis Cr. 3–8.*
P: approval of department honors program director. May be repeated once for credit. (fall, spring)

Psychology (PSY)

PSY 120 *Elementary Psychology Cr. 3.*
Introduction to the fundamental principles of psychology, covering particularly the topics of personality, intelligence, emotion, abnormal behavior, attention, perception, learning, memory, and thinking.

PSY 120H *Elementary Psychology—Honors Cr. 3.* Honors equivalent of PSY 120.

PSY 201 *Introduction to Quantitative Topics in Psychology I Cr. 3, or Class 2, Lab. 2, Cr. 3.* P: 120 and either MA 153 or MA 168 or placement at a higher level of mathematics. An introduction to the development and application of statistical,

quantitative, and measurement techniques pertinent to the psychological sciences. Fundamental concepts of numerical assignment, sampling theory, distribution functions, experimental design, inferential procedures, and statistical control. Should be taken at Purdue University West Lafayette.

PSY 202 Introduction to Quantitative Topics in Psychology II Cr. 3, or Class 2, Lab. 2, Cr. 3. P: 201 or consent of instructor. Continuation of 201.

Fundamental concepts of test theory, introduction to applied psychological testing, the scaling of data, and an introduction to mathematical models of psychological phenomena.

PSY 203 Introduction to Research Methods in Psychology Class 2, Lab. 2, Cr. 3. P: 201; R: ENG W233. The use of scientific method in psychology. Lecture covers principles of collecting and interpreting data, using examples of research from many areas of psychology. In the laboratory portion, the student uses many different techniques from various areas of psychology. Should be taken at Purdue University West Lafayette.

PSY 203H Introduction to Research Methods in Psychology Class 2, Lab. 2, Cr. 3. Honors equivalent of PSY 203

PSY 235 Child Psychology Cr. 3. P: 120 (or equivalent). General principles of children's behavior and development from conception to adolescence, including sensory and motor development, and the basic psychological processes such as learning, motivation, and socialization.

PSY 235H Child Psychology—Honors Cr. 3. Honors equivalent of PSY 235.

PSY 240 Introduction to Social Psychology Cr. 3. R: 120. A broad survey of current knowledge about human social behavior. Topics covered include aggression, attraction and love, social influence, attitudes and attitude change, nonverbal communication, leadership, prejudice and discrimination, and application of social psychology to law, medicine, and other fields.

PSY 240H Introduction to Social Psychology—Honors Cr. 3. R: 120. Honors equivalent of PSY 240.

PSY 251 Health Psychology Cr. 3 P: 120. Health Psychology is concerned with the

interaction between behavior and health and illness. It includes the psychological study of the relationship between health and lifestyle, stress and coping, and health-injurious behaviors.

PSY 310 Sensory and Perceptual Processes Cr. 3. P: 6 credits in psychology. Theory, problems, and research in sensation and perception, including physiological bases and measurement techniques.

PSY 314 Introduction to Learning Class 3, Cr. 3. P: 120 (or equivalent) or consent of instructor; R: ENG W233. This course attempts to make clear the theoretical and practical implications of learning principles and findings. Various theories of learning are examined and the implications of theories, and the learning approach generally, for a variety of practical problems are emphasized.

PSY 314H Introduction to Learning—Honors Cr. 3. Honors equivalent of PSY 314.

PSY 329 Psychobiology II: Principles of Psychobiological Psychology Cr. 3. P: 6 credits in psychology; R: ENG W233. The relationship of physiology and basic anatomy, with special emphasis on the central nervous system, to variables fundamental to the study of psychology.

PSY 330 Psychology of the Arts Cr. 3. P: 120 (or equivalent). An examination of perceptual and cognitive processes involved in music and the visual arts. Topics include musical information processing, music reading, musical memory, the nature of musical ability and its relationship to other abilities, development of musical and artistic ability, the nature of artistic ability, the artistic process, and processing of visual-arts information.

PSY 334 Cross Cultural Psychology Cr. 3. R: 120. Examination and restructuring of the major psychological principles from a cultural perspective. A study of the diversity of development of the individual across Asian, African American, Latino/a, and American Indian/Alaskan Native cultures will be presented. The experience of self, role of the family and community, and the psychology of prejudice will be emphasized. Issues related to the workplace, religion, sexual orientation, ability status, and gender will also be

discussed. It will be assumed that the student already has some familiarity with major psychological theories and terminology.

PSY 345 Psychology of Women Cr. 3. P: 120 (or equivalent). Theories and current research on the psychological nature of women and their roles in society, including topics such as sex differences and similarities, sex-role socialization, sex-role stereotyping, female sexuality, achievement motivation, role conflict, mental-health issues, feminist therapy, rape, menstruation, pregnancy, childbirth, motherhood, and topics of related interest.

PSY 348 Group Human Relations Cr. 3. P: 6 credits in psychology. A concrete introduction to the psychology of personality, the structure and dynamics of small groups, and the formation and development of group cultures. Members constitute themselves into a self-analytic group that analyzes its own processes in relation to the personalities and roles of its members.

PSY 350 Abnormal Psychology Cr. 3. R: 120. Various forms of mental disorder from the standpoint of their origin, treatment, prevention, social significance, and relation to problems of normal human adjustment.

PSY 350H Abnormal Psychology—Honors Cr. 3. R: 120. Honors equivalent of PSY 350.

PSY 362 Human Development II: Adolescence Cr. 3. P: 235. A behavioristically oriented analysis of social, personality, and cognitive development in adolescence and youth.

PSY 365 Development of Gender Roles in Children Cr. 3. P: one course in psychology. Considers basic concepts and the varying theoretical interpretations for the development of gender roles with special attention given to recent empirical findings with children. Measures used in this area will be demonstrated in class and critically evaluated.

PSY 367 Adult Development and Aging Cr. 3. P: 120. Theory and research on adult development from young adulthood through the elderly years. Course covers biological, cognitive, personality, and social issues. Topics include vocational choice, marriage, parenthood, the empty nest,

menopause, memory and aging, retirement, widowhood, longevity, death and dying.

PSY 367H Adult Development and Aging—Honors Cr. 3. Honors equivalent of PSY 367.

PSY 369 Development Across the Lifespan Cr. 3. P: 6 credits in psychology. Considers theoretical, empirical, and methodological issues relevant to the study of human development from conception to death. Biological, cognitive, personality, and social aspects of development are covered.

PSY 371 Death and Dying Cr. 3. P: 6 credits in psychology. A multidisciplinary, empirically-based consideration of emotions, behaviors, and cognitions related to death and the process of dying. Topics include cultural and historical differences in concepts of dying, grief, and bereavement; individual differences related to preparation, adjustment, and coping, as well as discussion of special topics (e.g., hospice care, physician-assisted suicide, media coverage of death and dying).

PSY 372 Psychological Foundations of Work Behavior: Introduction to Industrial/Organizational Psychology Cr. 3. Survey of psychological principles and research methods relevant to organizations and industry. Topics include motivation, communication, leadership, conflict, and organizational effectiveness. Also covered are personnel selection, the work situation, human errors, and accidents.

PSY 381 Psychology and Law Cr. 3. P: 120 (or equivalent). An introduction to the application of psychological theory and research to the law. Topics covered include eyewitness identification, jury selection, jury decision making, and plea bargaining and various applications of psychology to legal philosophy and practice.

PSY 392 Special Topics in Psychology Cr. 1–3. (V.T.) P: 6 credits in psychology. Various topics, which may change from semester to semester, are presented by psychology department faculty. May be repeated for credit.

PSY 416 Cognitive Psychology Cr. 3. P: 9 credits in psychology; R: ENG W233. This course is designed to be a survey course covering a variety of research and theories within the field of cognitive psychology. A number of different topics will

be reviewed including attention, perception, human memory, knowledge representation, language, problem solving, reasoning, intelligence, skill acquisition, and expertise.

PSY 419 Psychopharmacology Cr. 3. P: 329 or consent of instructor. Examines the chemical substrates of behavior and the influences of various drugs (experimental, clinical, and recreational) on the nervous system and behavior. Pharmacological principles, behavioral procedures, neurophysiology, and synaptic transmission are reviewed. Major neurotransmitter systems in the brain are discussed in terms of the behaviors in which they are involved and the drugs that affect them. Emphasis is placed on using drug effects to understand the brain's control of behavior.

PSY 420 Introduction to Personality Theory Cr. 3. P: 6 credits in psychology; R: ENG W233. Personality theories selected from the traditions of psychoanalysis, behaviorism, and phenomenology-existentialism are presented and contrasted in the fundamental assumptions made by each outlook. Theorists include Freud, Adler, Jung, Dollard and Miller, Skinner, Bandura, Rogers, Bass, Benswanger, and Kelly.

PSY 426 Language Development Cr. 3. Linguistic descriptions, successive stages, and psychological explanations of typical patterns of oral language development.

PSY 444 Human Sexual Behavior Cr. 3. P: 120 (or equivalent) or consent of instructor. A survey of research in human sexuality with the primary focus at the social psychological level. Problems in sex research and theoretical issues will be considered.

PSY 460 Advanced Abnormal Psychology Cr. 3. P: 350. An advanced course in abnormal psychology allowing for more thorough coverage of selected disorders that were introduced in PSY 350. Topics covered will typically include the affective disorders, schizophrenia, anxiety and stress-related disorders, and personality disorders; but may vary somewhat with each offering of the course. Outside material related to description and diagnostic indicators of the disorders, latest research on etiology, and current treatment methods will be included.

PSY 480 Field Experience in Psychology Cr. 3. P: consent of instructor. Supervised

volunteer field work experiences in a setting appropriate to students' interests and goals. Intended as an opportunity to integrate theory and practice. (May be repeated once for credit with permission of instructor.)

PSY 490 Practicum in Psychotherapy Class 2, Clinic 2, Cr. 3. P: junior class standing and consent of instructor. Students are introduced to the theories and practice of psychotherapy through seminar discussion, role-played practice, supervision, and live observation of on-going psychotherapy cases in the departmental clinic.

PSY 495 Issues in Psychology Cr. 3. P: consent of instructor. May be repeated for credit. Specific topics announced each semester the course is offered.

PSY 496 Readings and Research in Psychology Cr. 1–6. (V.T.) P: consent of instructor. May be repeated for credit. Opportunity for students to study particular problems in any field of psychology and/or to initiate themselves into research techniques under the guidance of a member of the psychology faculty.

PSY 498 Senior Research Cr. 3. (V.T.) P: Senior standing and psychology major. Student conducts and writes a report on an individual research project under the guidance of a faculty member. May be repeated for credit.

PSY 499 Honors Thesis in Psychology Cr. 3. P: 201 and 203, a 3.0 (B) GPA, and consent of thesis advisor. For psychology majors only. Individual, original research especially encouraged for students considering graduate school. May be based on either data collection or a theoretical synthesis of previous research. The topic is selected by the student with approval from a thesis advisor who, along with a thesis advisory committee, evaluates the finished paper according to departmental standards.

Dual Level, Undergraduate-Graduate

PSY 523 Introduction to Theories of Psychotherapy Cr. 3. R: introductory course in theory of personality (e.g., PSY 420) advisable, especially for

undergraduates. A survey of the major approaches to psychotherapy, including their theory of illness and cure. Three traditions are represented: psychoanalytical (e.g., Freud, Adler, Jung), behavioral (e.g., Miller and Dollard, Wolpe, Stampf), and cognitive-phenomenological (e.g., Rogers, Kelly, Binswanger).

PSY 526 Psycholinguistics Cr. 3.

P: consent of instructor. An introduction to the descriptive devices, central issues, and varying methodologies of psycholinguistics.

PSY 532 Psychological Disorders of

Childhood Cr. 3. P: 6 credits in psychology. A review of the nature, causes, and consequences of deviations from normal childhood development. Emphasis is placed on the two most common types of psychological problems in childhood: mental retardation and behavior disorders.

PSY 540 History of Psychology Cr. 3.

P: senior class standing and 12 credits in psychology. A review of the philosophical, theoretical, and methodological issues that entered into the development of modern psychology. Emphasis is placed on historical themes that continue to be active in the science and profession of psychology.

PSY 550 Introduction to Clinical

Psychology Cr. 3. P: 12 credits in psychology. The case-study method, including a discussion of the importance of historical information, the contribution of clinical tests to diagnosis, and a general survey of prevention and treatment techniques.

PSY 590 Individual Research Problems

Cr. 1–3. (V.T.) P: 12 credits in psychology and consent of instructor. Opportunity for students to study particular problems in any field of psychology or initiate themselves into research techniques under the guidance of a member of the staff. May be repeated for credit.

PSY 592 Advanced Special Topics in

Psychology Class 1-3, Cr. 1-3. P: junior standing and 12 credits in psychology. Various topics that may change from semester to semester are presented by psychology faculty. May be repeated for credit.

Public and Environmental Affairs (SPEA)

SPEA E100 Environmental Topics

Cr. 1–3. (V.T.) Study of selected issues in environmental affairs. Topics vary from semester to semester. May be repeated for credit.

SPEA E162 Environment and People

Cr. 3. An interdisciplinary examination of the problems of population, pollution, and natural resources and their implications for society.

SPEA E272 Introduction to

Environmental Sciences Cr. 3. Application of principles from the life and physical sciences to the understanding and management of the environment. Emphases will be placed on (1) the physical and biological restraints on resource availability and use, and (2) the technological and scientific options to solving environmental problems.

SPEA E400 Topics in Environmental

Studies Cr. 3. P: a statistics course. An interdisciplinary consideration of specific environmental topics. May be repeated for credit.

SPEA H120 Contemporary Health Issues

Cr. 1–3. An examination of current public health, environmental health, and health service delivery issues in the United States. Topics include the organization and costs of health systems, access to care, and the interrelationships between risk factors and health; also environmental challenges facing our society and their impact on health.

SPEA H316 Environmental Science and

Health Cr. 3. A study of human interaction with the environment and potential impacts of environmental agents on health and safety. Hazards from natural sources and human activities that contaminate our air, land, water, food, homes, neighborhoods, and workplaces are examined. Environmental control activities, including pollution control technology and policy, are also examined.

SPEA H320 Health Systems

Administration Cr. 3. An overview of the U.S. healthcare delivery system. Examines the organization, function, and role of the system; current system problems; and alternative systems or solutions.

SPEA H322 Principles of Epidemiology

Cr. 3. A basic overview of epidemiologic methodology and techniques. Both communicable and chronic disease risk factors will be discussed, along with data acquisition, analysis techniques, and current published epidemiological studies.

SPEA H352 Health Finance and

Budgeting Cr. 3. A study of the financial management of healthcare facilities based on generally accepted business principles. Accounting and managerial control of cash, accounts receivable, inventory control, budgeting and cost control, as well as accounting and evaluation of short- and long-term debt will be examined.

SPEA H371 Human Resource

Management in Healthcare Facilities Cr. 3.

This course covers the function of management, which is concerned with the acquisition, development, and use of human resources in the field of healthcare delivery. Labor relations relating to healthcare delivery are also included.

SPEA H402 Hospital Administration

Cr. 3. P: H320. The study of organization, structure, function, and fiscal operations within hospitals. The role of the hospital in the community, relationship to official and voluntary health agencies, coordination of hospital departments and managerial involvement will be examined.

SPEA H411 Long-Term Care

Administration Cr. 3. Nursing home regulations, legal aspects, and insurance; personnel management; medical records; diet and food service; rehabilitation; nursing services; psychiatric aspects in handling of geriatric patients; professional standards; use of volunteer groups.

SPEA H416 Environmental Health Policy

Cr. 3. Study of professional requirements and duties of the environmental health functions within health agencies; consideration of applicable laws and standards in each environmental health function; environmental evaluation, implementation, and personnel responsibilities.

SPEA H422 The Social Epidemics: AIDS,

Violence, and Substance Abuse Cr. 3. This course examines HIV/AIDS, violence, and substance abuse in the context of racial, gender, sexual orientation, and class dynamics that may underlie the way these pathologies affect certain populations.

Emphasized is the recognition that how we define disease and causation can influence how we attempt to find a cure.

SPEA H441 *Legal Aspects of Healthcare Administration Cr. 3.* An overview of the liability and legal responsibility, as well as legal recourse healthcare facilities may exercise. This course will discuss policies and standards relating to health facility administration. Also included is a discussion of financial aspects unique to the hospital/healthcare facility environment, such as third-party payments and federal assistance.

SPEA H455 *Topics in Public Health Cr. 1–3. (V.T.)* Extensive discussion of selected topics in public health. The topic may change from semester to semester with resource availability and student demand. May be repeated for credit.

SPEA H456 *Managed Care Cr. 3.* Course examines the organizational structures of managed care as used in the health industry. The strengths and weaknesses of managed care organizations are examined as well as the performance of both public and private managed care organizations. Course also examines and discusses current issues surrounding managed care.

SPEA H474 *Health Administration Seminar Cr. 3.* This course will examine current issues in public health and governmental and private initiatives to resolve those issues.

SPEA J101 *The American Criminal Justice System is a prerequisite for all other criminal justice courses.*

SPEA J101 *The American Criminal Justice System Cr. 3.* Introduction to the criminal justice system of the United States and its function in contemporary society.

SPEA J201 *Theoretical Foundations of Criminal Justice Policies Cr. 3.* This course examines the impact of sociological, biological, and economic theories of crime and the practice of criminal justice. Focus is upon the nature and importance of theory, context of theoretical developments, methods for the critical analysis of theoretical developments, and policy implications of the varying perspectives considered.

SPEA J202 *Criminal Justice Data, Methods, and Resources Cr. 3.* R: MA 113 (or equivalent), CS 106 (or equivalent). Course examines basic concepts of

criminal justice. Students become familiar with research techniques necessary for systematic analysis of the criminal justice system, offender behavior, crime trends, and program effectiveness. Students will learn to critically evaluate existing research. Students will become familiar with existing sources of criminal justice data and will learn to assess the quality of that data.

SPEA J260 *Topics in Criminal Justice Cr. 1–3. (V.T.)* Study of selected issues in criminal justice. Topics vary from semester to semester. May be repeated for credit.

SPEA J301 *Substantive Criminal Law Cr. 3.* P: J201 and J202. The development, limitations, and application of substantive criminal law utilizing the case-study method.

SPEA J302 *Procedural Criminal Law Cr. 3.* Criminal law application and procedure from the initiation of police activity through the correctional process utilizing the case-study method.

SPEA J303 *Evidence Cr. 3.* The rule of law governing proof at trial of disputed issues of fact; burden of proof; presumptions and judicial notice; examination, impeachment, competency, and privileges of witnesses; hearsay rule and exceptions; all related as nearly as possible to criminal, as opposed to civil, process.

SPEA J304 *Correctional Law Cr. 3.* Legal problems from conviction to release; pre-sentence investigations, sentencing, probation, and parole, incarceration; loss and restoration of civil rights.

SPEA J305 *Juvenile Justice Cr. 3.* P: J101. This course is designed to provide an overview of the justice system's response to abused, neglected, and dependent children; juvenile misconduct; and delinquent behavior. An extensive review of the development of recent legal changes to the court, options for prevention, treatment of juvenile offenders, and possible system reforms.

SPEA J306 *The Criminal Courts Cr. 3.* R: J201 and J202. An analysis of the criminal justice process from prosecution through appeal. The organization and operation of felony and misdemeanor courts are examined. Topics include prosecutorial decision-making; plea-bargaining; judicial selection; and the conduct of trials, sentencing, and appeal.

SPEA J310 *Introduction to Administrative Processes Cr. 3.* Introduction to principles of management and system theory for the administration of criminal justice agencies. Credit not given for J310 and V270.

SPEA J320 *Criminal Investigation Cr. 3.* Theory of investigation, crime-scene procedures, interviews, interrogations, surveillances, and sources of information; collection and preservation of physical evidence; investigative techniques in specific crimes.

SPEA J321 *American Policing Cr. 3.* P: J101; R: J201, J202. This course will examine the history, evolution, and organization of policing in the United States. Emphasis is placed on such major contemporary issues as the police role, discretion, use of force, corruption, accountability, and community policing.

SPEA J322 *Introduction to Criminalistics Cr. 3.* R: J301. The broad range of physical evidence developed through the investigative process, and methods of identifying and establishing validity and relevance through forensic laboratory techniques.

SPEA J331 *Corrections Cr. 3.* P: J101; R: J201, J202. This course examines the historical development of the American correctional system; the study of administration of local, state, and federal corrections programs, including jail, probation, community corrections, and prisons. Includes the study of punishment rationales, current correctional policies, and possibilities for reform.

SPEA J369 *Private Justice: Police, Courts, and Corrections Cr. 3.* P: J101. This course examines the role of private policing and security; courts and adjudication; and corrections. Includes legislative and ethical issues and the economics of criminal and juvenile justice privatization. Principles of loss prevention, protection of assets, relationship between public and private services, and current issues in privatization will be discussed.

SPEA J370 *Seminar in Criminal Justice Cr. 3. (V.T.)* Selected contemporary topics in criminal justice. May be repeated for credit.

SPEA J376 *Principles of Public Safety Cr. 3.* Examination of threats to public

safety and of governmental response at various levels to those threats. Treatments of such areas as transportation and highway threats, occupational safety and health, criminal threats, emergency and disaster planning, consumer protection, and fire control and suppression. Discussion of techniques to identify and measure risk, the acceptability of risk, and governmental attempts to control risk.

SPEA J380 Internship in Criminal Justice Cr. 3. P: permission of instructor. Open to interested students who qualify upon approval of the faculty. Students may be placed with various criminal justice agencies for assignment to a defined task relevant to their educational interests. Tasks may involve staff work or research. Full-time participants may earn up to 6 credit hours. May be repeated for credit. Course is graded S/U (satisfactory/unsatisfactory).

SPEA J433 Institutional Corrections Cr. 3. The history and development of the jail, penitentiary, prison, and reformatory. Analysis and evaluation of contemporary imprisonment.

SPEA J439 Crime and Public Policy Cr. 3. P: senior standing or consent of instructor. A detailed examination of the major efforts designed to control or reduce crime. A review of existing knowledge is followed by an investigation of current crime control theories, proposals, and programs.

SPEA J440 Corrections in the Community Cr. 3. A detailed analysis of correctional alternatives to incarceration that focus on the reintegration of the offender while remaining in the community. Because of their extensive use, considerable attention is given to probation and parole. Other topics include diversion, community residential programs, restitution, halfway houses, and home detention.

SPEA J445 Trends in Corrections Cr. 3. R: J331. Analysis and evaluation of contemporary correctional systems. Discussion of recent research concerning the correctional institution and the various field services.

SPEA J460 Police in the Community Cr. 3. In-depth examination of crime as an urban policy problem, focusing on the role of police and victims in defining crime as a policy problem, and their role in seeking to reduce the incidence of crime.

SPEA J470 Seminar in Criminal Justice Cr. 3. P: senior standing. Emphasizes current developments in legal, administrative, and operational aspects of the criminal justice system.

SPEA J480 Research in Criminal Justice Cr. 1–6. P: junior standing and consent of instructor. Individual research under guidance of faculty member.

SPEA K300 Statistical Techniques Cr. 3. P: MA 109 or equivalent; R: MA 213. An introduction to statistics. Nature of statistical data. Ordering and manipulation of data. Measures of central tendency and dispersion. Elementary probability. Concepts of statistical inference decision. Estimation and hypothesis testing. Special topics discussed may include regression and correlation, analysis of variance, nonparametric methods. Credit given for only one of the following: K300, ECON E270, SOC S351, POLS Y395, PSY 201, STAT 301.

SPEA V170 Introduction to Public Affairs Cr. 3. Broad coverage of public affairs through critical and analytical inquiry into policy-making at all levels of government. Particular emphasis on intergovernmental relations as they affect policy in the federal system.

SPEA V260 Topics in Public Affairs Cr. 1–3. (V.T.) Study of selected issues in public affairs. Topics may vary from semester to semester. May be repeated for credit.

SPEA V263 Public Management Cr. 3. This course is an examination of the management process in public organizations in the United States. Special attention will be given to external influences on public managers, the effects of the intergovernmental environment, and, in particular, problems of management in a democratic, limited government system.

SPEA V264 Urban Structure and Policy Cr. 3. An introduction to urban government and public policy issues. Topics include urban government structure and policy making, the economic foundations and development of cities, demography of cities and suburbs, land-use planning, and other selected urban policy problems.

SPEA V270 Survey of Administrative Techniques Cr. 3. Introduction to principles of management and systems theory for the

administration of public agencies. Credit not given for both V270 and J310.

SPEA V340 Urban Government Administration Cr. 3. Structure of local government in the United States, federalism and intergovernmental relations, policy problems faced by local officials, and the implications of these problems for local government administrators.

SPEA V348 Management Science Cr. 3. P: K300, MA 213. Introduction to management-science models and methods for policy analysis and public management. Methods include decision analysis, linear programming queuing analysis, and simulation. Computer-based applications are included. Prior familiarization with computers is recommended, though not required.

SPEA V365 Urban Development and Planning Cr. 3. P: V264, K300. This course identifies the major problems associated with urban development in the United States and investigates the potential of public planning strategies and tools to deal with these problems. An emphasis is placed on the application of analytical approaches to problem definition and solution.

SPEA V366 Managing Behavior in Public Organizations Cr. 3. This course provides an introduction to the management of people in public organizations. Focus is on behavioral science in management and related analytical and experiential applications.

SPEA V368 Managing Government Operations Cr. 3. P: V348. Application of analytical techniques to operating decisions in the public-management sector. Cases are used extensively to illustrate the application of techniques (such as charting, capacity and demand analysis, forecasting, performance measurement, decision analysis, queuing/simulation, Markov modeling, and cost-effective analysis) to design, scheduling, inventory assignment, transportation, and replacement decisions.

SPEA V370 Research Methods and Statistical Modeling Cr. 3. P: K300 (or equivalent). This course will introduce the student to the basic methods, issues, analytical techniques, and ethical considerations of evaluation research.

SPEA V371 Financing Public Affairs

Cr. 3. P: V170, ECON E201, E202. A survey of economic and political theories of market failures, public expenditure evaluation, economic stabilization, systems of redistribution and fiscal federalism. Examples and applications to contemporary government decisions.

SPEA V372 Government Finance and Budgets Cr. 3.

Study of fiscal management in public agencies, including revenue administration, debt management, and public budgeting.

SPEA V373 Human Resources Management in the Public Sector Cr. 3.

The organization and operation of public personnel-management systems, with emphasis on concepts and techniques of job analysis, position classification, training, affirmative action, and motivation.

SPEA V376 Law and Public Policy Cr. 3.

The purpose of this course is to provide a basic understanding of the origins, process, and impact of law in the making and implementing of public policy. The course's major objective is to provide students with the substantive concepts necessary to understand the judicial system and law in its various forms.

SPEA V377 Legal Process and Contemporary Issues in America Cr. 3.

P: V376. An introduction to the American legal system, including the Constitution, courts system, and administrative law in federal and state agencies. Readings and discussion center around current issues affected by the legal process.

SPEA V380 Internship in Public Affairs

Cr. 1–6. (V.T.) P: permission of instructor. Open to interested students upon approval of the faculty. Students are placed with public agencies or governmental units for assignment to a defined task relevant to their educational interests in public affairs. Tasks may involve staff work or research. Full-time participants may earn up to 6 credits. Course is graded S/U (satisfactory/unsatisfactory).

SPEA V390 Readings in Public Affairs

Cr. 1–3. P: permission of instructor. Independent readings and research related to a topic of special interest to the student. Written report required. May be repeated for credit.

SPEA V405 Public Law and the

Legislative Process Cr. 3. This course focuses on Congress as a policy-making body in the U.S. public law system. It covers the constitutional framework for congressional operations as well as technical aspects of the legislative process such as bill drafting and analysis, the role of leadership, and the prerogatives of individual members.

SPEA V406 Public Law and the Electoral

Process Cr. 3. The purpose of this course is to facilitate understanding of the interaction of electoral politics and policy. It covers the legal framework of the evolution of the "right" to vote, the impact of the judiciary on the structure of elections, limitations on campaign practices, and the importance of legislative districting and its control.

SPEA V407 Public Law and Government Relations Cr. 3.

The purpose of this course is to build understanding of government relations work as applied to careers in the field. It covers the historical evolution of the constitutional right to petition the government with an understanding of the limitations imposed on the process. The interaction of public and private sectors is included.

SPEA V421 Metropolitan Development

Cr. 3. Discussion of the process of development in metropolitan regions. Includes topics such as economic development, land use evolution, and demographic change. Consideration of relevant policy issues.

SPEA V432 Labor Relations in the Public

Sector Cr. 3. An introductory overview of labor relations in the public sector. Course includes the development, practice, and extent of the collective bargaining process and administration of the labor agreement by state and local governments.

SPEA V441 Topics in Financial

Management and Policy Cr. 3. P: V372. Various topics on financial management and policy are examined in a state and local setting. Course may be repeated for credit under different topics.

SPEA V444 Public Administrative

Organization Cr. 3. A review of research findings and analysis of the operation of public agencies and their performance.

SPEA V447 Federal Budget Policy Cr. 3.

Examination of the institutions and

processes involved in putting together the annual federal budget, with emphasis on the role of the Appropriations and Budget committees in Congress and the White House and the Office of Management and Budget in the executive branch. Selected major policy areas will be considered.

SPEA V449 Policy Senior Seminar Cr. 3.

P: V348. Discussion of the role of policy analysis in government. Applications of analytical tools to substantive policy areas such as transportation, community development, education, poverty, manpower, and health.

SPEA V450 Contemporary Issues in

Public Affairs Cr. 1–3. (V.T.) Extensive analysis of selected contemporary issues in public affairs. Topics vary from semester to semester. May be repeated for credit.

SPEA V456 Topics in Public Law Cr. 3.

Extensive analysis of selected contemporary issues in public law. Topics vary from semester to semester. May be repeated for credit.

SPEA V457 Management Science in the

Public Sector Cr. 3. P: K300, V348, CS 106. An intermediate treatment of management science methods with primary application to public managerial decision support. Topics include network analysis, queuing, simulation, and others. Computer-based analysis is emphasized.

SPEA V465 GIS Mapping Cr. 3.

P: J261 or CS 106. Students will learn the concepts, methodologies, and perspectives essential for using geographic information systems (GIS) to address critical public affairs issues. Through course projects, students will learn how to use desktop and Internet-based GIS applications and will develop complementary skills related to designing and implementing GIS applications for public-sector organizations.

SPEA V471 Urban Management Systems

Cr. 3. P: V348 and senior class standing. This course is designed to extend the students' skill in applying a variety of qualitative and quantitative methods to the problems of urban government planning and management.

SPEA V472 Policy Processes in the

United States Cr. 3. P: senior class standing. Intended as an integrative senior course, primarily for SPEA students. Course content includes analytic perspectives of

the policy process, the centers of policy, and the public interest. Selected cases involving problem analysis and decision making on public issues are included, as well as discussion of current policy issues.

SPEA V473 Management Applications Seminar Cr. 3.

The purpose of this seminar is to provide students with an opportunity to apply the techniques they have learned to an actual situation. Special attention will be paid to feasible as contrasted to desirable solutions. Emphasis will be given to the contextual factors involved in developing feasible solutions.

SPEA V490 Directed Research in Public and Environmental Affairs Cr. 1–3.

To be arranged with the individual instructor and approved by the chairperson of the undergraduate program. May be repeated for credit.

Radiography (AHLT)

AHLT R100 Orientation to Radiologic Technology Cr. 2.

C: R101, R102, R181. Introduction to the field of radiology and its history. Students learn proper ethical standards, become acquainted with the duties and responsibilities in personal care for the patient, and investigate radiation protection for the patient and personnel. Degree credit will not be given for both R100 and R104.

AHLT R101 Radiographic Procedures I Cr. 3–4.

C: R100, R102, R104, R181. Concepts in radiography with emphasis on the radiographic procedures used to demonstrate the skeletal system.

AHLT R102 Principles of Radiography I Cr. 3.

C: R101, R181, Math 153. Basic concepts of radiation, its production, and its interactions with matter. Includes the production of the radiographic image and film processing.

AHLT R181 Clinical Experience in Radiography Cr. 1–6. (V.T.)

C: R100. Clinical application of radiographic positioning, exposure techniques, and departmental procedures in all phases of radiologic technology, under the direct supervision of a registered technologist until mastery of clinical objectives is reached.

AHLT R182 Clinical Experience in Radiography Cr. 1–6. (V.T.)

P: R101, R181. Clinical application of radiographic positioning, exposure techniques, and

departmental procedures in all phases of radiologic technology, under the direct supervision of a registered technologist until mastery of clinical objectives is reached.

AHLT R185 Medical Terminology Cr. 1.

Introduction to origin and derivation of medical words as well as their meaning.

AHLT R200 Pathology Cr. 2–3.

P: anatomy/physiology. A survey of the changes that occur in the diseased state to include general concepts of disease, causes of disease, clinical symptoms and treatment, and diseases that affect specific body systems.

AHLT R201 Radiographic Procedures II Class 2–3, Lab. 0–3, Cr. 3–4.

C: R101, R182, R202. Concepts in radiography with emphasis on radiographic procedures used to demonstrate the skull and those requiring the use of contrast media.

AHLT R202 Principles of Radiography II Cr. 3.

C: R102, R181, R201. Continuation of R102 with emphasis on the properties that affect the quality of radiographic image.

AHLT R205 Radiographic Procedures III Class 2–3, Lab. 0–3, Cr. 3–4.

C: R201, R222. Concepts in radiography with emphasis on special radiographic procedures and related imaging modalities.

AHLT R222 Principles of Radiography III Cr. 3.

P: R202. Continuation of R202 with emphasis on the application of radiography principles of imaging equipment.

AHLT R250 Physics Applied to Radiology Cr. 2–4.

P: MA 153. Fundamentals of radiation physics, X-ray generation, and equipment quality control.

AHLT R260 Radiation Biology and Protection in Diagnostic Radiology Cr. 1–3.

P: R250. Study of the biological effects of ionizing radiation and the standards and methods of protection. Emphasis is placed on X-ray interactions. Also included are discussions on radiation exposure standards and radiation monitoring.

AHLT R281 Clinical Experience in Radiography Cr. 1–6. (V.T.)

P: R182, R201. Clinical application of radiographic positioning, exposure techniques, and departmental procedures in all phases of radiologic technology, under the direct supervision of a registered technologist until mastery of clinical objectives is reached.

AHLT R282 Clinical Experience in Radiography Cr. 1–6. (V.T.)

P: R182, R201. Clinical application of radiographic positioning, exposure techniques, and departmental procedures in all phases of radiologic technology, under the direct supervision of a registered technologist until mastery of clinical objectives is reached.

AHLT R283 Clinical Experience in Radiography Cr. 1–6. (V.T.)

P: R182, R201. Clinical application of radiographic positioning, exposure techniques, and departmental procedures in all phases of radiologic technology, under the direct supervision of a registered technologist until mastery of clinical objectives is reached.

AHLT R290 Comprehensive Experience Cr. 1–8.

P: R281, R282, R283. Clinical application of radiographic positioning, exposure techniques, and departmental procedures in all phases of radiologic technology under the direct supervision of a registered technologist. Successful completion involves mastery of all clinical aspects of the program.

RHIT has been changed to HTM, See Hospitality and Tourism Management

Russian (SLAV)

In general, grades of Incomplete are not given in 100- and 200-level language courses.

SLAV R111–R112 Elementary Russian I–II Class 4–4, Lab. 1–1, Cr. 4–4.

Courses in the fundamentals of Russian, both written and spoken, for beginners. Drill in pronunciation, fundamental grammatical structures of the language, and readings of easy materials. Extensive practice in spoken Russian.

SLAV R214–R215 Second-Year Russian I–II Cr. 4–4.

P: R112 (or equivalent). Review of first-year materials. Intermediate morphological and syntactic pattern of modern Russian. Drills in classroom and audio laboratory, written exercises, and reading in modern fiction and nonfiction. Extensive practice in spoken Russian.

Sociology (SOC)

SOC S161 Principles of Sociology Cr. 3.

Nature of interpersonal relationships, societies, groups, communities, and institutional areas such as the family, industry, and religion, social process operating within these areas; significance for problems of personality, human nature, social disorganization, and social change. (fall, spring, summer)

SOC S163 Social Problems Cr. 3. Major social problems in areas such as the family, religion, economic order, crime, mental disorders, civil rights; racial, ethnic, and international tensions. Relation to structure and values of larger society. Although no prerequisite is required, it is strongly recommended that students have some previous social science course work and/or familiarity with basic sociological concepts and methodology. (fall, spring, summer)

SOC S164 Marital Relations and Sexuality Cr. 3. Analysis of courtship, marriage and its alternatives, and the basic issues of human sexuality, with an emphasis on contemporary American society.

SOC S230 Society and the Individual Cr. 3. P: S161. Personality and its development; relationship to culture and communication and to social settings; deviant types. Credit not given for both S230 and S232. (spring, summer)

SOC S260 Analysis of Social Issues Cr. 3. P: S161 and ENG W131 (or equivalent). Introduction to the analysis of social issues. Emphasis on the development of writing skills appropriate to the discipline. *Approved by Arts and Sciences for use in fulfilling the writing requirement.*

SOC S295 Selected Topics in Sociology Cr. 3. P: S161. Specific topics announced in the *Schedule of Classes* (e.g., Conflict Resolution and Mediation and Sociological Practice in the Community).

SOC S298 Colloquium in Sociology and Women's Studies Cr. 3. (V.T.) R: one SOC or WOST course. Extensive analysis of selected topics in sociology from a women's studies perspective, e.g., sexism and men, family violence, rape. Specific topics announced in the *Schedule of Classes*. May be repeated with different topic for a maximum of 6 credits.

It is recommended that you take ENG W233 or SOC S260 (or equivalent) before you enroll in any 300-level sociology course.

SOC S300 Race and Ethnic Relations Cr. 3. P: S161 and S260 or ENG W233 (or equivalent), or consent of instructor. Relations between racial and ethnic minority and majority groups; psychological, cultural, and structural theories of prejudice and discrimination; comparative analysis of diverse systems of intergroup relations.

SOC S303 Industrial Sociology Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Relationship of modern industrial organization and of labor and management organizations to political system, social class system, and other aspects of the society and community; formal and informal organizations within industry; intergroup conflict and processes of adjustment.

SOC S305 Population Cr. 3. P: S161. Population composition, fertility, mortality, natural increase, migrations; historical growth and change of populations; population theories and policies; techniques in manipulation and use of population data; and the spatial organization of populations.

SOC S306 Urban Society Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. A study of cities and urbanization in the modern world; special consideration of ecological patterning, urban lifestyles, and urban problems.

SOC S308 Introduction to Comparative Sociology Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Social organization of modern societies. Distinctions and broad cross-cultural comparisons between Western and non-Western social systems. Methods of cross-cultural analysis.

SOC S309 The Community Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Sociological definitions of community; theories of community and community organization; social, political, and economic factors that contribute to community organization and disorganization; alternative models of community development and planning.

SOC S313 Religion and Society Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. The nature, consequences, and theoretical origins of religion as evident in social construction and functional perspectives; the social origins and problems of religious organizations; and the relationships between religion and morality, science, magic, social class, minority status, economic development, and politics.

SOC S314 Social Aspects of Health and Medicine Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. The effects of group characteristics in the causation, amelioration, and prevention of mental and physical illness, and the social influences in medical education, medical practice, and hospital administration.

SOC S315 Work and Occupations Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Treats work roles within such organizations as factory, office, school, government, and welfare agencies; career and occupational mobility in work life; formal and informal organizations within work organizations; labor and management conflict and cooperation; problems of modern industrial workers.

SOC S316 The Family Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Cross-cultural perspectives on family systems; structure and process of the conjugal family in modern and emerging societies. Focus on relationships of the family to other subsystems of the larger society and on interaction within the family in connection with these interrelationships. Emphasis on development of systematic theory. (fall, summer)

SOC S317 Inequality Cr. 3. P: 3 credits of sociology or consent of instructor. Nature, functioning, and maintenance of systems of social stratification in local communities and societies. Correlates and consequences of social class position and vertical mobility.

SOC S318 Social Change Cr. 3. P: S161; ENG W233 or S260 (or equivalent), or consent of instructor. Introduction to theoretical and empirical studies of social change. Explores issues such as modernization; rationalization;

demography, economic, and religious causes of change; reform and revolution.

SOC S320 *Deviant Behavior and Social Control* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Analysis of deviance in relation to formal and informal social processes. Emphasis on deviance and respectability as functions of social reactions, characteristics of rules, and power and conflict.

SOC S321 *Variations in Human Sexuality I* Cr. 3. P: 3 credits in sociology or consent of instructor. Sociological examination of patterns and variations in several dimensions of human sexuality: sexual definitions, incidence of various behaviors, intensity of sexual response, sexual response, sexual object choice, and other modes of sexual expression.

SOC S324 *Mental Illness* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Social factors in mental illnesses: incidence and prevalence by social and cultural categories; variations in societal reaction; social organization of treatment organizations.

SOC S325 *Criminology* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Factors in genesis of crime and organization of criminal behavior from points of view of the person and the group.

SOC S328 *Juvenile Delinquency* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. A study of the nature, incidence, causes, control, and theories of juvenile delinquency in modern societies.

SOC S331 *Sociology of Aging* Cr. 3. P: S161 and ENG W233 or SOC 260 (or equivalent), or consent of instructor. Designed for people who want to learn about the phenomenon of aging. Topics of discussion will include the myths about aging and/or growing old in American society, the process of aging, sexual behavior, social relationships, family, religious activities, and leisure of the elderly.

SOC S338 *Sociology of Gender Roles* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Exploration of the properties, correlates, and consequences of sex roles in contemporary societies. Emphasis on

defining sex roles, tracing their historical development, considering their implications for work, marriage and fertility, with cross-cultural comparisons.

SOC S340 *Social Theory* Cr. 3. P: S161 and ENG W233 or S260 (or equivalent), or consent of instructor. Sociological theory, with focus on content, form, and historical development. Relationships among theories, data, and sociological explanation.

SOC S348 *Introduction to Sociological Theory* Cr. 3. P: 6 credits of sociology. Sociological theory beginning with Auguste Comte and Herbert Spencer. Theorists and their works considered from the standpoint of basic issues in sociological thinking. Emphasis on convergences of separate streams of thought. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.* (spring)

SOC S351 *Social Statistics* Cr. 3. P: S161 and MA 149 or MA 151 or MA 153 (or placement above MA 153), ENG 233 or SOC S260 (or equivalent), or consent of instructor. Introduction to statistics including measures of central tendency and dispersion, probability, statistical inference and hypothesis testing, regression and correlation, and analysis of variance. Credit not given for both S250–S251 and S351–S352. (fall)

SOC S352 *Methods of Social Research* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Introduction to methods of research integrating theory construction, research design, and the construction of research instruments for data collection. Credit not given for both S250–S251 and S351–S352. (spring)

SOC S360 *Topics in Social Policy* Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Specific topics announced each semester; examples include environmental affairs, urban problems, poverty, and population problems.

SOC S398 *Internship in the Behavioral Sciences* Cr. 3. P: S161 and three other sociology courses, including at least one at the 300 level, and approval of internship coordinator. Individual research problems. Students are placed in cooperating social, welfare, and behavior-modification agencies to receive experience as learning paraprofessionals. Work is supervised by

the department and agency. Research and written reports are required. Evaluations by the agency and department. May be repeated for a maximum of 9 credits.

SOC S403 *Industry, Labor, and Community* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Interdependence of business, labor, and community; how industry shapes the community; community and union-management relations. Role of business and labor in community power structure.

SOC S407 *Society of the Future* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Examination of social, cultural, and technological trends in the modern world. Creation of the society of the future through class discussion and game playing.

SOC S410 *Topics in Social Organization* Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Specific topics announced each semester, e.g., social stratification, formal organizations, urban social organization, education, religion, politics, demography, social power, social conflict, social change, comparative social systems, race and ethnic relations, rural sociology, urban sociology, and work reorganization. *Approved by Arts and Sciences for use in fulfilling the Cultural Studies (Non-Western Culture) requirement only when the topic is Culture of China.* May be repeated three times for credit. (fall, summer)

SOC S413 *Sex Inequality in Society* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Major theories of sex inequality; historical and cross-cultural variations in systems of sex inequality; social, economic, political, and cultural processes perpetuating sex inequality in U.S. society; interrelationships between racial, class, and sex inequality; strategies for social change.

SOC S415 *Sociology of Education* Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. The role of educational institutions in modern industrialized societies, with emphasis on the functions of such institutions for the selection, socialization, and certification of individuals for adult social roles. Also covers recent educational reform movements and the implications of current social policies on education.

SOC S419 Revolutions and Social Movements Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Change-oriented social and political collective action and consequences for groups and societies. Social, psychological, historical, and comparative analysis of contemporary movements and revolutions.

SOC S420 Topics in Deviance Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Specific topics announced each semester, e.g., crime, juvenile delinquency, law enforcement, corrections, mental illness, sexual deviance, drug use, violence, and physical disability. May be repeated three times for credit. (spring)

SOC S425 Violence and Society Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Considers violence in society: its origins, forms, and consequences. Aspects of violence considered include biological, psychological, social, and cultural. Forms examined include revolution, terrorism, family violence, religious conflict, and mobs/riots. Purpose of the course is to help the student better understand the role played by violence in modern society.

SOC S429 Crime and Community Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. This course examines the ways social, political, and economic factors contribute to community disorganization and the role this disorganization plays in the generation of crime. The course will also investigate, compare, and develop ways in which the community can be organized to prevent and/or control crime.

SOC S431 Topics in Social Psychology Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor, and S230. Specific topics announced each semester, e.g., socialization, personality development, small-group structures and processes, interpersonal relations, language and human behavior, attitude formation and change, collective behavior, public opinion, intergroup relations. May be repeated three times for credit.

SOC S440 History of Social Thought Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor.

Social theories from the Greeks to the close of 19th century, with emphasis on relation of social thought to social forces. *Approved by Arts and Sciences for the Cultural Studies (Western Tradition) requirement.*

SOC S441 Topics in Social Theory Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Specific topics announced each semester, e.g., structuralism, evolutionary theory, symbolic interaction theory, functionalism, social action theory, exchange theory, history and development of social theory, sociology of knowledge. May be repeated three times for credit.

SOC S447 Theories of Social Change Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Idea of progress; linear philosophy of history; social and cultural evolution; contemporary theories.

SOC S448 Sociology of Marx Cr. 3. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Examination of Marx's writings with emphasis on their implications for sociological theory and the analysis of society. Marx's work will be viewed as a synthesis of English political economy, French socialism, and German philosophy. Applicability of a Marxian sociology to contemporary society.

SOC S450 Topics in Methods and Measurement Cr. 3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor, S352 or consent of instructor. Specific topics announced each semester, e.g., scaling, logic of inquiry, model construction and formalization, research design, data collection, sampling, measurement, statistical analysis. May be repeated three times for credit.

SOC S470 Senior Seminar Cr. 1–3. (V.T.) P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor. Topics to be announced.

SOC S494 Field Experience in Sociology Cr. 1–6. P: S161 and ENG W233 or SOC S260 (or equivalent), or consent of instructor and prior arrangement. Faculty-directed study of aspects of sociology based on field experience in conjunction with directed readings and writing. Specifically, each intern is required to (1) keep a daily or weekly journal, which is given at regular intervals to the faculty

sponsor; (2) give an oral report once the fieldwork is completed; (3) depending on academic credit, write a journal or analytic paper or both.

SOC S495 Individual Readings in Sociology Cr. 1–3. (V.T.) Prior arrangement, usually in conjunction with honors work. (fall, spring, summer)

Spanish (SPAN)

In general, grades of Incomplete are not given in 100- and 200-level language courses.

Study Abroad

IPFW students with an appropriate command of Spanish may apply for a year's study, with full credit, in the IU programs at Madrid, Spain. Participation is not limited to Spanish majors. There are also semester programs in Spain (Alicante, Madrid, and Seville) and Chile (Santiago) and summer programs in Spain (Salamanca) and Mexico (Cuernavaca, Guanajuato, and Mexico City). For further information, consult the coordinator of overseas study programs, Department of Modern Foreign Languages.

SPAN S111 Elementary Spanish I Class 4, Lab. 0, Cr. 4. Introduction to Spanish language as well as to Hispanic cultures. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Weekly attendance at lab required. S111 is a course for beginners. Students with two years of high school Spanish must take S113.

SPAN S112 Elementary Spanish II Class 4, Lab. 0, Cr. 4. P: S111. Introduction to Spanish language as well as to Hispanic cultures. Emphasis on development of communicative competence in speaking, listening, reading, and writing. Weekly attendance at lab required.

SPAN S113 First-year Spanish in One Semester Class 4, Lab. 1, Cr. 4. P: two years of high school Spanish (grades 9–12). Required beginning course for students with at least two years of high school Spanish who did not place into S203 or higher. Review of selected material from S111 before proceeding to S112 material. Weekly attendance at supervised

lab required. Credit will not be given for both S112 and S113.

SPAN S203–S204 *Second-Year Spanish I–II Cr. 3–3.* P for S203: S112 or S113; P for S204: S203. Meets three hours a week. Continuation of S111–S112/S113 with grammar review and increased emphasis on communication skills. Reading and discussion in Spanish of contemporary literature, essays, and/or cultural readings. Practice in composition.

SPAN S210 *Second-Year Spanish Composition Cr. 2–3.* P: S203. Intensive practice in writing expository, descriptive, and narrative prose, with weekly compositions to be discussed and corrected in class. Normally taken concurrently with S204. (spring)

SPAN S246 *Women in Hispanic Literature Cr. 3.* Discussion of the roles of Spanish and Spanish-American women as reflected in literature in translation from the 17th century to the present and of works written by women. The works are considered both as literature and as documents of attitudes toward women in Hispanic society. Lectures and readings in English. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

SPAN S290 *Topics in Hispanic Culture Cr. 3.* Emphasis on one topic, author, or genre in Hispanic culture. May be repeated once for credit with different topic.

Students are encouraged to enroll in SPAN W300 (required for Spanish majors) concurrently with enrollment in their first 300-level literature course.

SPAN S301–S302 *The Hispanic World I–II Cr. 3–3.* P: S204. Introduction to Hispanic culture through literature. Study of representative literary works of both Spain and Spanish America in the context of Hispanic history, art, philosophy, folklore, etc. (S301 fall; S302 spring)

SPAN S311 *Spanish Grammar Cr. 3.* P: S204. This course is designed to integrate the four basic language skills into a review of the major points of Spanish grammar. Course work will combine grammar exercises with brief controlled compositions based on a reading assignment and class discussion in Spanish. Sentence exercises will be corrected and discussed in class.

SPAN S312 *Written Composition in Spanish Cr. 3.* P: S311. This course integrates the four basic language skills into a structured approach to composition. Some review of selected points of Spanish grammar will be included. Each student will write a weekly composition, increasing in length as the semester progresses. Emphasis will be on correct usage, vocabulary building, and stylistic control.

SPAN S315 *Spanish in the Business World Cr. 2–3.* P: S204. Introduction to the technical language of the business world with emphasis on problems of style, composition, and translation in the context of Hispanic morals.

SPAN S316 *Commercial Spanish Cr. 2–3.* P: S204. The objective of this course is to teach the student to write the ordinary kinds of business letters and to become familiar with commercial documents. Spanish is used in class as much as possible.

SPAN S317 *Spanish Conversation and Diction Class 4, Cr. 3.* P: S204. Intensive controlled conversation correlated with readings, reports, debates, and group discussions, with emphasis on vocabulary usage, word order, tense interrelationships, and discourse skills. May be repeated once for credit.

SPAN S325 *Spanish for Teachers Cr. 3–4.* P: S204 (or equivalent). Intended for Spanish majors, minors, and students pursuing a master's. Focuses on major problem areas of teaching Spanish. Includes review, exercises, and work in pronunciation, accompanied by intensive individual practice. Eligible for graduate credit.

SPAN S407 *Survey of Spanish Literature I Cr. 3.* P: S301–S302. A historical survey that covers major authors, genres, periods, and movements from the Spanish Middle Ages through the baroque period of the 17th century. Readings include prose works, poetry, and drama. Eligible for graduate credit.

SPAN S408 *Survey of Spanish Literature II Cr. 3.* P: S301–S302. A historical survey of Spanish literature that covers the main current of Spain's literary history in the 18th, 19th, and 20th centuries. Readings in prose, poetry, and drama by Larra, Pérez Galdós, Unamuno, García Lorca, and other representative writers. Eligible for graduate credit.

SPAN S411 *Spanish Culture and Civilization Cr. 3.* P: S301–S302 or departmental permission. A course to integrate historical, social, political, and cultural information about Spain. Readings and discussions in Spanish. Eligible for graduate credit.

SPAN S412 *Latin-American Culture and Civilization Cr. 3.* P: S301–S302 or departmental permission. A course to integrate historical, social, political, and cultural information about Spanish America. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

SPAN S417 *Hispanic Poetry Cr. 3.* P: S301–S302 or departmental permission. Study of major aspects, movements, or directions of Hispanic poetry from the Middle Ages to present. Period may vary. May be repeated with different period. Eligible for graduate credit.

SPAN S418 *Hispanic Drama Cr. 3.* P: S301–S302 or departmental permission. Forms, traditions, themes, and periods of Hispanic drama from the Renaissance to the present. Topic may vary. May be repeated with different topic. Eligible for graduate credit.

SPAN S420 *Modern Spanish-American Prose Fiction Cr. 3.* P: S301–S302 or departmental permission. Spanish-American prose fiction from late 19th century Modernism to the present. Eligible for graduate credit.

SPAN S421 *Advanced Grammar Cr. 2–3.* P: S301–S302 or departmental permission. Selected grammar review and intensive practice in effective use of the written language. Eligible for graduate credit.

SPAN S425 *Spanish Phonetics Cr. 3.* P: LING L103 or other course work in linguistics and S301–S302 or instructor permission. Introduction to basic linguistics and phonology. Intensive patterned pronunciation drills and exercises in sound discrimination and transcription based on articulatory description of standard Spanish of Spain and Latin America. Attendance in audio laboratory required. Eligible for graduate credit.

SPAN S426 *Introduction to Spanish Linguistics Cr. 3.* P: LING L103 or other course work in linguistics and S301–S302 or instructor permission. General aspects of Spanish linguistics: traditional, descriptive,

historical, and dialectal. Eligible for graduate credit.

SPAN S428 Applied Spanish Linguistics Cr. 3. P: LING L103 or other course work in linguistics and S301–S302 or instructor permission. Analysis of linguistics and cultural elements of Spanish phonology, morphology, syntax, and semantics as they bear on teaching. Eligible for graduate credit.

SPAN S450 Don Quixote Cr. 3. P: S301–S302 or departmental permission. Detailed analysis of Cervantes' novel. Life and times of the author. Importance of the work to the development of the novel as an art form. Eligible for graduate credit.

SPAN S470 Women and Hispanic Literature Cr. 3–5. P: S301–S302 or consent of instructor. Hispanic woman within her cultural context through literary texts. Topics such as women authors, characters, themes, and feminist criticism. Eligible for graduate credit.

SPAN S471–S472 Spanish-American Literature I–II Cr. 3–3. P: S301–S302 or departmental permission. Introduction to Spanish-American literature from the colonial period to the present. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

SPAN S478 Modern Spanish Novel Cr. 3. P: S301–S302 or departmental permission. The Spanish novel from the beginning of Realism around 1850 through post-Civil War novels of the 20th century. Topic may vary. May be repeated for credit with a different topic. Eligible for graduate credit.

SPAN S479 Mexican Literature Cr. 3. P: S301–S302 or departmental permission. Mexican literature from Independence to present. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

SPAN S480 Argentine Literature Cr. 3. P: S301–S302 or departmental permission. Argentine literature from Independence to present. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.* Eligible for graduate credit.

SPAN S494 Individual Readings in Hispanic Studies Cr. 1–3. P: 6 credits of 400-level Spanish and consent of department chair. May be repeated for credit with a different topic.

SPAN S495 Hispanic Colloquium Cr. 1–3. (V.T.) P: S301–S302 and consent of department chair. Topic and credit may vary. May be repeated for credit with a different topic. Eligible for graduate credit.

SPAN W300 Methods of Research and Criticism Cr. 3. P: ENG W131, W135, or placement in ENG W140 and two years of college Spanish. Study of methods of literary analysis and bibliographical documentation. Basic techniques of research, footnoting, and intensive writing. Critical approaches to drama, novel, and poetry. Required for Spanish majors. *Approved by Arts and Sciences for use in fulfilling the writing requirement.*

SPAN W399 Internship in Spanish Cr. 1–3. P: third-year proficiency and department chair's approval. Practical application of foreign-language skills. Credit may be counted toward the major with the approval of the department chair.

SPEA, see Public and Environmental Affairs

Statistics (STAT), see Mathematical Sciences

Theatre (THTR)

THTR 105 Dance History Cr. 3. Designed to promote understanding and appreciation of the role of dance throughout history and the modern world. Acquaints students with outstanding ballet, tap, jazz, and modern dancer, choreography, and companies throughout history.

THTR 117 Jazz Dance I Class 1, Lab 2, Cr. 2. A study of jazz dance, including early jazz and musical comedy as well as contemporary styles. Emphasis on current locomotor jazz techniques. May be repeated for credit. Credit may be granted by audition.

THTR 121 Tap I Cr. 2. The emphasis in this course will be on learning basic steps and tap progressions. Class will include barre work, across the floor and center floor combinations. Graded technique will be incorporated to monitor progress. This class may be repeated for credit. Credit may be granted by audition.

THTR 125 Ballet I Class 1, Lab 2, Cr. 2. Beginning ballet offers an introduction to

basic ballet positions, techniques, and terminology. No previous training necessary. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training. May be repeated for credit. Credit may be granted by audition.

THTR 134 Fundamentals of Performance Cr. 3. An introductory survey of the arts of acting and directing as practiced in the world today.

THTR 136 Rehearsal and Performance I Lab. 3 or 6, Cr. 1–2. P: consent of instructor. Study and practice of rehearsal techniques and stage performance. Students will be assigned to acting and stage management duties in experimental and major stage productions. May be repeated once for credit. Maximum number of credits for combinations of THTR 136, 168, 336, and 368 is 4.

THTR 137 Jazz Dance II Class 1, Lab 2, Cr. 2. P: 117, or instructor permission. Jazz Dance II is a continuation of Jazz I. Further training of the dancer's body with more detailed warm-ups and combinations is the emphasis of the class. Preparing the dancer for performance level is stressed. May be repeated for credit. Credit may be granted by audition.

THTR 138 Acting I Class 3, Lab. 1, Cr. 3. P: 134, or theatre major or consent of instructor. Student experientially explores the foundation of the acting process based on Stanislavski's system. Emphasis is on developing the actor's ability to work moment-to-moment through the use of improvisational theatre games, scene work, and monologues. Areas covered include beginning voice and movement work, concentration, imagination, objectives, obstacles, and actions. Explorations culminate in the presentation of scenes and monologues. May be repeated for credit with consent of instructor.

THTR 145 Ballet II Class 1, Lab 2, Cr. 2. P: 125 or permission of instructor. This class is for those individuals with some prior training in ballet technique. Class work includes barre work and simple combinations in the center of the floor. Emphasis on body alignment and effective methods for gaining strength and flexibility for proper ballet training. Must be taken in sequence. May be repeated for credit. Credit may be granted by audition.

THTR 158 Stagecraft Class 3, Lab. 2, Cr. 3. Theory and application of current and traditional technical theatre practices. Training in stage carpentry, painting, and preproduction organization.

THTR 168 Theatre Production I Lab. 3 or 6, Cr. 1–2. Application of technical-theatre practice in scenic construction, painting, lighting, sound, costuming, and stage management. Students will be assigned to work on experimental and major stage productions. May be repeated for credit.

THTR 201 Theatre Appreciation Cr. 3. Understanding and appreciation of the theatre's role in the modern world. Includes a seminar approach in discussion of the nature of theatre, critical analysis of drama, the actor, the director, design, and careers in the theatre. Also deals with professional, regional, community, and college theatre. All discussions and work are related to current stage productions that students are required to attend.

THTR 213 Voice for the Actor Cr. 2. P: 134, theatre major or consent of instructor. Designed to heighten the actor's awareness of the vocal instrument. Elementary vocal techniques will be practiced to expand the student's vocal flexibility and range. Emphasis on freeing habitual vocal tensions and teaching the student the fundamentals of vocal health.

THTR 221 Tap II Cr. 2. The emphasis in this course will be on building upon the basic steps and progressions achieved in beginning tap. Class will include barre work, across the floor and center combinations. As in Tap I, graded technique will be incorporated to monitor progress. This class may be repeated for credit. Credit may be granted by audition.

THTR 238 Acting II Class 3, Lab. 1, Cr. 3. P: 138 or consent of instructor. Emphasis is on developing a character within a truthful reality based on the given circumstances of the script. Students will be challenged through scene-work, monologue preparation, and script analysis that connect the actor's internal choices to the external needs of the character. May be repeated for credit with consent of instructor.

THTR 256 Stage Makeup Class 1, Lab. 3, Cr. 2. Study of facial anatomy, the aging process, the principles of light and shadow, and character analysis. Theory and practice in the basic techniques of applying stage makeup.

THTR 261 Introduction to Theatrical Design Class 3, Lab. 2, Cr. 3. P: 264. An introduction to the principles and practices of contemporary theatrical design. Emphasis on the study and development of unified production theory and its practical application to the areas of theatrical design.

THTR 264 Rendering Techniques Cr. 3. A project approach to the development of the student's ability to pictorially represent ideas through drawing, drafting, painting, etc. Emphasis on clarity of intention and effective presentation of ideas through various media and techniques.

THTR 284 Textual Analysis Cr. 3. A study of dramatic structure: theme, form, style, genre, and characterization as applied to selected plays.

THTR 323 Acting: Movement for the Actor Class 1, Lab. 3, Cr. 2. Designed to heighten body awareness in movement and stillness. Characterization techniques will be practiced that expand the student's flexibility, aerobic capacity, strength, agility, and range of self-expression. Emphasis on freeing habitual tension patterns through the exploration of expressive movement.

THTR 336 Rehearsal and Performance II Lab. 3 or 6, Cr. 1–2. P: 136. The study and practice of rehearsal techniques and stage performance. Students will be assigned to acting and stage-management duties in experimental and major stage productions. May be repeated once for credit. Maximum number of credits for any combination of THTR 136, 168, 336, and 368 is 4.

THTR 338 Acting III Class 3, Lab. 1, Cr. 3. P: 238, 213 and R 323 or consent of instructor. Professional acting studio. Advanced character development focusing on the demands of period styles work. Possible styles to be covered include Greek Theatre, Restoration/Comedy of Manners, Elizabethan, and Contemporary Realism. May be repeated for credit with consent of instructor.

THTR 351 Costume Techniques I Class 3, Lab. 2, Cr. 3. A project approach to the basic practices used in the construction of the theatrical costume and its accessories.

THTR 355 American Musical Theatre Cr. 3. A study of the origin, artistry, and unique qualities of the American musical theatre.

THTR 360 Scenic Design Class 3, Lab. 2, Cr. 3. P: 261 and 264 or consent of instructor. A study of the application of scenographic theory to the art of scenic design. Emphasis on the development of unified production theory as specifically applied to the physical theatrical environment.

THTR 361 Costume Design Class 2, Lab. 3, Cr. 3. P: 261 and 264. Theory and principles of design specifically applied to stage costume design. Emphasis on the interrelationship of all aspects of production and how the costume becomes a building block toward total picturization.

THTR 362 Light Design Class 3, Lab. 2, Cr. 3. P: 261 and 264. A study of the application of scenographic theory to the art and practice of light design. Emphasis on the development of unified production theory and the technical support of that theory.

THTR 365 Period Style for the Theatre I Cr. 3. P: HIST H113, 114. The study of developments in the history of dress, decor, and architecture from the primitive through the 17th century. Emphasis on interpretation of said developments in contemporary theatre practice.

THTR 366 Period Style for the Theatre II Cr. 3. P: HIST H113, 114. The study of developments in the history of dress, decor, and architecture from the 18th century through the present. Emphasis on interpretation of said developments in contemporary theatre practice.

THTR 368 Theatre Production II Lab. 3 or 6, Cr. 1–2. (V.T.) P: 168. The study and application of technical theatre practice in scene construction, painting, lighting, costuming, and stage management. Students will be assigned to experimental and major stage productions. May be repeated once for credit. May be repeated for credit.

THTR 376 Introduction to Playwriting Cr. 3. P: THTR 284. An introductory survey of the principles of dramatic construction, with emphasis on the practice of writing for the stage. Each student's process and writing style are carefully examined. Workshop productions of works-in-progress of each student are expected.

THTR 390 Directed Study of Special Theatre Problems Cr. 1–3. (V.T.) P: consent of instructor. An undergraduate-level

individualized and intensive study of any aspect of theatre required by the student's plan of study. May be repeated.

THTR 413 *Advanced Voice for the Stage Class 2, Lab. 3, Cr. 3.* P: 213 or consent of instructor. Advanced work in vocal production for performance. Emphasis on development of the full resonant voice, vocal power and range, and standard American speech. Special attention paid to application of knowledge to various performance situations and environments.

THTR 424 *Basic Choreography for the Theatre Class 3, Lab. 2, Cr. 3.* P: consent of instructor. Study and practice in the compositional elements of stage choreography for the musical theatre. Includes rhythm, dynamics, space, body design, and gesture. A broad study of the history of dance and dance forms and their evolution into modern theatre choreography.

THTR 438 *Acting IV Class 3, Lab. 1, Cr. 3.* P: 338 or consent of instructor. Professional acting studio. Professional issues class preparing the advanced acting student for the rigors of the professional and graduate-level theatre arenas. Students will explore the skills of monologue auditions, cold readings, improvisational auditions, musical theatre auditions, acting for the camera, and interviews, as well as headshot and résumé development. May be repeated for credit with consent of instructor.

THTR 440 *Beginning Directing Class 3, Lab. 2, Cr. 3.* P: 201 and 138. A study of the elements of theatrical direction; script, beat, and character analysis. Rehearsal techniques and directorial approaches will be examined in lab situations. Applied work in both scene and one-act directing projects.

THTR 470 *Theatre and Society I Cr. 3.* P: THTR 284 or consent of instructor. The study of theatre history, performance, and dramatic literature from the primitive eras through the Renaissance. Emphasis on the relationship of theatre to its society.

THTR 471 *Theatre and Society II Cr. 3.* P: 470. The study of theatre history, performance, and dramatic literature from 1660 to the present. Emphasis on the relationship of theatre to its society.

THTR 499 *Senior Performance Project Cr. 2.* All theatre majors will register for this course, which serves as the curricular capstone, during their final year. Students

will develop, with their advisor, a public performance or presentation appropriate to their area of emphasis.

Dual Level, Undergraduate-Graduate

THTR 501 *Stage Management Cr. 3.* A combination of lectures on and practical experiences in planning and conducting the rehearsal sequence leading to the running of a production.

THTR 504 *Summer Repertory Theatre Lab. 1–9, Cr. 1–3.* P: consent of instructor. Participation in the cast, crew, or management of Department of Theatre summer theatre projects. May be repeated for credit.

THTR 356 *Advanced Problems in Acting Cr. 3.* Advanced study of selected problems in acting, including detailed role and play analysis, through rehearsals and critiques of performances.

THTR 540 *Advanced Directing Class 2, Lab. 2, Cr. 3.* P: 440. Application of principles of directing to the various types of drama; laboratory practice in directing plays for experimental production.

THTR 542 *Advanced Problems in Theatre Directing Cr. 3.* Advanced study of selected problems in theatre directing.

THTR 560 *Advanced Scenic Design Class 1, Lab. 4, Cr. 3.* P: 360 or consent of instructor. Advanced study of the principles of design and their application to specific staging problems.

THTR 561 *Advanced Costume Design Class 2, Lab. 3, Cr. 3.* P: 361 or consent of instructor. Advanced study of the principles of costume design and their application to specific problems.

THTR 562 *Advanced Light Design Class 3, Lab. 1 (with 2 hours experiential), Cr. 3.* P: 362 or consent of instructor. Advanced study of the principles of light design and their application to specific lighting problems.

THTR 566 *Theatre Management Cr. 3.* P: junior status. Principles and methods of theatre management in educational, community, and professional theatres. Emphasis on administration, business

procedures, publicity, promotion, program planning, box office technique, house management, and the manager's contribution to the theatre operation.

THTR 576 *Playwriting Cr. 3.* P: 376. Principles of dramatic construction and practice in the writing of one-act and three-act plays. Experimental production or laboratory testing of the written product when possible. May be repeated for credit.

THTR 583 *American Theatre History and Drama Cr. 3.* The study of U.S. theatre and drama from their beginnings to the present.

THTR 590 *Directed Study of Special Theatre Problems Cr. 1–3. (V.T.)* P: consent of instructor. An individualized and intensive study of any aspect of theatre required by the student's plan of study. May be repeated for credit.

Visual Communication and Design (VCD)

VCD H348 *History of Photography Cr. 3.* A survey of photography as a medium of art and of communication, with a primary emphasis beginning in the 1920s. Photographic genres, as well as developments in optical, chemical, and mechanical technology, will be studied. The evolution of photographic vision will be covered through examples of master works.

VCD H390 *Topics in Art History Cr. 3.* In-depth projects and studies in special directions of art and design history, closely related to existing areas of concentration. May be repeated.

VCD H490 *Topics in Art History Cr. 3.* In-depth projects and studies in special directions of art and design history closely related to existing areas of concentrations. May be repeated.

VCD H495 *Readings and Research in Art History Cr. 1–4. (V.T.)* P: consent of instructor. May be repeated for a total of 12 credits at the graduate level. Eligible for graduate credit.

VCD N198 *Introduction to Photography for Nonmajors Cr. 3.* This course focuses on mastering camera operation, exposure and composition. Assignments will be shot

digitally or on slide film; no darkroom work will be involved. Evaluation will be based on technical competency and aesthetic value. General historical background and an overview of current developments in photography also will be provided.

VCD N274 Digital Imaging Class 3, Studio 3, Cr. 3. A course designed for non-art majors. Students will learn to apply basic art and design fundamentals to the personal computer. Areas such as page layout and illustration will be covered in assigned problems.

VCD P151–P152 Design

Fundamentals I–II Studio 3–3, Cr. 3–3.

In design fundamentals, the student becomes familiar with the vocabulary and elements of the visual language. Also, the expressive powers of the elements of line, shape, texture, space, and color are explored through a series of sequential exercises. Many different problems in building visual units provide the training artists need to make individual, yet clear, expressive and complete statements. (P151 fall; P152 spring)

VCD P243 Photography Fundamentals

Studio 3, Cr. 3. P: P151. This course is designed to introduce the student to the basic understanding of photography in relationship to both the fine arts and the application of photography to advertising. Basic use of the camera and the darkroom will be introduced.

VCD P253 Principles of Graphic Design I

Studio 3, Cr. 3. P: P122, P152. Familiarity with the visual vocabulary and the elements of the visual language. The expression of the elements of line, shape, texture, space, and color will be developed through a series of exercises. Different problems in building visuals provide training that artists need to make individual, yet clear, expressive statements.

VCD P254 Principles of Graphic

Design II Studio 3, Cr. 3. P: P253. Continuation of P253 with emphasis on more involved projects utilizing typography, layout, symbols, and illustration: Calendars, advertising campaigns, publications, typographical/illustrated books, and multi-color projects.

VCD P261 Layout and Finished Art

Studio 3, Cr. 3. P: P122, P152. Assignments beginning with rough comprehensives, completion through finished art work, paste-ups, and art for reproduction.

VCD P271–P272 Illustration I–II

Studio 3–3, Cr. 3–3. P: P122, P152. Advertising, story, fashion, and product; finished illustrations in various mediums and study of reproduction techniques. (P271 fall, P272 spring)

VCD P273 Computer Art and Design I

Studio 3, Cr. 3. P: P151. Emphasis will be placed on the exploration of digital art and design. This beginning course acquaints students with raster and vector graphics and the manipulation of peripherals such as scanners and printers. Students will be encouraged to explore personal imagery in solving assigned problems. (fall, spring)

VCD P300 Professional Practice

Internship Cr. 3-6. (V.T.) Program offers students the opportunity to learn through supervised experience in professional work settings. Students must have the approval of the instructor and meet the school requirements to participate in a supervised internship.

VCD P343–P344 Advanced Photography I–II Studio 3–3, Cr. 3–3.

P: P243. Advanced problems in photography determined by the student's skill, interests, and major objectives. (P343 fall; P344 spring)

VCD P351–P352 Advanced Design I–II

Studio 3–3, Cr. 3–3. P: P151, P152. A continuation of design fundamentals and more intensive study of color organization providing a broader experience with two- and three-dimensional design concepts with emphasis on creative solutions to theoretical and practical problems. (P351 fall; P352 spring)

VCD P356 Package Design Studio 3, Cr. 3.

P: P122, P152. Problems in package design from product concept to finished art work. (spring)

VCD P357 Display and Design Studio 3,

Cr. 3. P: P122, P152. Problems in exhibition and display design including window, floor, and point of sale as well as sets for photography, film, and television

production; other specialized structures such as architectural graphics and signage included. (fall)

VCD P371–P372 Illustration III–IV

Studio 3–3, Cr. 3–3. P: P272. Advanced illustration projects tied into studio-type situations with emphasis on production problems. (P371 fall; P372 spring)

VCD P374 Computer Art and Design II

Studio 3, Cr. 3. P: P273. A continuation of P273. Emphasis will be placed on two-dimensional and three-dimensional graphic software, Web page design, and online publication. (fall, spring)

VCD P443–P444 Advanced Photography

III–IV Studio 3–3, Cr. 3–3. P: P344. Individual problems in photography. May be repeated for up to 18 credits. Eligible for graduate credit. (P443 fall; P444 spring)

VCD P450 Senior Project Studio 3, Cr. 3.

P: senior standing in visual communication and design. Major thesis required of fourth-year students. Subject must be approved by department chairperson. A senior exhibit of a certain number of works in major area is also required prior to graduation. Eligible for graduate credit.

VCD P453 Graphic Design III Studio 3,

Cr. 3. P: P254. An advanced course dealing with a singular multifaceted design campaign. This senior project will involve all phases of a promotional campaign from logotype development to final project.

VCD P454 Graphic Design IV Studio 3,

Class 3, Cr. 3. P: P374. Focus on advanced problems in computer graphics (interactive/multimedia authoring) will be determined by the skills and interest of each student. Emphasizing portfolio preparation, the faculty advises the student in the development of an artist's statement and the design campaign for the senior review, culminating in the B.F.A. thesis exhibit. May be repeated up to 18 credits. Eligible for graduate credit.

VCD P475 Computer Art and Design III

Studio 3, Cr. 3. P: P273. Focus on advanced problems in computer graphics (interactive/multimedia authoring) will be determined by the skills and interests of each student. May be repeated up to 18 credits. Eligible for graduate credit.

VCD P476 Three-Dimensional Computer Modeling Class 3, Studio 3, Cr. 3 P: senior standing or permission of instructor. Concentration on three-dimensional modeling and environments — object building and manipulation, lighting, atmosphere, and surface mapping. May be repeated up to 18 credits. Eligible for graduate credit.

VCD P478 Computer Animation Class 3, Studio 3, Cr. 3. P: senior standing or permission of instructor. Concentration on three-dimensional computer animation concepts and methods, such as paths, cameras, objects in motion and transformation, animated textures, etc. Individual and collaborative animation problems will be examined. May be repeated up to 18 credits. Eligible for graduate credit.

VCD P490 Topics in Studio Fine Arts Studio 1–6, Cr. 1–6. (V.T.) In-depth projects and studies of special studio art topics closely related to existing areas of concentration. May be repeated.

VCD P495 Independent Study in Fine Arts Studio 3, Cr. 3. (V.T.) P: senior standing and permission of chair. This course provides the opportunity for a student to pursue studio interests (such as mixed media) not served in other course offerings. Projects may vary. May be repeated. Eligible for graduate credit. (fall, spring)

WOMEN'S STUDIES (WOST)

WOST W210 Introduction to Women's Studies Cr. 3. An interdisciplinary introduction to women's studies via readings from core discipline areas and presentation of methodological/bibliographical tools for social science research on gender issues. Examines women's historic and contemporary status legally, politically, and economically, as well as women's struggle in identity, expression, sexuality, and lifestyle. *Approved by Arts and Sciences for the Social and Behavioral Sciences distribution requirement.* (fall, spring)

WOST W225 Gender, Sexuality, and Popular Culture Cr. 3. Examination of

popular cultural “makings” of masculinity, femininity, and sexuality through typical representation of gender within fiction, theatre, cinema, radio, music, television, journalism, and other specular mass media. Analysis of developing international telecommunications “superhighway” and struggles to secure increased representation of women and of feminist perspectives within existing culture industries.

WOST W240 Topics in Feminism Cr. 3. (V.T.) Exploration of feminist scholarship on a specific topic of current interest, e.g., women and social activism, pornography, reproductive rights, lesbian and gay studies, gender in early education, contemporary women's movement. Specific topics announced in the *Schedule of Classes*. Suitable for students without previous women's studies courses. May be repeated with different topic for a maximum of 6 credits. *Approved by Arts and Sciences for the Social and Behavioral Sciences distribution requirement.*

WOST W301 International Perspectives on Women Cr. 3. (V.T.) P: W210 and junior standing or consent of instructor. Feminist analysis of women's legal, social, and economic status in two or more cultures other than those of the United States, Canada, Australia, New Zealand, and Europe. Interdisciplinary approach. May be repeated once with a different topic. *Approved by Arts and Sciences for the Cultural Studies (Non-Western Culture) requirement.*

WOST W302 Topics in Women's Studies Cr. 3. (V.T.) P: W210, or consent of instructor. Interdisciplinary approach to selected ideas, trends, and problems in women's studies. Specific topics to be announced in the *Schedule of Classes* and the booklet Women's Studies Course Offerings. May be repeated once when topic varies for a maximum of 6 credit hours.

WOST W340 Topics in Lesbian and Gay Culture Cr. 3. (V.T.) This course examines, through the study of literary and/or visual texts, aspects of lesbian and gay culture, with attention to the artistic value of the texts as well as their significance as cultural documents.

WOST W400 Topics in Women's Studies Cr. 3. (V.T.) P: junior or senior standing, 12 credits of women's studies course work or permission of instructor. An interdisciplinary approach to selected ideas, trends, and problems in women's studies. The capstone course focuses on issues and controversies in the new scholarship on women. Specific topics announced in *Schedule of Classes*.

WOST W480 Practicum in Women's Studies Cr. 3–6. P: junior or senior class standing, 12 credits of women's studies course work, and project approved by instructor; R: W210 (or equivalent). Directed study of aspects of policy related to women's issues based upon field experience. Directed readings, practicum in social agency, papers, and analytical journal required. (fall, spring)

WOST W495 Readings and Research in Women's Studies Class 0–3, Cr. 1–3 . (6 cr. max.) P: consent of instructor and program director. Individual readings and research. May be repeated twice for credit with a different topic. (fall, spring)



IPFW provides a wide variety of support services for its students. Information on some of the more widely used services is listed below. For a complete listing of services, please consult the *Student Handbook and Planner*. Included in this section are descriptions of

1. Academic Advising
2. Academic Counseling and Career Services
3. Alumni Relations
4. Athletics, Recreation, and Intramural Sports
5. Bookstore
6. Center for Women and Returning Adults
7. Child Care
8. Collegiate Connection
9. Computer Resources
10. Continuing Studies
11. Cooperative (Co-op) Education Program
12. Correspondence Study
13. Dean of Students
14. Disabilities, Services for Students with
15. Financial Aid
16. First Year Experience (FYE)
17. Health and Wellness Clinic
18. Honors Program
19. Housing Information

20. International Student Services
21. Library Services
22. Math Course Options
23. Media and Technology Support Services
24. Multicultural Services
25. Personal Counseling
26. Police and Safety
27. Registration and Graduation
28. Student Exchange Program
29. Student Handbook and Planner
30. Student Life and Organizations
31. Supplemental Instruction
32. Transcripts and Academic Records
33. Tutorial and Study-Skills Assistance
34. Veterans' Services
35. Voter Registration
36. Writing Center

1. Academic Advising

While students are ultimately responsible for accomplishing their own educational goals and progressing toward graduation, IPFW is committed to helping them meet this responsibility by ensuring access to quality academic advising. Academic advisors are available to assist students by furnishing accurate, up-to-date information and appropriate guidance on academic matters.

Students will benefit most from academic advising only when they accept a major share of the responsibility for seeking timely advice. Other, more specific obligations in the shared relationship between students and their academic advisors are as follows:

It is the academic advisor's responsibility to

- Be knowledgeable about university, school/division, and department academic regulations.
- Establish, maintain, and clearly post adequate and suitable office hours for advising (including information on summer availability).
- Assist the student with understanding degree requirements and the proper sequencing and selection of courses. This includes being knowledgeable about developmental course placement and any published changes in requirements.
- Assist the student with determining practical and manageable academic loads.
- Assist the student with monitoring academic progress.
- Document approved exceptions to the student's academic program.
- Explain the relationships among degree requirements, departmental philosophy, and, as necessary, certification criteria.
- Assist the student with considering areas of enrichment appropriate to abilities and goals.
- Assist the student with linking programs of study to relevant career opportunities.
- Act, when appropriate, as a referral agent to other university personnel and services.

It is the student's responsibility to

- Be knowledgeable about university, school/division, and departmental program requirements; academic regulations; and calendar deadlines specified in the *Bulletin*, *Schedule of Classes*, and departmental publications.
- Consult with his/her advisor whenever appropriate and in a timely manner.
- Be prepared for all scheduled advising sessions.
- Make academic decisions based upon the information obtained or recommendations offered. Academic advisors will not make decisions for students.
- Act upon academic decisions in a timely manner.
- Maintain personal records of academic progress, including documentation of approved exceptions to stated program requirements.
- Seek additional or supplemental advice from other university personnel or services as needed or recommended.
- Present and candidly discuss factors (such as employment, commuting distance, and other circumstances) that might influence selection of classes, registration processes, and other academic planning.

2. Academic Counseling and Career Services (ACCS)

Academic Counseling and Career Services (Kettler 109, 481-6595) is responsible for providing academic advising services for students classified as undeclared, guided studies/exploratory, and prebusiness; as well as career-related services for all IPFW students and alumni. Assistance is provided in the following areas:

course selection/planning, identifying academic major and career choices, career assessments; full-time, part-time, and work-study employment; academic placement testing; job search strategies; internships; résumé referrals; campus interviews; and opportunities for National Student Exchange with other universities

In addition to the services listed above, staff members are actively involved in teaching. IDIS 110 Freshman Success is designed to introduce students to the rigors of college life, and EDUC X210 assists students in the career planning process.

Office hours are 8 a.m.–6 p.m. Monday to Thursday and 9 a.m.–5 p.m. Friday during fall and spring semesters,

Career information and counseling services help students evaluate career interests, abilities, and skills, and define realistic career objectives by choosing a field of study based on personal goals and preferences. Available services include career-interest inventories and personality assessment, career counseling, credit and noncredit career-planning courses, a career-resource library, and a computerized career-resource system. Additional career information may be found in school/division/department offices.

Employment Services provides contacts and information to support the search for a meaningful and rewarding career. Career-opportunities listings are continually updated and available from Employment Services or via the Internet. Résumé, interviewing, networking, and job-search services are available. Résumé preparation referrals are available and related workshops and career fairs are sponsored throughout the year.

Student Employment Services provides assistance at no cost to IPFW students seeking on- or off-campus employment that is compatible with their class schedules. Listings of available positions are maintained at Employment Services (Kettler 109). This office is also responsible for coordination of the College Work-Study program.

Testing Services, available in Kettler 232, include IPFW placement tests (English, mathematics, reading, and modern foreign languages), the Institutional SAT, national tests (CFA, CLEP, GMAT, LSAT, MAT, NICET, OMAAP, PLNE, PRAXIS, and SAT), correspondence-study examinations, career-assessment inventories, and board and certification exams for dental hygiene and dental assisting.

3. Alumni Relations

More than 40,000 IPFW alumni represent the university worldwide. Nearly 80 percent of IPFW alumni remain in Indiana, providing a foundation for economic development of the region. The IPFW Alumni Association, headed by a 20-member board, oversees services and programs for all alumni. Services include up to a 20 percent discount on Continuing Studies courses; scholarships for alumni children, stepchildren, and spouses; discounts for on-campus events; and bimonthly alumni publications. Events include the annual Mastodon Roast, Homecoming, Soccer Showcase Tailgate, and many more. In addition, each school has its own alumni council providing connections for alumni with professors, campus services, and a variety of events. IPFW Alumni Relations (Kettler 142, 481-6807) assists in alumni development efforts, scholarship fundraising, and miscellaneous services for alumni.

4. Athletics, Recreation, and Intramural Sports

Athletics, Recreation, and Intramural Sports (Gates Center 210, 481-6643) administers sports-related university activities and manages the Gates Sports Center. Contact the department for further information about programs and fees.

Intercollegiate athletics are open to all qualified students. IPFW is a member of the National Collegiate Athletics Association (NCAA) Division I and competes in the Midwest Intercollegiate Volleyball Association (MIVA). IPFW competes nationally in the following sports:

- Men's and Women's Basketball
- Men's and Women's Cross Country
- Women's Indoor Track and Field
- Women's Outdoor Track and Field
- Men's and Women's Volleyball
- Men's and Women's Soccer
- Men's and Women's Tennis
- Men's and Women's Golf
- Baseball (Men)
- Softball (Women)

Information about athletics participation and expenditures is available from the Athletics, Recreation, and Intramural Sports and the Admissions offices. Graduation and persistence rate information for IPFW is available in the admissions and registrar's offices.

Intramural programs are open to all eligible IPFW students, faculty, and staff and include the following sports: badminton, basketball, billiards, flag football, racquetball, table tennis, volleyball, and wallyball. Annual tournament events include a 5K run/walk event and a golf meet.

Recreational and fitness programs for individuals and groups make use of the extensive resources available at IPFW. Indoor facilities include a running track; aerobic and anaerobic conditioning equipment; and basketball, handball, racquetball, and volleyball courts. Outdoor facilities include a one-mile fitness trail; three-mile cross country course; soccer, baseball, and softball fields; tennis courts; and a volleyball court. Aerobic exercise classes, Nautilus conditioning clinics, and fitness-assessment programs are conducted throughout the year.

5. Bookstore

Follett's IPFW Bookstore (Kettler G10, 483-6100) has served the academic community at IPFW for the past 30 years. The bookstore provides new and used texts, general reading materials, supplies, apparel, and other college-related items. The bookstore also processes special orders for books and academic apparel for Commencement.

6. Center for Women and Returning Adults

The IPFW Center for Women and Returning Adults (Walb G25, 481-6029) serves as an advocate and support center for all women of IPFW, as well as adults returning to school. The center offers assistance with admissions and financial aid for prospective and current students, career and personal guidance, childcare referrals, community outreach and referrals, guest lecture workshops, and a newsletter.

Services are offered free of charge. Workshops and program topics are posted at the center, listed in the newsletter, *Rapport*, and obtained by contacting the center. Students are welcome to visit the office to use the student computer and make use of available office resources.

While walk-in help may be available, appointments are suggested for personal assistance. The center is open daily from 8 a.m. to 5 p.m.

7. Child Care

Child care is available on a part-time basis for children of IPFW students, faculty, and staff. The IPFW Child Care Center is located at 4133 Hobson Road. Hours of operation during fall, winter, and spring are 7:45 a.m.–9 p.m. Monday through Thursday, and 7:45 a.m.–5 p.m. Fridays. Summer hours are 7:15 a.m.–8 p.m. Mondays, Tuesdays, and Thursdays; 7:15 a.m.–5 p.m. Wednesdays; and closed Fridays. Evening care is based on sufficient enrollment. The center provides care for children ages 2–12. For registration or more information, contact the Child Care Center at 485-4187.

8. Collegiate Connection

The Collegiate Connection program is an exciting opportunity for students to earn college credit while attending high school. English and mathematics and some other courses also require satisfactory results on an IPFW placement test. Collegiate Connection means:

- Earning dual credit — college and high school.
- Taking more advanced courses or courses not offered at the high school level.
- Exploring a career direction.
- Earning accredited transferable university credit.
- Experiencing college!

Students must meet the following criteria for participation in the Collegiate Connection program:

- Passed both sections of the ISTEP
- Maintain a B average
- Completed (or will be able to complete) enough high school credits to meet CORE 40 or Academic Honors high school graduation requirements
- Parent/guardian approval

As a Collegiate Connection student, you may take any IPFW course that is appropriate for a college freshman. Some financial aid is

available based upon need and is made possible with the support of the Lincoln National Foundation Inc. Any student meeting the admission requirements and who qualifies for free and/or reduced textbook/lunch program is eligible to take up to two classes per semester (fall/spring) tuition-free. Students are responsible for their textbooks and transportation.

For additional information please call 260-481-5478, e-mail browna@ipfw.edu, or visit the program Web site at www.ipfw.edu/cconnect.

9. Computer Resources

IPFW's environment includes access to networked computers and a variety of software, from word processing to discipline-specific applications.

Student Accounts — Account start-up kits for student computing resources are issued the first term of enrollment. Student accounts remain active as long as students are enrolled. Accounts are required to use the student access computer labs. Students must complete an activation process before they can use their lab, e-mail, or Web space accounts.

E-mail — E-mail accounts are provided to all IPFW students. These accounts are accessible from any student-access lab, e-mail quick station, or from the Web. Documentation is available in the labs or on the Web.

Web space — Each student and official student organization receives 10 MB of Web space to be used in conjunction with university responsibilities.

Computer Labs — All student-access computer labs and computer-equipped classrooms are capable of accessing many software applications, student e-mail, and the Internet. The student-access computer labs are in Kettler Hall 204A, 217, and 217D; Neff Hall B71 and B73 (a shared-use lab); Science Building G15; Helmke Library; and Walb Union. Besides these student-access labs, some schools and departments provide their students with access to additional specialized labs. The sponsoring departments define their availability and hours.

Getting Help — For the most current campus computing information and software documentation, visit the IT Services' Web site. Additionally, documentation is also available in each student-access lab. Student consultants are available in person or via phone to assist students during most open lab hours. Student consultants cannot do assignments for students, but can answer general computing questions. In addition, IT Services provides consultants at the Help Desk in Kettler 206. Help Desk staff can answer questions about specific computer services and facilities available to students.

10. Division of Continuing Studies

The IPFW Division of Continuing Studies provides lifelong learning opportunities to a diverse community through credit programs and public courses for professional development and personal enrichment.

The division's off-campus locations (Ashley, Auburn, Bluffton, Decatur, Huntington, and Warsaw), distance learning delivery (TV,

video, DVD, Internet, and teleconferencing), General Studies degree program, and Weekend College give students increased access to internationally recognized Indiana University and Purdue University degrees.

The division offers the associate and bachelor's degrees in general studies (A.A.G.S and B.G.S.) and manages the university's Weekend College program, where students can complete the certificate and associate degree in organizational leadership and supervision, a certificate in software engineering, and a certificate in quality. The division also provides training for teachers through workshops for graduate credit and license renewal.

Additionally, the Division of Continuing Studies provides noncredit options, many of which yield continuing education units. These options include public courses for personal and professional development and customized company training.

Approximately 18,400 students enroll in Division of Continuing Studies courses annually — 10,000 in credit courses and 8,400 in noncredit courses. Annually, the General Studies degree program serves more than 450 degree-seeking students.

For more information about the Division of Continuing Studies and a listing of available courses, see www.ipfw.edu/dcs.

11. Cooperative (Co-op) Education Program

Cooperative Education (Neff 337, 481-6939) is a nationally recognized academic enhancement program that allows students to gain valuable employment experience related to their majors. Students are paid competitive wages and may receive academic credit. Local employers offer co-op jobs in biology, chemistry, communication, English, mathematics, physics, engineering, technology, computer science, business, and organizational leadership and supervision. Eligibility requirements include current student status, completion of freshman courses toward a bachelor's degree, and the established departmental GPA prerequisite. Visit the Web site at www.ipfw.edu/co-op.

12. Correspondence Study

A variety of credit courses is offered through the Indiana University Division of Extended Studies' Independent Study by Correspondence program at the Bloomington campus. Brochures describing available courses and enrollment procedures are available from IPFW Admissions (Kettler 111, 481-6812) or online at <http://scs.indiana.edu>. To apply correspondence-course credit toward a degree, an enrollment form must be signed by the student's advisor, department chair, or dean/director.

13. Dean of Students

The dean of students office may be contacted regarding any problem you are experiencing. Either direct assistance or referral to the appropriate individual or office will be provided. In addition, the dean handles student conduct problems and advises students of their rights and responsibilities and available appeal processes. The dean also advises the student government association and oversees

the mentoring program, personal counseling, the Center for Women and Returning Adults, and Services for Students with Disabilities.

14. Disabilities, Services for Students with

Services for Students with Disabilities (SSD) coordinates IPFW's programming for students with disabilities, as required by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Persons with qualifying disability conditions per these regulations are eligible for specialized academic support services and other assistance through SSD.

SSD provides free and appropriate academic aids and services including reader and sign-language interpreter services, accommodated test proctoring facilities, disability-specific career/academic/personal counseling, coordination of the use of accessible computer workstations across campus, and more. SSD also serves the campus community as advocate/consultant on disability-related issues.

IPFW does not provide personal attendant care or transportation services. Students must be able to attend to their personal care and needs or must arrange independently for such services if needed. Although a personal escort may be provided during times of inclement weather, students are responsible for their transportation to and from campus and between classes and other facilities. Students with disabilities are responsible for attending classes as required by the class instructor's attendance policy.

To request services on the basis of disability or to receive further information, call 481-6657 (VOICE/TTD) or visit the director of SSD in Walb Student Union, Room 113.

15. Financial Aid

IPFW attempts to meet the demonstrated financial needs of all applicants. The IPFW Financial Aid office uses grants, scholarships, loans, and part-time university employment to provide financial assistance to IPFW students. Contact Financial Aid (Kettler 102B, 481-6820; TTY 481-6082) for specific information about eligibility requirements; application procedures; the types of aid available; and regulations related to scholarship, grant, loan, and other forms of assistance. A free brochure is available in the Financial Aid office and provides information about federal programs.

Most financial-aid programs at IPFW are based on the premise that the student and his/her family are responsible for paying the cost of the student's education, with consideration given to the family's current financial circumstances. IPFW financial assistance is awarded to help meet educational expenses not covered by the family's contribution.

Financial-aid awards may be used to meet some costs of study-abroad and student-exchange programs, if IPFW credit will be awarded for the program and other requirements are met.

To apply for assistance, the student must file the Free Application for Federal Student Aid (FAFSA) and list Indiana University–Purdue University Fort Wayne (school code 001828) as the college the student plans to attend. This need-analysis form is used to determine eligibility for financial aid and is usually available at the

IPFW Financial Aid office shortly after Jan. 1. Applications from IPFW students that are received by March 10 at the federal processor are given priority consideration. Information about specific procedures and assistance with filling out the FAFSA are available at the Financial Aid office.

Students are encouraged to file the FAFSA electronically at www.fafsa.ed.gov. If the paper FAFSA is filed, approximately four weeks after the FAFSA is submitted, the student will receive information about his or her Student Aid Report (SAR) from the U.S. Department of Education. If the student is eligible for financial aid and has submitted all additional required materials, he/she will receive an IPFW financial aid award letter. To accept the aid that is offered, the student must sign and return the award letter to the IPFW Financial Aid office. Aid that a student accepts will be applied as a credit on the fee statement received after registering for classes.

The State Student Assistance Commission of Indiana (SSAC) requires students to be enrolled in at least 12 credit hours each semester through the end of the fourth week of classes in order to keep the Indiana Higher Education Award and/or the 21st Century Scholars grants.

Students may request a review of any decision concerning eligibility for aid, including reasonable academic progress. A financial-aid administrator will review the situation with the student. The student may appeal any decision to the director of IPFW Financial Aid. Final appeals may be made to the Scholarship and Financial Aid Advisory Committee. All determinations by this committee are final.

Reasonable academic progress: All financial-aid recipients are required to make reasonable academic progress toward completion of degree requirements. Standards for reasonable academic progress involve two tests:

1. Students must successfully complete 75 percent of the credits attempted and earn at least the minimum GPA shown below:

<i>Credits attempted</i>	<i>Minimum cumulative GPA</i>
0–29	1.5
30–59	1.7
60–180	2.0

Grades of I, W, F, or audit will not count toward credits successfully completed.

2. Students will not be allowed to receive aid for more than the total number of credits shown below for the certificate or degree program they are pursuing:

Bachelor's degree	180 credit hours
Associate degree (two-year programs)	90 credit hours
Associate degree (three-year programs)	130 credit hours
Certificate	45 credit hours
Master's Degree	45 credit hours

Financial-aid recipients who do not meet the reasonable academic progress standards will be notified in writing that they are no longer eligible for financial aid. If extenuating circumstances exist, a written appeal must be filed within 30 days of the date of notification. The appeal form and specific instructions will be included with the notification letter.

For additional information regarding:

- Rights under Family Education Rights and Privacy Act (FERPA)
- FFEL/Direct Loan deferments for Peace Corps or volunteer service
- Available financial assistance
- IPFW scholarships
- Completion/graduation rate
- Campus security report
- Report on athletic program participation rates and financial support data

see the IPFW Web site at www.ipfw.edu.

Federal Student Loan Ombudsman Office The SFA ombudsman works with student loan borrowers to informally resolve loan disputes and problems. The Ombudsman Customer Service Line is 877-557-2575 or you can access the Web site at <http://sfahelp.ed.gov>.

16. First Year Experience

IPFW wants you to succeed from the start and has created the First Year Experience (FYE). FYE makes it easier to find your way around, make friends, and succeed academically. You will connect with other students, faculty, and staff through exceptional academic programs and an exciting campus life.

A powerful way to experience FYE is through FYE Learning Communities. Learning Communities are linked or paired courses; students move through these courses as a group. Communities foster a deeper understanding, integrate different classes with each other, and contain a social element that links classroom experiences with fun and rewarding activities both on and off campus. FYE and Learning Communities information is available through the Center for Academic Support and Advancement in Kettler G23, 481-6817.

17. Health and Wellness Clinic

The IPFW/Parkview Health and Wellness Clinic provides comprehensive health services to meet the medical and psychological needs of students, faculty, and staff at IPFW.

Location The clinic is conveniently located in Walb Union, Room 234, 481-5748. Parking is available in the parking garage next to Gates Sports Center.

Hours The clinic is open from 8 a.m. to 5 p.m. Monday through Thursday and 8 a.m. to noon Friday. Special hours, which will be posted, are in effect for holidays and semester breaks.

Staff The clinic is staffed with two nationally certified family nurse practitioners and a certified medical assistant. Mark O'Brien, M.D., serves as a collaborating physician

Appointments Appointments are available for your convenience. Clients are also seen on a walk-in basis.

Services Provided Clinic staff members are able to

Assess/diagnose healthcare problems, obtain medical histories, perform physical examinations, and order and interpret diagnostic studies such as lab work and X-rays.

Treat minor and acute illnesses as well as chronic health problems, such as diabetes, and provide confidential gynecological services. Nurse practitioners prescribe medication and consult with physicians and other healthcare providers as needed.

Promote healthy living through patient education and counseling.

Allergy Injections Allergy serum may be stored at the clinic. Allergy injections can be given between 8:30 a.m. and 4:30 p.m. Monday through Thursday and 8:30 and 11:30 a.m. Friday.

Health and Wellness Education Health and wellness education includes screenings, assessments, consultations, workshops, classes, and resources to help individuals gain awareness and abilities for better total wellness. Weight management, heart-healthy living, sports performance, eating disorders, diabetic control, breaking the smoking habit, and stress management are just a taste of the possible learning areas. Registered dietitians and certified physical fitness instructors are available to help you be a better you!

Health Fees The clinic is a fee-for-service health facility. Students at IPFW are NOT assessed a student health fee each semester. Charges are expected to be paid at each visit. Lab work will have additional charges. This may be paid by cash, check, or credit card.

Students enrolled in the university's MEGA LIFE Health Insurance will be charged a nominal fee (currently \$14) for a routine office visit. Due to the large number of health insurance plans carried by students, the clinic can only bill for university insurance programs, which are Signature Care, Anthem, Encore, Sagamore, Humana/Choice Care, Medicare, and Medicaid. Upon checking out, an insurance-ready itemized statement will be provided so that you may submit it to your insurance company.

For those individuals with insurance that is out of network or without insurance, healthcare packages are available for purchase. Contact the Health and Wellness Clinic at 481-5748 for additional information

18. Honors Program

The Honors Program (Kettler Hall G35, 481-6924) is an undergraduate program that seeks to create learning opportunities and an environment of intellectual excitement and discovery through enriched courses of study and activities within a learning community. Honors courses supplement and enrich studies in any academic major. Students can take as many or as few honors courses as they choose. Participation in the Honors Program can help students get jobs and get into graduate programs after graduation. The Honors Certificate can give students a leading edge in today's tight job market. Honors courses are multidisciplinary and tend to be more interactive. Class size is limited to 20 students, so there is more interaction between students and instructors than in other classes.

The Honors Program also offers many social and cultural events outside of the classroom. Each semester, social events are planned to build an honors community and to enhance the college experience. There are opportunities to visit museums, view theatrical

performances, and attend lectures. There are also parties and receptions that are primarily social events. These programs give students an opportunity to get to know each other and faculty members outside of the classroom.

See Honors Program in Part 4 of this *Bulletin* for details.

19. Housing Information

IPFW Student Housing (260-481-4180) provides apartment-style living for full-time students at IPFW. The new IPFW Student Housing community will let you enjoy the freedom of apartment life without sacrificing the convenience and comfort of on-campus living. Each apartment is furnished and has a fully equipped kitchen, including microwave, trash disposal, and dishwasher. Private bedrooms are individually keyed and each bedroom is set up with high-speed Internet and cable. Community amenities include a computer lab, fireside community lounge, fitness room, and 24-hour laundry facilities. IPFW Student Housing is a student community like no other. Additional information is available from the Student Housing office or visit the Student Housing Web site at www.IPFWstudenthousing.com.

If IPFW Student Housing cannot accommodate your needs as a student, there is additional housing assistance provided through the Student Life office, Walb 115 (260-481-6609). Student Life provides information concerning various rental units and any student discounts available in the surrounding area. Students seeking roommates may submit their names for publication on a resource list, which is continually updated and disseminated upon request. Student Life does not review or approve other residential facilities or rental agreements. It simply serves as a clearinghouse for information that can be helpful in looking for alternative housing.

20. International Student Services

The International Services office (Walb 118, 260-481-6034) provides admissions and related services for new and continuing IPFW international students. Other services for international IPFW students include academic program planning and personal counseling, assistance with credit transfer and evaluation, visas, and related immigration concerns and issues. The office also coordinates various campus and community ethnic and cultural celebrations and serves as the advisor to the International Student's Organization.

21. Library Services

The Walter E. Helmke Library (481-6512) offers excellent collections and services for IPFW students. Information services include

- User assistance at all times the library is open (Ask at the Service Desk)
- In-depth research consulting
- Remote access to hundreds of library databases and catalogs

- Librarian-prepared tutorials, course-related guides, and subject guides to materials and electronic information available at IPFW
- IUCAT, the online library catalog for IPFW, and all of the libraries in the Indiana University library system statewide
- Electronic course reserves, called ReservesEXpress, available 24-7
- An extensive World Wide Web site (www.lib.ipfw.edu/)

Collections are based on courses taught at IPFW and include more than 20,000 electronic and/or paper periodical subscriptions and well over 500,000 books, bound periodicals, and U.S. government publications on deposit, university archives, microforms, compact disks, videos, and art slides.

Since it is impossible for any library to collect all of the information materials available, the Helmke Library operates a fast and efficient document delivery service for needed research materials not available in the library.

Special facilities include more than 45 networked computers with access to electronic databases and other resources, a Science Information Center, an electronic information training center, an after-hours study room that provides access to the Internet, and group study work stations with networked computers.

The Official University ID card is also the Helmke Library borrower's card, good at all Indiana University libraries.

A virtual self-guided tour is available on the library's home page (www.lib.ipfw.edu/). Two brochures, Welcome to IPFW's Helmke Library and the Helmke Library Fact Sheet, provide additional information.

22. Math Course Options

Flexible-pacing is an option available for some mathematics classes. Students work on modules at their own pace with an instructor and aides. Testing is done at the Mathematics Test Center (KT 226) at the completion of each module; tests are retaken until the required level of performance is met. Successful completion of all modules yields the course grade. The completion of a specified number of exams allows continuation of the course in the next semester.

Out-of-class testing for mathematics courses is an option available for some mathematics classes. It involves traditional lectures, but tests are administered at the Mathematics Test Center. No time limits are placed on tests other than the operation hours of the Mathematics Test Center. Each test (except the final) can be taken up to three times, with only the highest score recorded.

23. Media and Technology Support Services

The Learning Resource Center (LRC) provides media and technology support services on campus for university purposes. The range of equipment and services provided by LRC to the campus community can be discussed by calling the LRC office at 481-6519. Information on LRC services is also available at the IPFW home page on the Web at www.ipfw.edu.

LRC services can be scheduled in person at the LRC office in Helmke Library, B37, by e-mail at lrcscheduling@ipfw.edu, by fax at 481-6517, or by phone at 481-6519. For student activity functions, requests should be made through the Student Life office. LRC office hours are 8 a.m.–5 p.m., Monday through Friday.

24. Multicultural Services

Multicultural Services (Walb 118, 481-6608) provides a vital support system for African American, Asian American, Hispanic, international, Native American, and other underrepresented students enrolled at IPFW. Evening appointments can be arranged for students who cannot visit the office during regular hours.

Services include networking opportunities, cultural/heritage programs, educational and personal counseling, leadership development and enhancement, mentoring, workshops, and study tables.

Multicultural Services also assists in the development, administration, and evaluation of student recruitment and retention efforts; sponsors outreach and programs for early access to higher education; and provides cultural diversity training for IPFW faculty and staff.

25. Personal Counseling

Counseling services are provided by the IPFW Personal Counseling Service. Counselors are available to provide assessment, evaluation, and ongoing assistance with personal problems such as depression, stress, anxiety, relationship issues, and substance abuse. Please call 481-6601 to schedule an appointment.

26. Police and Safety

IPFW Police and Safety (Physical Plant 102, 481-6827) and its officers are empowered to enforce state and local laws, as well as campus traffic and conduct regulations, and to provide 24-hour emergency services on campus. The department conducts continuous security patrols, furnishes disabled-vehicle assistance, and maintains lost-and-found articles. Students and staff are urged to report all suspicious activity or other hazards to the department. Crime-prevention policy information, crime incidence, and arrest statistics are available from Police and Safety.

Escort service to and from classes for safety reasons is available any time by dialing 6900 from any campus phone.

27. Registration and Graduation

The IPFW *Schedule of Classes* is published for each semester and the summer sessions and is widely distributed on campus and published at the OASIS Web site, <http://oasis.ipfw.edu/>. The OASIS Web site provides detailed current information about

- course offerings
- registration days and times
- fees and refunds

- the semester/session calendar
- important deadlines
- final-examination schedules
- general policies and procedures

Before you meet with your advisor, you should carefully examine each edition of the *Schedule of Classes* and make a tentative selection of classes in which you wish to enroll.

For the convenience of students with late-evening and weekend classes, a drop box is on the door of the registrar's office (Kettler 107). In most cases, deposited forms containing all applicable information and required signatures will be processed by noon on the next working day. Partially completed forms cannot be processed. This drop box is not secured for the deposit of checks, cash, or other financial transactions. All financial transactions are to be directed to the bursar's office (Kettler G57).

Graduation Information To be considered for graduation from an IPFW program, you must submit an application for graduation. If you do not apply for graduation by the deadline posted, you may not be considered for honors; your name may not appear in the program; and your spring degree may not be available at Commencement.

Please visit the Office of the Registrar's Web site, www.ipfw.edu/registrar/ and click on Graduation information or contact your department.

If you are finishing your degree:	Application Deadline
Fall Session	June 1
Spring Session	Nov. 1
Summer I Session	Feb. 1
Summer II Session	Feb. 1

28. Student Exchange Program

The National Student Exchange (NSE) program (Kettler 109, 481-6595) allows eligible IPFW students to spend a semester or year studying at one of 170 different universities and colleges in the United States, its territories, and Canada. The NSE program broadens students' cultural and educational experiences.

Participating students pay regular tuition fees to IPFW and have access to financial aid they would have received at IPFW. While credits earned on exchange are recorded as resident credit toward the IPFW degree, exchange grades are not calculated in the IPFW grade-point average.

29. Student Handbook and Planner

A student handbook and planner is published each fall semester to inform students of the services, programs, and activities available at IPFW. It also contains important information on university policies and the Code of Student Rights, Responsibilities, and Conduct. The handbook is available at the Kettler Information Desk, the dean of students office (Walb 111), the bookstore, and other campus locations.

30. Student Life and Organizations

The Student Life office (Walb 115, 481-6609) promotes extracurricular and cocurricular events that complement and enhance each student's academic experience and personal development. More than 90 recognized student organizations serve a variety of special interests. The Student Life office works closely with the Student Activities Board (SAB) to provide the university community with recreational, cultural, educational, and social programs. Additional information is available in the *Student Handbook* or at the Student Life office and on the Internet at www.ipfw.edu/stulife.

31. Supplemental Instruction

Supplemental Instruction (SI), available through the Center for Academic Support and Advancement (CASA) (Kettler G23, 481-6817), is a free, voluntary program that provides extra help for students enrolled in selected course sections. A trained leader helps students learn course material and study techniques in group sessions held outside of class. SI participation has proven helpful to all types of students interested in improving their course grades.

STEPS, Student Technology Education Programs, offers free technology short courses to IPFW students. Information Technology (IT) Services and CASA, working together, offer these courses to provide students with the computer-mediated communication skills they need for college and beyond. No registration is required. The classes last about 90 minutes and a schedule can be found on the IT Services and CASA Web pages and on fliers posted on campus.

32. Transcripts and Academic Records

The Office of the Registrar (Kettler 107) can provide official transcripts for students who have been enrolled at IPFW or any other IU or Purdue campus.

Copies of academic records (unofficial transcripts) for IPFW students are available from the registrar's office (Kettler 107).

33. Tutorial and Study-Skills Assistance

The Center for Academic Support and Advancement (CASA) (Kettler G23, 481-6817) may be of assistance for students who want to improve their basic academic and study skills, need tutorial help in regular college courses, or would welcome advice on returning to college after a long absence from the classroom. The center offers classroom instruction in reading and study skills. It oversees a peer tutoring program in The SPOT, Kettler G21, that offers free individual appointments and regularly scheduled drop-in sessions. CASA is also the home of English-as-a-second-language advising, the Supplemental Instruction program, and the First Year Experience program. Tutoring services are also available through Multicultural Services (Walb 118, 481-6608) and the IPFW Writing Center (Kettler G19, 481-5740).

34. Veterans' Services

The IPFW Veteran's Services coordinator provides educational support services for veterans of the U.S. military.

Veterans' benefits information and counseling for first-time, continuing, or transfer students is available from the VA-benefits certifying official in the registrar's office, Kettler Hall 107, 481-6126. If you are receiving veterans' benefits, certification of your enrollment status is required each semester and should be requested at the registrar's office.

35. Voter Registration

Recent changes in the 1998 reauthorization of the U.S. Higher Education Act require colleges and universities to make available voter registration forms to all enrolled students. Any student not registered to vote may obtain an Indiana Mail-In Voter Registration Application (VRG-7i) form, which is available at various convenient locations throughout the campus. Please visit the Office of the Registrar's Web site, www.ipfw.edu/registrar/ and click on voter registration for more information.

The forms will be available at the following:

Bursar Office — Kettler Hall
Financial Aid Office — Kettler Hall
Office of the Registrar — Kettler Hall
Office of the Dean of Students — Walb Union
Multicultural Services — Walb Union
Gates Sports Center
Information Center — Kettler Hall Lobby
Walb Student Union Information Desk — Lobby
All School Dean's Offices

To be eligible to vote in Indiana, you must

- be a citizen of the United States
- be at least 18 years old on the day of the next general or municipal election
- have lived in your Indiana precinct for at least 30 days before the next election, and
- not currently be in prison after being convicted of a crime.

36. Writing Center

The Writing Center (Kettler G19, 481-5740) serves students, faculty, and staff with any university-related writing project in any discipline. The center's mission is to help all writers produce clear writing appropriate to their audiences. Knowledgeable consultants help writers brainstorm, focus, organize, and develop their ideas as well as learn how to better revise and proofread their own drafts.

Instructions are posted outside Kettler G19 to sign up for free 30- or 50-minute, one-on-one or small group appointments. Students may also, without an appointment: 1) drop in for quick writing help, 2) use the open lab computers in Kettler G19 to write their papers, and 3) use the Writing Center's library of resources about writing.

For further information and online consulting, follow Web site directions at www.ipfw.edu/casa/wc.

Writing Center hours: M 9 a.m.–5 p.m.; TWR 9 a.m.–7 p.m.; F 9 a.m.–2 p.m.; Sun 1–5 p.m.



Academic Regulations

The following academic regulations were in effect for all undergraduate students at the time of printing. Changes go into effect periodically and are published in the Schedule of Classes.

The academic regulations are arranged as follows:

1. Definitions
2. English Language Proficiency
3. Advanced Credit
4. Transfer Credit
5. Special Credit, Credit for Military Service, and Excess Undergraduate Credit
6. Placement Tests
7. Registration and Course Assignment
8. Attendance
9. Academic Honesty
10. Final Examinations
11. Grades
12. Grade-Point Averages
13. Academic Standing
14. Degrees
15. Minors
16. Transcripts
17. Encumbrances
18. Grade Appeals

1. Definitions

Certain terms have very specific meanings in these regulations. These terms are defined as follows:

Academic record Each student's IPFW cumulative record as maintained by the registrar in accordance with these academic regulations. Your IPFW academic record is the sole basis upon which all questions relating to such matters as grades, graduation requirements, academic standing, and scholastic recognition are resolved. Since official transcripts are produced using Indiana University and Purdue University procedures, your official transcript may, as noted in these regulations, vary somewhat from your IPFW academic record.

Credit The semester hour, often also called "credit hour" or "hour." Credit can be resident credit or transfer credit, as described below:

Resident credit: credit earned at IPFW or at another campus of the university through which you are enrolled at IPFW. There are two types of resident credit — course credit and special credit. Each is defined as follows:

Course credit: resident credit you earn on the basis of your enrollment in and satisfactory completion of courses.

Special credit: resident credit awarded by IPFW and based on factors other than your enrollment in and satisfactory completion of courses. There are three types of special credit:

Credit by examination: credit awarded on the basis of your achievement on a divisional or departmental proficiency examination.

Division/department credit: credit for a course offered by a division/department and granted on the basis of substantially

equivalent experience. Only the director/chair of the division/department that offers the course is authorized to award this type of credit.

Achievement credit: credit granted on the basis of your achievement on a nationally administered college-level examination.

Transfer (nonresident) credit: Credit earned from another university (other than IPFW or another campus of the university through which you are enrolled at IPFW). Transfer credits are evaluated by Admissions and accepted as transfer credit if completed at a regionally accredited institution with a grade of C– or better. Designations of plus and minus that accompany these grades will be disregarded in the evaluation of this credit.

Credit accepted as transfer credit will be equated to IPFW course numbers (or classified as “undistributed” if not equivalent to IPFW courses), and posted to your academic record at the time you matriculate or re-enter IPFW. The academic-record entry includes the name of the transfer institution, the years you attended, and the individual courses accepted for transfer. Your IPFW school/ division or department determines how credit earned at other institutions and accepted by IPFW applies to your plan of study, and the dean/director or chair of your IPFW school/division or department may request an adjustment of transfer-course equivalencies.

Student classification: a system for classifying undergraduate students who have been regularly admitted to IPFW. Classification is determined by your advisor, and should reflect the credits you have accumulated or your progress toward completing the specific requirements of the degree program in which you are enrolled. When your classification is being determined for a future academic session, your advisor will also include courses and credits that you expect to complete by the time that session begins.

<i>Classification</i>	<i>Credits Completed Toward Degree</i>
Freshman	Normally, fewer than 30
Sophomore	Normally, 30–59
Junior	Normally, 60–89
Senior	Normally, 90 or more

The registrar may establish additional classifications to serve IPFW’s record-keeping needs. Thus, your official transcript may show somewhat different codes.

Beginning student: a student enrolling in college courses for the first time, or a student who has completed a small number of credits while in a temporary admission status, most often while still a high school student.

Advanced placement: the admission of students to courses beyond the first course or courses in an established sequence, but without granting credit for earlier courses in the sequence.

Substitution: the replacement of a course required in a program with another course specified by the school/division or department that established the requirement.

Excusing: the replacement of a course required in a program with an equal number of credits from other courses not specified as “required.” Such an excuse requires approval of the school/ division or department that established the course requirement.

Work not scheduled for a regular fall or spring semester:

course work offered during a summer session or during a period of time that differs from a regular 16-week semester, and that is equivalent in content, contact hours, and credit value to course work offered during a regular semester. Because the length of the course differs from the regular semester, all deadlines and time periods will be prorated.

Intensive course: a course that meets for extended class times but for fewer weeks than the course would meet in a standard summer session.

Pass/not-pass option: an enrollment option that generally limits course grades to P (pass) and NP (not-pass). You may use the option to take only elective courses with limited concern for the grade. You may not elect this option for more than 20 percent of the credits required for graduation or in courses for which you have already earned a grade. Under the P/NP option, Indiana University students who earn a grade of D or F have that grade recorded on their official transcripts. Purdue University students who earn a grade of D or F have a grade of N recorded on their official transcripts.

Auditor: a student who enrolls in a course, attends class, pays full fees, but does not receive a grade or credit for the course.

Cheating: dishonesty of any kind with respect to examinations, course assignments, or alteration of records.

Plagiarism: a form of cheating in which the work of someone else is offered as one’s own. The language or ideas thus taken from another may range from isolated formulae, sentences, or paragraphs, to entire articles copied from printed sources, speeches, software, or the work of other students.

Grade-point average (GPA): a numerical calculation or report of grade averages. IPFW, Indiana University, and Purdue University GPAs are based on a four-point system with grades of A equated to 4.00 points, grades of F equated to 0.0 points, and other grades scaled accordingly (see 11. Grades).

NOTE: Prior to June 1993, Purdue University transcripts and related Purdue University records were computed on a six-point scale (A = 6.00) rather than the four-point scale (A = 4.00) used by IU and IPFW. Since June 1993, all IU, Purdue, and IPFW GPAs are computed using the same four-point scale (A = 4.00).

2. English Language Proficiency

The language of instruction at IPFW is English. Therefore, your ability to read, write, speak, and understand English is vital to your academic success.

Prior to admission, IPFW Admissions will determine if you have a native language other than English. If you do, you will be classified as an ESL (English as a second language) student unless you have transfer credit for an English composition course that carries credit toward graduation. ESL students must submit scores on the TOEFL or an equivalent test approved by the Center for Academic Support and Advancement (currently the Michigan Test) and are admitted with the condition that they achieve appropriate competency levels in English composition.

Based upon TOEFL or equivalent test scores, the Center for Academic Support and Advancement will determine if you need ESL instruction. If you are exempt from ESL course requirements, you will be subject to the regular English placement-testing and course-completion requirements described in these regulations. If you are not exempt, you will:

- be admitted *only* to the Center for Academic Support and Advancement (unless you score the equivalent of 550 or above on the TOEFL and meet the admission requirements of a degree-granting academic unit). If you are admitted in this fashion to the Center for Academic Support and Advancement, you will not be eligible for admission to another academic unit until you have completed ESL-related requirements.
- enroll in the appropriate ESL course each semester until the requirement is satisfied.
- complete the prescribed series of ESL courses within your first 36 credits at IPFW.

The Center for Academic Support and Advancement has authority to alter your registration if these requirements are not being met.

3. Advanced Credit

You can establish advanced credit in any of five ways:

College Board advanced-placement program. You can establish college credit based on an exam taken after completion of a high-school advanced-placement course. The test score necessary to support an award of credit varies depending on the test subject. Specific information is available from IPFW Admissions.

College-Level Examination Program (CLEP). This program evaluates nontraditional college-level education.

A guide to CLEP credit available at IPFW can be obtained from the Admissions office. No credit is awarded for General Examination performance.

Education while in U.S. military service. If you are a Purdue University or Indiana University student who (1) took foreign-language courses in service schools; (2) took courses from the Community College of the Air Force; or (3) are an Indiana University student who (a) completed courses that appear in the Evaluation of Educational Experience in the Armed Forces (b) took DANTES examinations, and/or (c) completed Air Force Flight School; you may be eligible for credit. Twelve credits are granted for completion of Officers' Candidate School. Each school/division determines whether credit for military service is applicable to the degrees it sponsors.

Directed Credit/Credit by Examination. For information about "testing out" of courses, see 5. *Special Credit, Credit for Military Service, and Excess Undergraduate Credit.*

Modern Foreign Languages Placement Test. If you begin foreign-language study in a second semester or higher course in French, German, or Spanish, you may be eligible for special credit for the courses below your placement level. You must apply for this credit through the Department of Modern Foreign Languages (CM 267, 481-6836); it is not granted automatically.

4. Transfer Credit

For general limits on credit transfer, see 14. *Degrees.*

To transfer credits to IPFW, you must request that every college or university you have attended send an official transcript of your work to IPFW Admissions. IPFW accepts credits only from academic programs at institutions accredited by regional accrediting associations and only for courses in which you earned grades of C– or better. Specific IPFW degree programs may impose additional criteria. Grades do not transfer.

Changing between IPFW programs. To change from one IPFW academic program to another, you must complete the appropriate forms and secure the approval of the IPFW school/division offering the program to which you want to change. If the change affects your university affiliation (IU or Purdue), the registrar will notify Admissions, which will transfer all of your previously earned IPFW credits to the records system of your new university.

If you are a re-entering student who has not enrolled at IPFW during the previous 12 months, or if you are returning to IPFW after having attended another institution, you must specify your intended academic program on the appropriate re-entry or transfer-admission form. You must then submit this completed form to Admissions for evaluation.

Credit transfer between IPFW programs. When you change from one IPFW degree or certificate program to another, the school/division to which you are transferring will report to the registrar the status of every course you have taken. Each course you have completed, regardless of the grade you earned, will be classified into one of the following two categories:

- courses that are required for, or applicable to, your new program or which are substantially equivalent to, and are acceptable as, substitutes for such required courses.
- courses that are not applicable to your new program.

Grades you have earned in any courses that can satisfy a degree requirement, other than a "free elective," may not be deleted from the calculation of your graduation GPA.

5. Special Credit, Credit for Military Service and Excess Undergraduate Credit

Credit by division/department examination. Opportunities for earning undergraduate credit by division/department examination are encouraged in order to expedite the education of qualified students. Toward this end, each academic division/department establishes procedures to consider candidates and to administer and grade such examinations. Each division/department also keeps a list of the principal courses available for credit by examination and test schedules if known.

You may request an examination for credit for a course if the course is available for credit by examination and if no grade in the course other than a grade of W or NC has been awarded. The examination will be at least as comprehensive as those given in the course, and will be graded satisfactory (performance comparable to that expected of a student who receives an A, B, or C in the course), or unsatisfactory. The registrar will record results of satisfactory performance on your academic record; no

academic record entry will be made for unsatisfactory performance.

Achievement credit. Credit or transfer credit for nationally administered examinations (except the International Baccalaureate Program) will be awarded only after approval by the IPFW division/department that offers courses in the subject area.

For participants in the International Baccalaureate Program, an award of 3–8 credits will be made for each high-level examination passed with a score of 4 or above. IPFW Admissions will award undistributed credit in the appropriate disciplines until specific credit equivalencies are established by IPFW departments. No credit will be awarded for performance on subsidiary-level exams.

Credit for military service. Each school/division determines whether credit for participation in military service may be applied toward a degree.

Excess undergraduate credit. A senior with a GPA of 3.00 or better may, with written permission from both an authorized graduate advisor and the instructor(s) involved, enroll in up to 9 credits in excess of the requirements for graduation, in courses intended for use in a graduate program. Permission, if given, will be noted on forms supplied by the registrar, who shall make a transcript notation of the special status of these credits. Instructors will impose graduate-level standards in these courses.

6. Placement Tests

All regularly admitted first-year students must take English, reading, and math placement tests before registering for any courses. Unless credit in equivalent college-level introductory English and mathematics courses has been earned elsewhere, temporary and transfer students must take these tests before they are permitted to (1) register in any English or mathematics course and (2) accumulate more than 12 credits at IPFW. SAT I or similar achievement-test scores are not substituted for the IPFW placement-test results.

You should take these tests as soon as possible after you are admitted to the university. The placement-test schedule is available from Academic Counseling and Career Services (Kettler 109, 481-6595). Placement test results are valid for only two years from the date the tests are taken.

If your placement scores indicate a need for developmental English (ENG W130 or P131) or mathematics (MA 109 or 113), you must satisfactorily complete these courses within the first 24 credits of your IPFW course work. If your scores indicate a need for developmental reading (ENG R150), you must satisfactorily complete this course within your first two enrollment periods.

Foreign language. If you studied French, German, or Spanish for two or more years in high school and wish to continue to study that language, you must enroll in the appropriate 113 course, unless you graduated from high school five years or more prior to enrolling at IPFW. The 113 course is equivalent to the second semester of the first year, but incorporates a review of what is studied in French, German, or Spanish 111. No placement test is required for enrollment in 113. Students who graduated from high school five years or more prior to enrolling at IPFW may start their foreign

language over by enrolling in 111, or they may take a placement test to determine whether they might be successful in 113.

If you completed three or more years of high-school French, German, or Spanish, you are urged to take the foreign-language placement test in order to determine whether you can place higher than 113.

If you studied French, German, or Spanish at a college or university and have transfer credits, please contact the Department of Modern Foreign Languages (CM 267, 481-6836) before enrolling in additional classes in that language.

English as a second language. If you have been designated as an ESL student, consult *2. English Language Proficiency*.

7. Registration and Course Assignment

Registration procedures. You must register for courses in accordance with procedures and guidelines prescribed by the registrar.

Your initial registration for each term must occur according to the timetables for registration established for each semester/session and published in the *Schedule of Classes*. In most cases, you will register for classes at your school/division or department office, the registrar's office, or via the OASIS Web registration system.

Academic load. The following maximums apply to your enrollment at IPFW:

Limit with special permission. Your academic load may not exceed 18 credits in a regular semester or 8 credits in a summer session unless unusual circumstances exist and you have been granted special permission by your academic advisor.

Absolute maximum in any academic session or intensive course. You will not be allowed to register for a class, or combination of classes, that generates more than 1.5 credits per week (e.g., more than 24 credits in a regular fall or spring semester or more than 9 credits in a normal summer session). You will not be allowed to register for more than one intensive course at a time. Courses for which you register as an auditor are included in the calculation of your academic load.

Enrollment status. For most purposes, undergraduate students are considered to be full-time students when enrolled in 12 or more credits during a regular semester, or 6 or more credits during a summer session; and part-time students when enrolled in 11 or fewer credits during a regular semester, or fewer than 6 credits during a summer session.

Course prerequisites and corequisites. Before you begin a course, you must have satisfied all prerequisites and corequisites or secured the instructor's or sponsoring division/department permission. At the request of the instructor or the division/department through which a course is offered, the registrar may withdraw you from a course for which you have not satisfied all prerequisites and corequisites.

Auditing. You may enroll as an auditor by noting "Auditor" (A) in the appropriate space on your registration form, and by completing the normal registration procedures established by your division/department. You may not enroll as an auditor if you have been dismissed from IPFW.

You will be assigned a grade of W or NC and will not receive academic credit for a course in which you enrolled as an auditor. However, under the rules of a division/department examination, you may later be allowed to earn credit for a course you have audited.

Schedule revisions and late registration. After your initial registration, you may revise your schedule in accordance with the policies listed below. In all cases, you must submit the completed schedule-revision (drop/add) form with appropriate signatures to your division/department or the registrar's office. All schedules and deadlines are prorated for courses not meeting for an entire fall or spring semester. An academic advisor's approval may be required to process a course addition or withdrawal at the registrar's office.

Addition of a course. You may add a course after your initial registration by submitting a completed schedule-revision (drop/add) form with appropriate signatures to your division/department, to the registrar's office, or via the OASIS Web registration system.

<i>Weeks</i>	<i>Restrictions</i>
Through Week 1 of classes	School/division policies determine whether an academic advisor's approval is required.
Weeks 2–4	Approval of the instructor is required. School/division policies determine whether an academic advisor's approval is required.
Weeks 5–9	Approval of the instructor and of your dean or division director is required. School policies determine whether an academic advisor's approval is required. Approval will normally be given only when extenuating circumstances are involved.
Weeks 10–16	Courses cannot normally be added during this time.

Withdrawal from a course. Subject to the time limits below — and in the absence of any allegation that you are guilty of academic dishonesty in the course — you may officially withdraw from a course by presenting a schedule-revision (drop/add) form to your department.

<i>Weeks</i>	<i>Restrictions</i>
Through Week 4 of classes	School/division policies determine whether an academic advisor's approval is required; the course is not recorded on your record.
Weeks 5–9	School/division policies determine whether an academic advisor's approval is required; a grade of W is recorded on your record.
Weeks 10–16	Courses cannot normally be dropped during this period. If a drop is approved, the course is recorded with a grade of W on your record.

During Weeks 10–16, a course may be dropped and a grade of W assigned if you receive approval of your academic advisor and your dean/division director, after the latter has consulted with the instructor. Such drops will not be approved if sought because of your poor performance in the course.

After the end of the Week 16, a course may be dropped only by following the change-of-grade procedure.

Change of Pass/Not-Pass (P/NP) option. Prior to the end of the fourth week of an academic semester (or equivalent period during a summer session), you may add or remove the P/NP option for a course by obtaining the signature of an academic advisor next to the appropriate notation on the schedule-revision (drop/add) form, and by processing the form in the prescribed manner.

Change of Auditing option. Prior to the end of the fourth week of an academic semester (or equivalent period during a summer session), you may change from audit to credit status by obtaining the signature of an academic advisor next to the appropriate notation on the schedule-revision (drop/add) form, and by processing the form in the prescribed manner. Prior to the end of the ninth week of an academic semester (or equivalent period during a summer session), you may change from credit to audit status in the manner specified above.

Withdrawal from the university. Withdrawal from the university is accomplished by withdrawing from each course in which you are enrolled.

Withdrawal for military service. Any student called to active military duty may present a copy of their military service orders and (a) withdraw from all courses and receive a 100 percent refund of tuition and fees at any time during the semester through the end of final examinations or (b) with the permission of each instructor, receive an Incomplete or final grade in the courses taken. Such requests and documentation may be presented by the student or other responsible party who has the student's permission to make the request. Refunds of fees will not be made if the student receives a grade and credit for the course, and all refunds will be adjusted as required by financial aid regulations. If a withdrawal is processed after the fourth week of classes, the grade of W will be assigned.

Withdrawal for personal circumstances. Students who seek to withdraw from IPFW after the ninth week of classes based on personal circumstances should contact the dean of students for guidance about the process.

8. Attendance

You may not attend a class (1) before completing official registration procedures, (2) after officially withdrawing from the class, or (3) after your registration has been canceled.

You are expected to attend every meeting of the classes in which you are registered. Work missed during absences may be made up if permitted by the instructor. At the beginning of the academic session, each instructor will provide a clear statement to all students regarding his or her policy for handling absences.

If you must report your class attendance in order to satisfy requirements of financial-aid sponsors, you must present the

sponsor's certification form to each of your instructors. Each instructor will certify your attendance by completing the form. Unless you have made a prior agreement with your instructor, he or she will not be obligated to certify your attendance for more than the most recent class.

Discontinuing class attendance and not fulfilling course requirements is regarded as an unauthorized withdrawal and will result in your receiving a grade of F.

9. Academic Honesty

Policy. Academic honesty is expected of all students. You are responsible for knowing how to maintain academic honesty and for abstaining from cheating, the appearance of cheating, and permitting or assisting in another's cheating.

Your instructor is responsible for fostering the intellectual honesty as well as the intellectual development of students, and for applying methods of teaching, examination, and assignments that discourage student dishonesty. If necessary, your instructor will explain clearly any specialized meanings of cheating and plagiarism as they apply to a specific course.

Your instructor will thoroughly investigate signs of academic dishonesty, take appropriate actions, and report such activity properly to prevent repeated offenses and to ensure equity.

Procedures. An instructor who has evidence of cheating will initiate a process to determine guilt or innocence and the penalty, if any, to be imposed.

During an informal conference held within 10 class days of discovering the alleged cheating, your instructor will inform you of charges and evidence and allow you to present a defense. Your instructor will make an initial determination after this conference. You may be assigned a grade of Incomplete (I) if the matter cannot be fully resolved before course grades are due in the registrar's office.

Reporting. During the period in which you are permitted to drop courses, the instructor will inform the registrar promptly of any allegation of cheating, so that you cannot withdraw from the course. The instructor who makes an initial finding that academic dishonesty has been practiced will impose an academic sanction. Then, within 10 class days, the instructor will supply a written report to you, the chair of your department, the dean or director of your school or division, and the dean of students. The report will summarize the evidence and penalties assessed.

Appeal. If your course grade is affected by the penalty, you have the right to appeal the penalty imposed by an instructor in accordance with the grade-appeals policy (*see 18. Grade Appeals*).

10. Final Examinations

Next-to-last week. No instructor may schedule an examination — comprehensive or noncomprehensive — except for laboratory and practicum courses, during the week preceding the last week of a fall or spring semester.

Final week. With the exception of courses classified as individual instruction, clinic, studio, practice teaching, or research and those offered for zero credits, each class will meet for a scheduled two-

hour session during the last week of each fall or spring semester. The two-hour session is to be used for (1) a final examination; (2) a last, noncomprehensive examination; or (3) a regular class meeting.

Conflicts. If you (1) are scheduled to take more than two final examinations in one day, (2) have conflicting final-examinations, or (3) are scheduled to take a state, national, or professional licensing examination, you may contact the instructors involved prior to the last week of a fall or spring semester to obtain appropriate rescheduling. If you and the instructors cannot agree upon a rescheduling, the vice chancellor for academic affairs shall investigate and issue a binding schedule.

Absences. If you miss a final examination because of an emergency, you must contact the instructor as soon as possible. If you miss a final examination, you may receive a grade of F for the course.

11. Grades

Basis of grades. Your instructor is responsible for explaining to you, preferably in writing at the beginning of an academic session, the course requirements and grading system to be used. You will be assigned a grade in each course at the close of the session.

You are responsible for the completion of all required work in each course by the time of the last scheduled class meeting or other deadline set by the instructor, unless you have officially withdrawn from the course, or unless you and the instructor have agreed that a grade of Incomplete (I) is warranted.

Semester Grades. The following grades may be assigned:

A	Highest passing grade
B	Above-average passing grade
C	Average passing grade
D	Lowest passing grade
F	Failure or unauthorized discontinuance of class attendance; no credit
I	Incomplete. A temporary record of passing work that (1) was interrupted by circumstances beyond the student's control or (2) represents satisfactory work-in-progress in an independent-study or self-paced course.
IF	Unremoved incomplete, Failing. Recorded for failure to achieve a permanent grade by the deadline stated in these regulations. Indiana University students who receive this grade will have a grade of F recorded on official transcripts.
NC	Completion of the course as an auditor; carries no credit.
NP	Not passing grade when enrolled under the P/NP enrollment option. Purdue University students who receive this grade will have a grade of N recorded on official transcripts.
P	Passing grade. Under the P/NP option, equivalent to a grade of A+, A, A-, B+, B, B-, C+, C or C-.
S	Satisfactory, credit. Awarded by the registrar upon satisfactory performance in a course offered only on an S/F basis, or on a departmental/divisional examination,

S or another award of special credit, or completion of a 0-credit course. Purdue University students who receive this grade will have a grade of P recorded on official transcripts whenever the course involves one or more credits.

W Withdrew. A record of the fact that the student officially withdrew from (dropped) a course or was administratively withdrawn from a course for nonpayment of fees after the end of the fourth week.

Pass/Not-Pass (P/NP) option. The P/NP grade option provides a limited opportunity for you to take “free electives” with minimal concern for grades you earn. You must fulfill the same requirements as others enrolled in courses for which you elect this alternative. Instructors are not advised that you have registered for their courses under this option.

Your use of this option is subject to the three general limitations listed below. However, your school/division or department may impose additional restrictions.

- You may not elect this option for courses that fulfill specific graduation requirements other than total number of credits (i.e., only for “free-elective” courses).
- You may not elect this option for more than 20 percent of the credits required for graduation.
- You may not elect this option for any course in which you have already earned a grade of A, B, C, D, or F.

If you earn a grade of A, B, or C under this option, it will be changed to a grade of P by the registrar and posted to your transcript. However, if you are enrolled at IPFW as an Indiana University student, grades of D or F that you earn under this option will be posted to your transcript without change. If you are enrolled at IPFW as a Purdue University student, grades of D or F which you earn under this option will be changed by the registrar to a grade of NP and will be posted to your official transcript as a grade of N. Grades of P and NP (or N) are not used in the computation of your GPA.

Incomplete. A grade of I may be granted to students (1) who are unable to complete specific course requirements for clearly unavoidable, nonacademic reasons (such as extended illness or relocation) and (2) whose work has been of passing quality up to that time. A grade of I will not be considered as an alternative to an anticipated low grade in a course. Certain IPFW schools/divisions or departments impose additional limitations on the use of I grades.

An instructor who reports a grade of I must provide the registrar’s office with a form specifying (1) the reason for the incomplete, (2) the requirements for completing the course, (3) the grade earned for the course to date, and (4) the specific time limit, not to exceed one calendar year, allowed for completing the course.

An instructor may change the incomplete to a regular letter grade if requirements for the completion of the course are not met within the time specified. Given extenuating circumstances, the initial time limit may be extended for a period not to exceed one additional calendar year if approved by the instructor and the instructor’s dean/division director, and if the registrar’s office is notified before the expiration of the original time limit.

The registrar’s office changes the I to a grade of IF unless you graduate or remove the incomplete within the time allowed. If you are enrolled at IPFW as an Indiana University student and receive an IF grade, a grade of F is recorded on your official transcript. If you re-enroll in the same course while the I is still on your record, and the course is not repeatable for credit, the original grade of I remains on your official transcript.

If you transfer resident credit for a course in which you received an incomplete, you will have the grade of I recorded on your academic record for up to one calendar year from the date of admission to IPFW. At the end of this period, if you have not graduated or provided evidence that the incomplete has been replaced with a permanent grade, the registrar’s office will change the incomplete to IF.

Final grade report. Your complete record for the session and your cumulative GPA are reported to you, your major department, and your school/division.

Changes of grade. An instructor who discovers within 30 days of the grade-processing deadline that a grade reported for you was in error, must promptly submit to the registrar a statement, countersigned by the instructor’s department chair or division director, of the circumstances of the error and of the change to be incorporated in future GPAs. Correction of errors after this time requires the additional approval of the instructor’s dean/director.

The registrar will inform you, the department chair/division director, and the dean of the change of grade.

You may seek a change of grade through the grade-appeals procedure (see 18. *Grade Appeals*).

You may retake any course. Unless the course is described in this *Bulletin* or its supplement as repeatable for credit, credit will be given only once for a repeated course, and only the most recent grade earned will be incorporated into graduation GPA calculations.

12. Grade-Point Averages

A grade-point average (GPA) is a weighted average of all credits for which a GPA-related grade (A, B, C, D, F, IF) has been assigned. The three GPAs used at IPFW are defined and computed (and rounded to two decimal places) as follows:

Semester GPA is computed using only those credits for which you are assigned a GPA-related grade for the specified semester.

$$\text{Semester GPA} = \frac{4NA + 3NB + 2NC + ND^*}{\text{Credits}}$$

All credits for which a grade of A, B, C, D, F, or IF was assigned for a specified grading period.

Cumulative GPA is computed using all credits for which you are assigned a GPA-related grade with the exception of credits earned in those courses that have been repeated and are not repeatable for credit.

All credits earned at IPFW or at another campus of IU or Purdue for which a grade of A, B, C, D, F, or IF was assigned are applicable.

$$\text{Cumulative GPA} = \frac{4NA + 3NB + 2NC + ND^*}{\text{Credits}}$$

All applicable credits for which a grade of A, B, C, D, F, or IF was assigned.

Graduation GPA is computed using credits for which you are assigned a GPA-related grade in only those courses that fulfill a graduation requirement with the exception of credits earned in those courses that have been repeated and are not repeatable for credit. If you are pursuing more than one degree program, your graduation GPA will be determined by the academic unit through which you register.

All applicable credits earned at IPFW or at another campus of IU or Purdue for which a GPA-related grade was assigned are included if they were received for courses that fulfill a graduation requirement.

$$\text{Graduation GPA} = \frac{4\text{NA} + 3\text{NB} + 2\text{NC} + \text{ND}^*}{\text{Total Credits}}$$

All applicable credits for which a grade- of A, B, C, D, F, or IF was assigned for only those courses that fulfill a graduation requirement.

*Where NA represents the number of credits assigned to the grade of A, NB the number assigned to the grade of B, etc.

Note: Prior to June 1993, Purdue University transcripts and related Purdue records were computed on a six-point scale, (A = 6.00) rather than the four-point scale (A = 4.00) used by IU and IPFW. Since June 1993, all IU, Purdue, and IPFW GPAs are computed using the same scale (A = 4.00).

13. Academic Standing

Good standing. For purposes of reports and communication to other institutions, and in the absence of any further qualifications of the term, you are considered in “good standing” unless you have been dismissed, suspended, or dropped from IPFW and not readmitted.

Academic recognition. At the conclusion of each fall or spring semester (but not any summer session), the registrar indicates which students are eligible for the following academic recognitions:

Semester Honors List for (a) having at least 6 credits included in the graduation GPA, (b) achieving at least a 3.50 semester GPA, and (c) achieving at least a 2.00 graduation GPA.

Dean’s List for (a) having at least 12 credits included in the graduation GPA, (b) having at least 6 credits included in the semester GPA, (c) achieving at least a 3.50 graduation GPA, and (d) achieving at least a 3.00 semester GPA.

If you have earned academic recognition for either of the two previous semesters, your achievements will be recognized at the annual Honors Convocation and appropriately noted on your academic records.

Recognition of completion of Honors Program. If you are certified by the Honors Program Council as having completed the requirements of the Honors Program, an appropriate academic record notation is made.

Academic probation, dismissal, and readmission. The following probation, dismissal, and readmission criteria are minimums for IPFW; academic units may set higher standards that become effective upon publication in the *Bulletin* or its supplement. If you are dismissed from a program for failure to meet the higher standards imposed by an academic unit, you must be accepted

into another program before registering for a subsequent academic session.

Probation. You are placed on probation and are so notified by the registrar whenever your semester or cumulative GPA at the end of any regular semester is less than the minimum standards specified in the following table:

GPA Levels for Probation

Class Standing	Semester GPA	Cumulative GPA
Freshman	1.50	1.50
Sophomore	1.60	1.70
Junior	1.70	1.90
Senior	1.70	2.00

An appropriate notation will be made on your academic record. Any grade change will require recalculation of your probation status. You are removed from probation upon achieving the minimum semester and cumulative GPA in the above table.

Dismissal. If you are on probation, you will be notified of dismissal by the registrar if, at the end of any regular semester, you (1) earn failing grades in 6 or more credits for that semester or (2) do not meet the minimum cumulative GPA requirements in the following table:

GPA Levels for Dismissal

Class Standing	Cumulative GPA
Freshman	1.30
Sophomore	1.50
Junior	1.70
Senior	1.90

An appropriate notation will be made on your academic record. Any grade change will require recalculation of your dismissal status.

Readmission. If you have been dismissed from IPFW or any other campus of Indiana University or Purdue University, you may not enroll at IPFW until one fall or spring semester has passed. Thereafter, you may be readmitted according to the procedures specified by the IPFW school/division into which you are seeking readmission.

If you have been dismissed from IPFW but have earned fewer than 12 credits in courses with GPA-related grades, you may be eligible for immediate readmission to the division/department from which you were dismissed and be exempted from the procedures and fees normally associated with readmission.

All readmissions are into probationary status. An appropriate notation will be made on your academic record.

14. Degrees

Schools and divisions may impose stricter requirements than those listed in this section, but may not waive the following minimum standards. Provided these minimum standards are satisfied, adjustments to any degree requirement may be made by the unit establishing that requirement.

Degrees offered. For completion of undergraduate plans of study of at least 60 credits, associate degrees may be conferred. For

completion of undergraduate plans of study of at least 120 credits, bachelor's degrees may be conferred.

Requirements for degrees. If you enter a degree, certificate, or premajor program, you will be required to fulfill the requirements published in the *Bulletin* (or its supplement or departmental regulation) current at the time of your most recent entry or re-entry into that program at IPFW. Only with the written acknowledgment of an academic advisor can you elect to fulfill the requirements in any subsequent *Bulletin* or supplement.

Any new requirement for a degree, certificate, or premajor program may not be imposed on currently enrolled students in these programs if it would increase the number of credits or the number of semesters required for completion of the program.

The school/division/department committee in charge of curriculum matters may refuse to accept as credit toward graduation any course that was completed 10 or more years previously. Former students will be notified of all such decisions upon re-entering or when the credit is determined to be unacceptable.

To earn any associate or bachelor's degree at IPFW, you must satisfy the following four requirements:

1. You must complete, by resident credit or transfer credit, the plan of study underlying the degree, including
 - For an associate degree, registration in and completion of at least 32 credits of resident course credit, including at least 15 credits in courses applicable to the major.
 - For a bachelor's degree, registration in and completion of at least 32 credits of resident course credit at the 200-level or above, including at least 15 credits at the 300-level or above in courses applicable to the major.
2. Normally, you must complete the entire final year at IPFW. However, with the approval of your school/division and if you have satisfied the resident credit requirement, you may complete the remaining requirements in another approved college or university.
3. You must establish a graduation GPA of 2.00 or better.
4. You must register, either in residence or absentia, as a candidate for the desired degree during the academic session immediately preceding its conferral.

Double majors and double degrees. The academic unit sponsoring your programs shall certify your completion of each degree and any second major that you may have completed.

Double major. If you complete all the requirements for more than one program, you will be awarded a degree with a double major if (1) the requirements are completed at the same time; (2) the programs are offered by the same school or division and the same university at IPFW; and (3) the programs lead to the same degree, where "the same degree" means a B.A. (IU or Purdue), B.F.A., B.S. (Purdue only), or a B.S.C., etc.

Double degree. If you complete all requirements for more than one program, you will be awarded two degrees if the above requirements for a double major are not satisfied, except that Purdue University students who complete requirements for a second major leading to the same degree as originally earned

shall have this major noted on their transcripts but shall not receive a second degree.

Graduation with distinction. To be a candidate for the bachelor's degree with distinction, you must have a minimum of 65 resident credits included in the computation of your graduation GPA. To be a candidate for an associate degree with distinction, you must have a minimum of 35 resident credits included in the computation of your graduation GPA. The required GPA, calculated each spring as outlined below, also applies to degrees for the following summer sessions and fall semester.

In each school or division, the minimum graduation GPA for graduation with highest distinction from a bachelor's-degree program shall be at least 3.80 (A = 4.00), but never less than the 97th percentile of the graduation GPA of the school or division's graduates.

In each school or division, the minimum graduation GPA for graduation with distinction from a bachelor's-degree program shall be at least 3.50 (A = 4.00), but never less than the 90th percentile of the graduation GPA of the school or division's graduates.

Also in each school or division, the requirements for graduation with highest distinction or with distinction from an associate degree program shall also be separately calculated as outlined above for bachelor's-degree programs.

Conferring of degrees. Degrees may be granted at the close of each academic session.

15. Minors

You may earn a minor by providing your division/department verification of your acceptance into the minor program, a statement of the minor-program requirements, and by successfully completing those requirements. You may choose any set of minor-program requirements in effect since your most recent admission or re-entry into IPFW. Completion of any minor requires a minimum of 12 credits, including at least 6 resident credits at the 200 level or above. Your division/department will certify your completion of the minor requirements as your degree certification is being processed.

Concurrent with the completion of your degree requirements, the registrar will make an appropriate entry on your transcript to denote completion of the minor. No entry will be made on your transcript if the minor is not completed by the time you are certified for graduation.

16. Transcripts

If your record is not encumbered for any reasons described herein, you will (upon application to the registrar and payment of any prescribed fee) be entitled to receive an official transcript of your complete record, including any major(s) and minor(s).

Note: The registrar's office is the only university office authorized to issue official transcripts. All requests for these documents must be directed to that office.

17. Encumbrances

If you are in arrears to IPFW, you are not eligible to receive transcripts or diplomas. The clearance of all financial obligations by the Friday before Commencement will be essential for graduation. If you clear the obligation later, the diploma will be released.

18. Grade Appeals Policy

The Grade Appeals Policy applies to all students enrolled at IPFW. It can be used by any student who has evidence or believes that evidence exists to show that a course grade was assigned or a similar evaluation was made as a result of prejudice, caprice, or other improper condition such as mechanical error.

In appealing, the student must support in writing the allegation that an improper decision has been made and must specify the remedy sought. The student should seek the assistance of the dean of students in pursuing the appeal. During an appeal, the burden of proof is on the student, except in the case of alleged academic dishonesty, where the instructor must support the allegation. The student may have an advisor or friend present during all meetings with faculty members, administrators, and/or committees; he or she may advise the student but may not speak for the student during the meetings.

Grades may be changed only by a university authority upon the decision of the Grade Appeals Subcommittee or by the instructor any time prior to the decision of the Grade Appeals Subcommittee.

Appeal Deadlines. An appeal must be initiated no later than the fourth week of the fall or spring semester immediately following the session in which the grade was assigned. A final decision at each step must be reported within 30 calendar days of the filing of an appeal at that step, provided that this deadline falls within the regular academic year (fall or spring semester). If the deadline falls during the summer, the decision must be reported within 30 calendar days of the start of the fall semester. Each successive step in the appeals procedure must be initiated within three calendar weeks of the completion of the prior step.

Steps in the Process of a Grade Appeal

Step 1. Course instructor: The student makes an appointment with the instructor to discuss the matter. If the instructor is unavailable, the department or program chair shall authorize an extension of time or allow the student to proceed to Step 2. If the chair is unavailable, the dean of the school shall authorize the extension.

Step 2. Department/school/program: If the matter has not been resolved at Step 1, the student makes an appointment with the chair of the department or program offering the course, who may make an informal attempt to resolve the appeal. If the appeal is not resolved informally, the chair will direct the student procedurally in making an appeal to the department, school, or program committee. Only one committee shall hear the appeal in Step 2. The student filing an appeal shall have the opportunity to be heard in person by the committee.

Step 3. Grade Appeals Subcommittee: If the matter has not been resolved at Step 2, the student makes an appointment with the

dean of students, who will direct the student procedurally in submitting the case to the Grade Appeals Subcommittee.

Department/School/Program Appeals Procedure Each department, school, or program will establish appeals procedures that provide for a committee of three or more faculty members responsible for hearing grade appeals related to courses listed or administered by that department/school/program if those appeals have not been satisfactorily resolved between the student and the instructor or informally by the department chair. The procedures established by each department, school, or program shall provide for each case to be heard by only one such committee. The procedure shall provide the opportunity for the student to be heard in person and for the decision to be reported in writing to the student and the instructor. A copy of each unit's procedures will be given to the vice chancellor for academic affairs, to the dean of students, and to students, upon request.

Grade Appeals Subcommittee This subcommittee shall consist of nine members elected from among the Voting Faculty according to procedures specified in the Bylaws of the Senate.

Before hearing the details of a case, the subcommittee will decide by majority vote whether to consider the appeal and will report its decision in writing within 30 calendar days. The bases for a decision to consider an appeal may include (but not be limited to) a finding that (1) improper procedures have been followed by university employees at earlier steps of the appeal; (2) new information is present; or (3) the instructor has declined to accept the department, school, or program committee's recommendation.

No member of the subcommittee may take part in an appeal involving a course or instructor from the member's department or program. Members should also recuse themselves from cases in which they have potential conflicts of interest, personal involvement, schedules that will interfere with hearing the appeal in a timely manner, or other disqualifying causes. From those members remaining, the chair will elect the five-person hearing panel. The panel members will elect a chair who will be responsible for making arrangements related to the case.

If the case is to be heard, the hearing will take place within 30 days of the decision to hear the appeal, or within 30 days of the start of the fall semester, whichever is applicable. Each member of the panel will vote on whether the appeal is valid, and if so, on what remedy should be provided. If the panel, by majority vote, finds in favor of changing a grade, the chair shall report this finding to the registrar and to the parties listed below. The decision of the panel is binding on all parties and may not be appealed.

Reporting of Subcommittee and Panel Decisions The subcommittee and each panel shall report its finding and actions to the student; the department, school, or program from which the appeal came; the instructor; the chair of the student's department; the dean or director of the student's school or division; the dean of students; and (in the case of a panel decision) the chair of the Grade Appeals Subcommittee.

IPFW Policies

The following IPFW policies were in effect for all undergraduate students at the time of printing. Changes go into effect periodically and are published in the *Schedule of Classes*.

The policies are arranged as follows:

1. Admission
2. Affiliation with Indiana University or Purdue University
3. Residency
4. Student Identification Number
5. Fees and Expenses
6. Enrollment Certification
7. Affirmative Action, Nondiscrimination, and Nonharassment
8. Release of Student Information
9. Parking and Traffic Regulations
10. Smoking
11. Drug and Alcohol Abuse Prevention
12. Ethical Guidelines for Student Computer Users

1. Admission

You must be admitted to IPFW before you are eligible to register for classes. Admission applications may be obtained from the Admissions office (Kettler 111, 481-6812 or 800-324-IPFW) or online at www.ipfw.edu/admissions. After submitting all necessary information, you may be admitted to Indiana University or to Purdue University based upon the degree program you have selected. IPFW admissions counselors are available to help with your selection. Please call the Admissions office for a personal appointment.

University requirements for admission are established by the trustees. Program-specific admission requirements, in addition to those established by the trustees, may be imposed by schools/divisions and departments. Any such requirements become effective when published in the *Bulletin* or appropriate supplementary publications. Applicants should be aware that certain criminal convictions may result in ineligibility for admission to certain programs of study. *Note:* SAT I score requirements will change for fall semester 2006.

Basic skills. As an applicant for regular admission to IPFW, you should already possess the following basic-level skills in reading, writing, and mathematics:

Reading. You should be able to identify the main and supporting ideas in moderately complex texts, identify the authors' purposes, and evaluate the logic, accuracy, and value of their writing. You should be able to recognize implications, inferences, and assumptions and to integrate information from your experience or reading with new information.

Writing. You should be able to write short (500–700 words) argumentative and expository essays and should have some familiarity with research and documentation. Your essays should be clearly organized and should demonstrate an ability to develop a thesis through argumentation and evidence. You should display no major errors in spelling, syntax, punctuation, and usage.

Mathematics. You should be able to demonstrate arithmetic numeracy and mastery of the content of a substantial first-year high school algebra course and a high-school geometry course. You should be able to use problem-solving strategies and translate word problems into mathematical expression; to recognize relationships between variables in graphs; and to identify one-, two-, and three-dimensional figures and use the formulas that yield the dimensions, area, or volume of the figures.

Graduation and persistence rates. Graduation and persistence rate information for IPFW is available at www.ipfw.edu/registrar/information/student/.

Classification of applicants:

Applicants for undergraduate admission are classified into one of the following admission categories:

1. Beginning freshman. If you have never attended a college, you must submit an application, a high-school transcript or GED scores, and an application fee. Unless you graduated from high school more than two years ago, you must also submit SAT I or ACT scores.

To have your SAT I scores sent to IPFW, use code number 1336.

To have your ACT scores sent to IPFW, use code number 1217.

If you are a high-school student, you should apply as soon as possible after your junior year. Priority consideration will be given to applications for regular admission received by:

Aug. 1 for *fall semester*

Dec. 15 for *spring semester*

May 1 for *summer session I*

June 15 for *summer session II*

If your application and supporting materials are received after these deadlines, you either may be admitted on a temporary basis or advised to pursue regular admission for a subsequent semester.

If you are a high-school senior completing graduation requirements at the end of your seventh semester, you must meet all regular admission criteria listed below in order to enroll in the spring semester. If you have not met all requirements, you will be considered for admission for the following fall.

Admission requirements. If you graduated from high school more than two years before the semester for which you are seeking admission and earned a high school diploma (not a certificate of completion), IPFW will waive the general requirements listed below. However, some of the university's degree and certificate programs have admission requirements in addition to the campus requirements. These program-specific requirements are explained in Parts 3 and 4 of this *Bulletin* and cannot be waived.

Requirements for Indiana residents. As a resident of Indiana, you may expect to be admitted if you (1) are a graduate (which includes passing of the GQE) of an Indiana-accredited high school with a CORE 40 or Academic Honors Diploma, (2) submit satisfactory SAT I or ACT scores, (3) submit your application to IPFW on time, and (4) meet the following requirements:

Admission to Indiana University programs. You must rank in the upper half of your high-school class. Your high-school

units (semesters) should include at least six units of mathematics (algebra, geometry, and advanced algebra) and six units of laboratory sciences (biology, chemistry, or physics), six units of social studies, four units of foreign language, and other units to total 32 units. Eight units of English are required.

Admission to Purdue University programs. Admission requirements for Purdue University programs vary as follows:

Programs in the School of Arts and Sciences: If you plan to complete a bachelor's degree with majors in mathematics or a science in four years, you should have completed the following in high school: one unit of trigonometry and two units of chemistry (for any science degree).

Programs in technology, organizational leadership and supervision, and consumer and family sciences require that you rank in the top two-thirds of your high-school class, and that your transcript shows eight units (semesters) of English, and two each of algebra, advanced algebra, geometry, and laboratory science.

For admission to programs in *engineering*, see admission requirements under the School of Engineering, Technology, and Computer Science.

For admission to programs in *nursing*, see admission requirements under the School of Health Sciences.

Other Purdue programs not having program-specific requirements require that you be in the top half of your high-school class and that your high-school transcript shows eight units (semesters) of English, and six each of mathematics, and laboratory science and social studies. IPFW defines mathematics as algebra, geometry, trigonometry, and calculus. Laboratory sciences include biology, chemistry, and physics.

Additional requirements for nonresidents. If you are not a resident of Indiana, you must meet the regular admission criteria for Indiana University or Purdue University and those for the program of study you have selected, and must generally rank in the top half of your high-school graduating class.

Guided studies/exploratory. If you graduated from high school within the past two years, have not attended another college or university, and do not meet the standards for regular admission, you may be eligible to begin as a guided studies/exploratory student.

As of July 1, 2005, the term "exploratory" will be used. Note: SAT I score requirements will change for fall semester 2006.

To be admitted as a guided studies/exploratory student, you must rank in the top 90 percent of your high school graduating class; have completed eight units of English, two units of academic algebra, two units of academic geometry, and two units of laboratory science; and one of the following:

- rank in the top 80 percent of your high school graduating class, or
- have a combined SAT I score of 750 or above or an ACT composite score of 16 or above.

Contact an IPFW Admissions counselor if you do not qualify for admittance as a guided studies/exploratory student and wish to discuss your options.

Guided studies/exploratory students receive academic advising through Academic Counseling and Career Services (Kettler 100E, 481-6814). Applications and other required materials must be received by July 1 for fall semesters and by Dec. 1 for spring semesters.

2. Intercampus transfer from Indiana University or Purdue University. If you are currently attending, or have attended, another IU or Purdue campus and want to transfer temporarily or permanently to IPFW, you must submit an application, an unofficial transcript from your IU or Purdue campus, and official transcripts from any colleges attended since your enrollment at IU or Purdue. No application fee is due.

3 Transfer. If you have attended college but never attended IPFW, IU, or Purdue, you must submit an application, a high-school transcript or GED scores, an application fee, and official transcripts from all colleges you have attended. A cumulative GPA of 2.00 (C) or higher is required. If your grades are deficient, you may be considered for admission for the following semester.

4 Re-entry. If you previously attended IPFW but have not registered for classes at IPFW for more than one year, you must submit an application, unofficial IU or Purdue transcript(s), and official transcripts from any colleges attended since your enrollment at IU or Purdue. No application fee is due.

Since your re-entry is subject to the approval of the specific division/department you wish to re-enter, one or more working days may be required to process your application before you can register for classes.

5. Special high school. If you are a high-school junior or senior ranking in the top third of your class, you may take up to 24 credits as a temporary student. You must submit an application, a high-school transcript, and a high-school recommendation form (available from IPFW Admissions); SAT I or ACT scores may be requested. No application fee is due.

6. Special adult. If you graduated from high school more than two years ago and have not attended college, you may take up to 24 credits at IPFW as a temporary student. You must submit an application but need not submit an application fee or additional documentation.

7. Special college graduate. If you hold a bachelor's degree and wish to take undergraduate courses but do not plan to pursue another undergraduate degree, you may take up to 24 undergraduate credits as a temporary student. You must submit an application but need not submit an application fee or additional documentation.

8. Guest. If you want to become a visiting student from another college outside the IU or Purdue systems, you may enroll temporarily at IPFW for up to 24 credits. You must submit an application and an official transcript from your home institution. No credits will be evaluated for transfer to IPFW. No application fee is due.

Institutional, state, and federal financial aid is not available to special adult students, graduate nondegree students, special high-school students, and guest students. These are temporary/nondegree-seeking classifications.

Regular admission of a temporary student. If you are admitted in temporary status, you may apply for regular admission. After you have earned 24 credits in temporary status, you may register for additional credits only after you apply for and are granted regular admission. Exceptions are considered by the registrar upon the recommendation of the school/division or department through which you last registered. If you are granted regular admission, you will be notified as to which of the courses you completed as a temporary student may be applied to satisfy the requirements of your degree program. An application fee will be charged. If you are denied regular admission, you will be notified of the reasons for this decision.

Academic renewal. This option may be available to you under the following conditions:

- You were previously admitted to and completed classes at IPFW;
- You have not registered for classes at IPFW or any other campus of Indiana University or Purdue University for five or more calendar years; and
- The school/division through which you re-enter IPFW provides this option for eligible students.

If you are eligible for the academic-renewal option, a participating school/division may exclude from the calculation of your graduation GPA grades you previously earned that are considered to be below “passing.” However, both these grades and the courses in which they were earned will remain on your official academic record.

You must request this option; it must be exercised during the re-entry semester and can be employed only one time per student. For additional information, please contact the school/division that offers the degree you are seeking.

2. Affiliation with Indiana University or Purdue University

IPFW is a campus of both Indiana University and Purdue University. If you are enrolled at IPFW as an Indiana University student and transfer to another campus of Indiana University, all credits and grades you have earned will be retained on your academic record. The same is true if you are enrolled at IPFW as a Purdue University student and transfer to another campus of Purdue University. However, if you change your university affiliation when transferring from IPFW to another campus, courses completed at IPFW will be treated as transfer credit.

3. Residency

Resident student status for fee purposes. When you are admitted to IPFW, you are classified by the admissions office either as a resident or a nonresident of the State of Indiana. This classification is determined by rules established for all IPFW students by the trustees of Purdue University. If you are classified as a nonresident student, you must pay nonresident fees as shown in the schedule of fees.

Among other criteria, resident student status for fee purposes requires all independent students who enter or re-enter the state of Indiana to be domiciled in the State for 12 consecutive months before the first day of classes of the semester or summer session for which reclassification may be sought. If you think you are

classified incorrectly, you may apply for resident student status. To appeal your residency classification, go to the following Web site and print off the application and instructions.

www.purdue.edu/Registrar/CustServ/ResidencyForm.pdf

When complete, return to IPFW Registrar, 2101 E. Coliseum Blvd., Fort Wayne, IN 46805-1499

4. Student Identification Number

If you voluntarily supply IPFW with your Social Security number, it will become your student identification number (SIDN). Otherwise, a special student identification number will be assigned for record-keeping purposes. In accordance with the Family Education Rights and Privacy Act of 1974 and Indiana Public Law 22 (1977), you are advised that disclosure of your Social Security number is voluntary. However, you are required to provide your Social Security number to the financial aid office if you are applying for financial aid. Except for the latter, you have the right to refuse disclosure and the right to request removal of this number from IPFW records without penalty.

Your student identification number will be used to identify records such as your permanent transcript, registration and grade reports, certification requests, and applications for financial aid. It will also be used to identify eligibility, certify school attendance, and report student status. Your student identification number is not disclosed to individuals or agencies outside IPFW except in accordance with the university policy on release of student information.

5. Fees and Expenses

All fees are subject to change by action of the trustees. Fees for the 2004–05 school year are shown below:

Course Fees (may not apply to continuing-education courses)

<i>Undergraduate residents</i>	\$177.05 per credit
<i>Undergraduate nonresidents</i>	\$408.30 per credit
<i>Graduate residents</i>	\$218.75 per credit
<i>Graduate nonresidents</i>	\$474.90 per credit
<i>Distance learning classes</i>	\$218.40 per credit

If you audit a course, regular course fees are assessed.

Other Fees. The following fees are in addition to the course fees listed above.

<i>Admission application</i>	\$30
<i>Readmission application</i>	\$50
<i>Late registration fee</i> (<i>\$100 maximum</i>)	\$8.50 per credit
<i>Continuing Studies fee</i>	varies

Refunds. Fee assessments and/or refunds are determined as of the date forms are submitted to the registrar’s office in person or via OASIS, regardless of any other dates that may appear on the forms. Requests for exceptions to the refund schedule will be considered only to resolve problems that result from 1) documented errors made by university representatives or 2) other circumstances that are clearly the responsibility of IPFW. Requests and supporting documentation must be received by the registrar’s office within the first two weeks of classes.

IPFW reserves the right to cancel courses and will refund all fees assessed. If you withdraw from a class, the following refund schedule will apply:

Number of Weeks	100%	60%	40%	20%	0%
16	Days 1-7	Days 8-14	Days 15-21	Days 22-28	Thereafter
12 or 13	Days 1-7	Days 8-14	Days 15-21	Days 22-28	Thereafter
10 or 11	Days 1-7	Days 8-14	Days 15-21	Days 22-28	Thereafter
8	Days 1-3	Days 4-7	Days 8-10	Days 11-14	Thereafter
7	Days 1-3	Days 4-7	Days 8-10	Days 11-14	Thereafter
6	Days 1-3	Days 4-7	Days 8-10	Days 11-14	Thereafter
5	Days 1-3	N/A	Days 4-7	N/A	Thereafter
4	Days 1-3	N/A	Days 4-7	N/A	Thereafter
3	Days 1-3	N/A	Days 4-7	N/A	Thereafter
2	Days 1-2	N/A	Days 3-4	N/A	Thereafter
1	Day 1	N/A	Day 2	N/A	Thereafter
Less than 1	Day 1	N/A	N/A	N/A	Thereafter

Notes: A 100 percent refund will be allowed through the day of the first class meeting, even if it occurs after the designated period.

Any course meeting for more than eight weeks will use the refund schedule approved for fall and spring semesters.

All calendar days are counted, including weekends.

If you are receiving federal Title IV financial aid (Stafford, Pell, Perkins, SEOG), and you make a full withdrawal, a calculation will be made to determine the amount of unearned aid that you will be required to repay. Specific information about this calculation may be obtained at the financial aid office or at www.ipfw.edu/financial.

Refunds are not transferable from one student to another. To qualify for a refund, your class withdrawal must be processed during the periods specified above. The refund schedule for off-campus credit classes offered through the Division of Continuing Studies may differ from the one above and appears in registration materials published by the Division of Continuing Studies.

Deferred payment options. Deferred payment options are available through the bursar's office.

Senior citizen fee-remission program. A waiver equal to one-half the resident tuition (to a maximum of 9 credits per semester) is available to Indiana residents who are age 60 or older, retired, not full-time employees, and high-school graduates or GED recipients. The waiver does not apply to fees. This program is available only during the week prior to the start of classes and also during late registration. Additional information and applications are available from IPFW Admissions (Kettler 103, 481-6812 or 800-324-IPFW).

6. Enrollment Certification

The registrar's office is the only university office authorized to officially certify your enrollment status. All requests for enrollment certification should be directed to that office. Your enrollment status for a specific semester/session can be certified only after classes for that semester/session have begun and will be reported only as of the date requested.

7. Affirmative Action, Nondiscrimination, and Nonharassment

IPFW is committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the university seeks to develop and nurture diversity. The university believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

IPFW views, evaluates, and treats all persons in any university-related activity or circumstance in which they may be involved solely as individuals on the basis of their personal abilities, qualifications, and other relevant characteristics.

IPFW prohibits discrimination against any member of the university community on the basis of race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability, or status as a disabled or Vietnam-era veteran. The university will conduct its programs, services, and activities consistent with applicable federal, state, and local laws, regulations, and orders and in conformance with the procedures and limitations as set forth in Purdue University's Executive Memorandum No. D-1, which provides specific contractual rights and remedies. Additionally, the university promotes the full realization of equal employment opportunity for women, minorities, persons with disabilities, and Vietnam-era veterans through its affirmative action program.

If you have a question or complaint, or want advice, you may talk with the affirmative action officer or an official designee (Kettler 110N, 481-6106) or the director of Services for Students with Disabilities (Walb 113, 481-6657).

8. Release of Student Information

The IPFW policy governing access to student records, which complies with the Family Educational Rights and Privacy Act of 1974, is described below:

Definitions:

A *record* includes any data or information about you and related individuals, regardless of the media used to create or maintain the record.

Educational records include records maintained by the institution but exclude records maintained by individuals and available only to those individuals or designated substitutes (that is, "personal files"). Your educational records are located and maintained by administrators in one or more of the following offices: Academic Counseling and Career Services; Admissions; Alumni Relations; Athletics, Recreation, and Intramural Sports; Bursar; Center for Academic Support and Advancement; Continuing Studies; Financial Aid; Honors Program; Police and Safety; Registrar; student affairs administration; and academic units.

Note: The registrar's office is the *only* university office authorized to issue official transcripts and certify students' enrollment status. All requests for such documentation must be directed to that office.

Public information consists of your name, class standing, school/division, major field of study, dates of attendance, degrees and awards, recognized student activities, sports, athletics information, and current enrollment status; your address and telephone number are also public information unless you have filed a registrar's form to keep these private. Records of arrests and/or convictions are public records and thus not subject to university policy.

Note: If you wish to restrict the release of your address and telephone number, you must do so by the end of the first week of classes for a session in order to exclude this information from any student directory that may be published.

Release in emergencies. The confidentiality of all records may be broken in an emergency if deemed necessary by the severity of the emergency, the usefulness of the records, and the extent to which time is critical.

Release to you. Your records are available to you with the following exceptions: confidential letters of recommendation submitted prior to 1975; records of your parents' financial status; records related to your student employment that are subject to other laws and are administered by the Human Resources office; medical and psychological records, which will be released only to a healthcare professional designated by you; and, if you signed a voluntary waiver of access, letters of recommendation related to admission, candidacy for awards, and candidacy for employment — these records may be used only for the purpose originally intended.

You may see any of your available records within 30 days after submitting a written request, either in person or by mail, and may copy any of these records, subject only to payment of any applicable copying charges. You will receive an interpretation of the record upon request, at or after the time that access is granted.

If you object to any part of your record and the responsible office will not revise the record as requested, you may request a formal hearing concerning the objection. Policies and procedures governing the hearing process will be specified by the vice chancellor for academic affairs.

Release to IPFW faculty and staff. Your records are available to members of the faculty and staff who have a legitimate need for them, as determined by the administrator of the office responsible for maintenance of the record.

Release to others. Except as specified below, your records will be released only upon completion of a consent form or letter you have signed. Any such release will include a notice that further release by the recipient is prohibited by law. A record of the release will be maintained.

Records about you will be released without your consent to your parents if you are a dependent as defined by the Internal Revenue Service; to federal officers as prescribed by law; as required by state law; to agencies or individuals conducting educational research, provided that the administrator of the records is satisfied concerning the legitimacy of the research effort and the confidentiality to be maintained by the researcher; to agencies responsible for accreditation of the institution or its programs; in response to a lawful subpoena, after making reasonable attempts

to provide prior notification and opportunity for objection by you; and to institutional security officers when necessary for a criminal investigation.

Retention of records. IPFW reserves the right to maintain only those records it considers useful and to set retention schedules for various categories of those records. However, the administrator responsible for each category of records will ensure that a record being challenged is not destroyed prior to resolution of the dispute.

9. Parking and Traffic Regulations

Parking. You are charged a parking fee based on the number of credits you take. This entitles you to park in open parking spaces (not in spaces designated as "A" parking) in lots or garages. Parking permits for students with disabilities are available from Police and Safety (PP105). Validation from a physician or Services for Students with Disabilities (Walb 481-6657) is required.

Traffic regulations. The operation of motor vehicles on the IPFW campus is governed by applicable state, local, and campus regulations. University police officers are empowered to enforce these statutes. Additional information is published in the *Student Handbook and Planner*, with complete information about IPFW parking and traffic regulations appearing in the Vehicle Regulations and Emergency Information brochure which is available from University Police and Safety and other campus locations.

10. Smoking

Campus policy prohibits indoor smoking in all buildings. You are asked not only to follow posted regulations on smoking, but also to encourage others to do so.

11. Drug and Alcohol Abuse Prevention

Guidelines for the prevention of alcohol and substance abuse are included in the *Student Handbook and Planner*. Copies of the handbook are available at various campus locations.

12. Ethical Guidelines for Student Computer Users

(Reprinted from IPFW Faculty Senate Document SD98-24a, revised April 12, 1999)

The IPFW Code of Student Rights, Responsibilities, and Conduct (hereafter, the Code) sets forth general policies and procedures governing the use of university facilities by students. The purpose of these guidelines is to interpret these policies and procedures specifically for students using the university's computing facilities.

University computer resources are designed to be used in connection with legitimate, university-related purposes. The use of university computing resources to disseminate obscene, pornographic, or libelous materials; to threaten or harass others; or otherwise engage in activities forbidden by the Code is subject to disciplinary action as specified in the Code.

Intellectual Property Rights and Responsibilities. Central to an understanding of the rights and responsibilities of student computer users is the notion of intellectual property. In brief, this

concept holds that materials stored in electronic form are the property of one or more rightful owners. Like any other property, electronically stored information, whether data or programs, can be stolen, altered or destroyed, misappropriated, or plagiarized. Such inappropriate activities violate the Code and are subject to disciplinary action as set forth in the Code.

Access Rights and Responsibilities. The use of lab, e-mail, Web, and other computing resources should be focused on facilitating individual or small-group interaction; other uses — for example, using computer resources to conduct a commercial enterprise or private business — constitute theft from the university subject to disciplinary action as specified in the Code. Similarly, the introduction of information that interferes with the access or information of others — for example, the introduction of programs of a type commonly called “viruses” or of nonacademic, network-game simulations — is subject to disciplinary action. E-mail should not be used for junk mailings.

Junk-mail, including chain mail, wastes system resources and the time of those who receive it. Neither should e-mail be used to forge a message so as to have it appear to come from another user. All such inappropriate use of e-mail is subject to disciplinary action, including, but not limited to, loss of e-mail account.

Certain university-controlled computing resources are openly available to all students on a first-come, first-served basis; access to other resources is limited — often only by means of posted notices — to students in certain disciplines or specified courses; access to still other resources is carefully controlled by such means as user IDs and passwords. Students are responsible for adhering to the spirit and the letter of these access controls. Violations of access rights can be interpreted under the Code as theft of university services whether or not those services have been separately billed.

Students are also responsible for ensuring the confidentiality of access rights under their control. For example, release of a password, whether intentional or inadvertent, invites misuse by others and may be subject to disciplinary action.

General Rights and Responsibilities. Despite access controls imposed, system failures may occasionally make it possible for students inappropriately to read, use, copy, alter, or delete information stored electronically on a university computer system. Students are responsible for not exploiting such system failures and for reporting them to proper university personnel so that corrective steps can be taken.

The university strives to maintain a quiet, library-like environment in its computer labs so that lab users can use their time productively and with minimal distractions. Proper use of computer resources follows the same standards of common sense and courtesy that govern the use of other public facilities. Improper use violates those standards by infringing upon others' ability to fulfill their responsibilities.

All inappropriate uses of computing resources should be reported to proper authorities for possible disciplinary action.

Code of Student Rights, Responsibilities, and Conduct

Part I. Student Rights and Responsibilities

Preamble. IPFW regulations governing the actions of students are intended to enhance the values that must be maintained in the pursuit of IPFW's mission and goals. These values include freedom of inquiry, intellectual honesty, freedom for the open expression of ideas and opinions within limits that protect the rights of others, and respect for the views and the dignity of other persons.

In exercising their rights, students must bear responsibility to act in accordance with local, state, and national laws and IPFW rules. No right should be construed as enabling students to infringe upon the individual rights of another member of the academic community.

A. Individual Rights and Responsibilities as Citizens

1. Students retain all of their citizenship rights when enrolled at IPFW.
2. Students who violate civil law may incur penalties prescribed by civil authorities. Only where IPFW's interests as an academic community are distinct from those of the general community should the special authority of IPFW be asserted.
3. Nondiscrimination — IPFW is committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the university seeks to develop and nurture diversity. The university believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

IPFW views, evaluates, and treats all persons in any university-related activity or circumstance in which they may be involved solely as individuals on the basis of their own personal abilities, qualifications, and other relevant characteristics.

IPFW prohibits discrimination against any member of the university community on the basis of race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability, or status as a disabled or Vietnam-era veteran. The university will conduct its programs, services, and activities consistent with applicable federal, state, and local laws, regulations, and orders and in conformance with the procedures and limitations as set forth in Purdue University's Executive Memorandum No. D-1, which provides specific contractual rights and remedies. Additionally, the university promotes the full realization of equal employment opportunity for women, minorities, persons with disabilities, and Vietnam-era veterans through its affirmative action program.

4. Antiharassment — It is the policy of IPFW to maintain the campus as a place of work and study for faculty, staff, and students free from all forms of harassment. In providing an educational and work climate that is positive and harassment-free, faculty, staff, and students should be aware that

harassment in the workplace or the educational environment is unacceptable conduct and will not be tolerated. This policy addresses harassment in all forms, covering those with legally protected status for reasons of race, gender, religion, color, age, national origin or ancestry, or disability, as well as those who are harassed for other reasons such as sexual orientation.

B. Individual Rights and Responsibilities as Students

1. Degree-seeking students have the responsibility for selecting a major field of study, for choosing an appropriate degree program within the discipline, for planning class schedules, and for meeting the requirements for degrees. IPFW will provide advisors to assist students in academic planning, but students are responsible for being knowledgeable about all academic requirements that must be met before a degree is granted.
2. Students have the right to receive accurately and plainly stated information that enables them to understand clearly:
 - a. the general qualifications for establishing and maintaining acceptable academic standing within a particular major and at all other levels within IPFW,
 - b. the graduation requirements for specific curricula and majors, and
 - c. the course objectives, requirements, and grading policies set by individual instructors for their courses.
3. In the classroom, students have the freedom to raise relevant issues pertaining to classroom discussion, to offer reasonable doubts about data presented, and to express alternative opinions to those being discussed. However, in exercising this freedom, students shall not interfere with the academic process of the class.
4. Students' course grades shall be based upon academic performance, and not upon opinions or conduct in matters unrelated to academic standards. Students have the right to discuss and review their academic performance with their instructors. Students who feel that any course grade has been based upon criteria other than academic performance have the right to appeal through the IPFW grade appeals system.
5. Students have the right to obtain a clear statement of basic rights, obligations, and responsibilities concerning both academic and personal conduct.
6. Students have the right to participate in the formulation of IPFW policies that directly affect them. In exercising this right, students have the right to access appropriate information, to express their views, and to have their views considered.
7. Students have the privacy rights specified in the IPFW policy on the release of student information.

C. Rights and Responsibilities as Participants in Student Groups, Student Organizations, and Campus Activities

1. Students have the right to form, join, and participate in groups or organizations that promote the common interests of students, including but not limited to groups or organizations that are organized for academic, professional, religious, social, economic, political, recreational, or cultural purposes.

2. Any group of students may petition to become a recognized IPFW student organization in accordance with the established guidelines. Any appeal of a campus decision to discontinue or refuse recognition of a student group shall be made through the Campus Appeals Board.
3. Any student group recognized as an IPFW student organization shall be entitled to the use of available campus facilities in conformity with regulations. Recognition shall not imply IPFW endorsement of group goals and activities.
4. Any recognized IPFW student organization or any group of students able to secure sponsorship by a recognized student organization and to demonstrate financial responsibility has the right to present speakers of its choice to address members of the IPFW community using appropriate campus facilities. These assemblies shall be subject to regulations necessary to prevent space and time conflicts and to protect the operations of the campus and the safety of persons or property.
5. Freedom of assembly shall be guaranteed to all members of the IPFW community. Such assemblies shall be consistent with IPFW regulations regarding the time, place, and manner of such assemblies.
6. A student, student group, or student organization has the right to distribute written material on campus without prior approval providing such distribution is consistent with appropriate regulations concerning the time, place, and manner of distribution and does not interfere with IPFW activities.
7. Students who publish student publications under IPFW auspices have the right to be free of unlawful censorship. At the same time, students who publish such publications must observe the recognized canons of responsible journalism such as the Sigma Delta Chi Code of Ethics and avoid libel, obscenity, undocumented allegations, attacks on personal integrity, and the techniques of harassment and innuendo. Editors and managers of *The Communicator* may not be arbitrarily suspended or removed from their positions because of student, faculty, administrative, or public disapproval of their editorial policies or publications. Student editors and managers may be suspended or removed from their positions only for proper cause and by appropriate proceedings conducted by the board of directors. All student publications shall explicitly state on the editorial page that the opinions expressed are not necessarily those of IPFW or of the student body.

D. Summary of Rights and Responsibilities

1. This statement of Student Rights and Responsibilities is a reaffirmation by the entire IPFW community that the constitutional guarantees and the basic principles of fair treatment and respect for the integrity, judgment, and contribution of the individual student, coinciding with each student's freedom to learn set forth in the foregoing articles, are essential to the proper operation of an institution of higher learning. Accordingly, in the interpretation and enforcement of the policies, rules, and regulations of IPFW, these student rights shall be preserved and given effect, but they shall not be construed or applied so as to limit the rights guaranteed students under the Constitution of the United States or the Constitution of the State of Indiana.

Whenever a student or a group of students claims that these rights have been violated and that the student or group of students has been or will be adversely affected thereby, and such complaint is not resolved informally by the interested parties, it may be presented to an appropriate body of the campus appeals system. Through this system, an appropriate individual, board, or committee shall have the power and duty to hear the interested parties and to make findings on complaints within its jurisdiction. In case of grade appeals, the individuals and committees designated in the IPFW grade appeals system shall have final authority. In all other cases, the Campus Appeals Board shall submit recommendations to the chief administrative officer of IPFW after such claims related to alleged misconduct, for which disciplinary proceedings have been instituted, have been presented to said board and findings determined in an appropriate hearing. If necessary, the chief administrative officer of IPFW may present such recommendations to the university president and board of trustees for their consideration.

2. The enumeration of these rights and responsibilities shall not be construed to deny or disparage others retained by the student. Nothing contained in this bill shall be construed as any denial or limitation upon the legal authority or responsibility of the board of trustees to establish policies and to make rules and regulations governing the operation of IPFW.

E. Amendment of Rights and Responsibilities

Proposed amendments of these rights and responsibilities may be initiated by the Indiana-Purdue Student Government Association (IPSGA), Fort Wayne Senate, administrative officials, or the board of trustees and shall be submitted to the IPSGA, Fort Wayne Senate, and Community Advisory Council for consideration and recommendation before adoption by the board of trustees. In the event the board of trustees adopts an amendment not approved by IPSGA and Fort Wayne Senate, either the IPSGA or Fort Wayne Senate may withdraw its endorsement of the rights and responsibilities in whole or in part.

F. Definitions

1. An IPFW activity is any teaching, research, service, administrative, or other function, proceeding, ceremony, program, or activity conducted by or under the authority of IPFW, or with which IPFW has any official connection, whether taking place on or off campus. Included within this definition without limitation are IPFW cooperative-education programs, internships, practicums, field experiences, and athletic or other intercollegiate activities.
2. IPFW property means property owned, controlled, used, or occupied by IPFW.

Part II. Student Conduct Subject to Disciplinary Action

Preamble. Students are expected and required to abide by the laws of the United States, the laws of the State of Indiana, and the rules and regulations of IPFW. Students are expected to exercise their freedom to learn with responsibility and to respect the general conditions that maintain such freedom. IPFW has developed the following general regulations concerning student

conduct that safeguard the right of every student to exercise fully the freedom to learn without interference.

IPFW may discipline a student for academic or personal misconduct for the following actions:

A. Academic Misconduct

1. Cheating—intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term “academic exercise” includes all forms of work submitted for credit or hours.
2. Fabrication—intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
3. Facilitating academic dishonesty—intentionally or knowingly helping or attempting to help another in committing dishonest acts.
4. Plagiarism—the adoption or reproduction of ideas or statements of another person as one’s own without acknowledgment.

B. Personal Misconduct

IPFW may discipline a student for the following acts of personal misconduct that occur on campus property or in connection with an IPFW activity:

1. Dishonest conduct, including but not limited to false accusation of misconduct; forgery, alteration, or misuse of any IPFW document, record or identification; and giving to an IPFW official information known to be false.
2. Release of access codes for IPFW computer systems to unauthorized persons; use of an access code for a purpose other than that stated on the request for service.
3. Lewd or indecent conduct, obscene conduct, or obscene expression as defined by law.
4. Disorderly or disruptive conduct that interferes with teaching, research, administration, or other IPFW or IPFW-authorized activity.
5. Failure to comply with the directions of authorized IPFW officials in the performance of their duties, including failure to identify oneself when requested to do so, and violation of the terms of a disciplinary action.
6. Unauthorized entry, use, or occupancy of campus facilities; refusal to vacate a campus facility when directed to do so by an authorized official of IPFW.
7. Unauthorized taking or possession of IPFW property or services; unauthorized taking or possession of the property or services of others.
8. Intentional action or reckless disregard that results in damage to or destruction of IPFW property or of property belonging to others.
9. Possession of firearms or other weapons; possession or display of any firearm except as authorized by the IPFW police; and intentional possession of a dangerous article or substance as a potential weapon, or of any article or explosive calculated to injure or discomfort any person. Public law enforcement officials who are required by their departments to carry their firearms at all times must register with the IPFW police.

10. Acting with violence; and aiding, encouraging, or participating in a riot.
11. Harassment, as defined by the IPFW Antiharassment Policy.
12. Hazing, defined as any conduct that subjects another person, whether physically, mentally, emotionally, or psychologically, to anything that may endanger, abuse, degrade, or intimidate the person as a condition of association with a group or organization, regardless of the person's consent or lack of consent.
13. Physical abuse of any person or conduct that threatens or endangers the health or safety of another person.
14. Verbal behavior that involves an expressed or implied threat to interfere unlawfully with an individual's personal safety; personally abusive language ("fighting words") inherently likely to provoke a violent reaction in a face-to-face situation.
15. Possession, consumption, distribution, or sale of alcoholic beverages as defined by state law, on campus except as expressly permitted by the Internal Operating Procedures for the Possession, Consumption, Distribution, and Sale of Alcoholic Beverages on the Fort Wayne Campus.
16. Use, possession, manufacture, processing, distribution, or sale of any drug or controlled substance except as expressly permitted by law. The term "controlled substance" is defined in Indiana and includes, but is not limited to, substances such as marijuana, cocaine, narcotics, certain stimulants and depressants, and hallucinogens.
17. Violations of other published IPFW regulations, policies, or rules.
18. Violation of any IPFW rule governing student organizations or the use of IPFW property (including the time, place, and manner of meetings or demonstrations on IPFW property), or of any other IPFW rule that is reasonably related to the orderly operation of IPFW.
19. Obstruction or disruption of any IPFW activity or inciting, aiding, or encouraging other persons to engage in such conduct. Obstruction or disruption means any unlawful or objectionable acts or conduct: (1) that seriously threaten the ability of IPFW to maintain its facilities available for performance of its educational activities, (2) that are in violation of the reasonable rules and standards of IPFW designed to protect the academic community from unlawful conduct, or (3) that present a serious threat to person or property of the academic community. Such phrase shall include, without limitation of the foregoing general definition, the unlawful use of force or violence on or within any buildings or grounds owned, used, occupied, or controlled by IPFW; using or occupying any such buildings or grounds in violation of lawful rules or regulations of IPFW or for the purpose or with the effect of denying or interfering with the lawful use thereof by others; and injuring or harming any person or damaging or destroying the property of IPFW or the property of others within such buildings and grounds.

C. Other Student Conduct Issues

1. Demonstrations — Any individual or group activity or conduct apparently intended to call attention to the participants' point of view on some issues is not of itself misconduct. Demonstrations that do not involve conduct beyond the scope of constitutionally

protected rights of free speech and assembly are, of course, permissible. However, conduct that is otherwise improper cannot be justified merely because it occurs in the context of a demonstration. Demonstrations that involve violations of any subsection of Part II-A or -B will not be permitted. A student will be charged with misconduct for any individual misconduct committed by the student in the course of a demonstration.

2. Misconduct Subject to Other Penalties — As provided in Chapter 273 of the 1969 Acts of the Indiana General Assembly, misconduct that constitutes a violation of these rules and regulations may be punished after determination of guilt by the procedures herein provided without regard to whether such misconduct also constitutes an offense under the criminal laws of any state or of the United States or whether such conduct might result in civil liability of the violator to other persons.
3. Personal Conduct Not on IPFW Property — IPFW may discipline a student for acts of personal misconduct that are not committed on campus property or in connection with an IPFW activity if the acts distinctly and adversely affect the security of the campus community or the integrity of the educational process.
4. Status During Disciplinary Proceedings — Except where summary action is taken as provided in Part III-C, the status of a student charged with misconduct shall not be affected, pending the final disposition of charges. The effective date of any disciplinary penalty shall be a date established by the final adjudicating body (dean of students or the Campus Appeals Board). In case of suspension or expulsion, the student shall not be withdrawn any earlier than the date the notice of charges originated or later than the effective date established by the final adjudicating body.

Part III. Student Disciplinary Procedures and Campus Appeals Board

Preamble. IPFW procedures for imposing academic and disciplinary sanctions are designed to provide students with the guarantees of due process and procedural fairness. Except as provided in Part IV, the procedures hereby established shall be followed in all cases in which IPFW institutes disciplinary proceedings against students for violations of rules of student conduct set forth in Part II.

A. Disciplinary Procedures for Academic Misconduct

1. When a student commits an act of academic misconduct that is not related to a course in which the student is enrolled, the dean of students has the authority to initiate academic misconduct proceedings against the student after consulting with the dean or director of the school or division in which the student is enrolled. The proceedings are governed by the same procedures that apply to acts of personal misconduct (Part III-B-1).
2. When a student in a course commits an act of academic misconduct related to that particular course, the instructor who is teaching the course has the authority to initiate academic misconduct proceedings against the student in accordance with the established procedures (Part III-A-2a).
 - a. An instructor who has information that a student enrolled in a course being conducted by the instructor has committed an act of academic misconduct related to that course is

required to hold an informal conference with the student concerning the matter within 10 class days of discovering the alleged misconduct. The faculty member must advise the student of the alleged act of misconduct and the information upon which the allegation is based.

b. If the instructor concludes that the student did commit the act of misconduct as alleged, the instructor is authorized to impose an appropriate academic sanction related to the particular course involved. An appropriate academic sanction for such misconduct may include, but is not limited to, any of the following:

- (1) The student may be given a lower grade than the student would otherwise have received or a failing grade for any assignment, course work, examination, or paper involved in the act of misconduct.
- (2) The student may be required to repeat the assignment, complete some additional assignment, or resubmit any assignment, course work, examination, or paper involved in the act of misconduct.
- (3) The student may be given a lower grade than the student would otherwise have received or a failing grade for the course.

c. After imposing an academic sanction, the instructor is required to report the matter and action taken within 10 class days in writing to the student, the chair of the student's department, the dean or director of the student's school or division, and the dean of students.

d. If the student's course grade is affected by the sanction, the student has the right to appeal the academic sanction imposed by an instructor through the IPFW grade appeals system.

e. A student may not be placed on disciplinary probation or suspended or expelled from IPFW or a school or division within IPFW because of an act of academic misconduct unless the dean of students concludes that such a sanction is justified by the nature of the act or because the student has committed previous acts of misconduct.

f. If the dean of students concludes that additional disciplinary action is warranted, the proceedings will be governed by the same procedures that apply to acts of personal misconduct.

B. Disciplinary Procedures for Personal Misconduct

Any member of the IPFW community may initiate a complaint with the dean of students. Disciplinary proceedings are those proceedings initiated by the issuance of a notice of charges and are governed by the following procedures. Disciplinary proceedings for an act of personal misconduct that is committed simultaneously with an act of academic misconduct are also governed by the following procedures unless the dean of students and the faculty member involved agree otherwise.

1. Notice of Charges

a. A disciplinary proceeding is initiated by the dean of students by sending a notice to the student who is the subject of the complaint. If disciplinary proceedings are initiated against a student under the age of 18, the dean is required to make reasonable efforts to assure that the parent(s) or, when appropriate, the legal guardian of the student is notified concerning the proceedings and the nature of the complaint.

b. The notice shall be sent by certified mail to the student's address as it appears in the official records of IPFW or shall be delivered personally to the student. The notice shall quote the rule claimed to have been violated and shall fairly inform the student of the reported circumstances of the alleged misconduct. The notice shall require the student to appear in the office of the dean of students at a time and on a date specified (which ordinarily will not be earlier than three class days after the mailing of the notice) to discuss the alleged violations. A copy of these regulations shall accompany each notice of charges.

c. The notice shall inform the student of the following:

- (1) The offense the student is alleged to have committed by citing the relevant section of these regulations;
- (2) The date, time, and place of the alleged offense, and other relevant circumstances;
- (3) The date, time, and place of the informal hearing to discuss the alleged violation;
- (4) That the student may have an advisor or other counsel present during the hearing; that an advisor or counsel is limited to the role of advising the student; and that an advisor or counsel may not participate in presenting the case, questioning the witnesses, or making statements during the hearing;
- (5) That the student need not answer questions and that a choice to remain silent will not be taken as an admission of guilt, nor shall it be detrimental to the student's position;
- (6) That, if the student fails to appear for the hearing, the dean of students may (a) reschedule the conference; (b) dismiss the charges; or (c) if the dean of students reasonably believes the failure to appear to be inexcusable, impose any of the prescribed disciplinary penalties.

2. Informal Hearing

- a. When the student appears as required, the dean of students shall inform the student as fully as possible of the facts concerning the alleged misconduct and of the procedures that follow. The student may, but need not, make responses and explanations.
- b. If, after discussion and such further investigation as may be necessary, the dean of students determines that the violation alleged is not supported by the evidence, the dean of students shall dismiss the accusation and notify the student.
- c. If, after discussion, or if the student fails to appear, and if the dean of students believes that the violation occurred as alleged, the dean of students shall so notify the student and shall propose a disciplinary sanction by means of a written notice. The student, by such notice, shall be offered the choice of either consenting to the determination and proposed penalty or of requesting a hearing before the Campus Appeals Board. Should a student desire a hearing before the appeals board, the request shall be made in writing and delivered to the office of the dean of students no later than seven class days after the mailing of the notice.
- d. If no written choice is received by the dean of students within the time specified, no further hearing shall be held,

the disciplinary sanction proposed by the dean of students shall be imposed, and the action shall be considered final.

- e. Both the student and the student's accuser shall be informed of the outcome of any hearing brought alleging a sexual assault.

3. Disciplinary Sanctions

The dean of students is authorized to impose any one or a combination of the following sanctions for acts of personal misconduct:

- a. Reprimand and Warning. A student may be given a reprimand accompanied by a written warning that the student may receive additional sanctions if the student engages in the same misconduct again or commits any other violation of this code.
- b. Disciplinary Probation. A student may be placed on disciplinary probation for a specified period under conditions specified in writing by the dean of students, with a warning that any violation of the conditions or any further acts of misconduct may result in additional disciplinary sanctions, including suspension or expulsion from IPFW. As a condition of probation, the student may be required to participate in a specific program, such as an alcohol-education program, or to provide a specific service, such as the repair or restoration of any property damaged or taken by the student.
- c. Restitution. A student may be required to pay the cost for the replacement or repair of any property damaged by the student. If the student fails to pay the cost or make the repairs, the student may be subjected to additional sanctions, including suspension or expulsion.
- d. Participation in a Specific Program. A student may be required to participate in a specific program, such as an alcohol-education program. If the student fails to participate in the program as directed, the student may be subjected to additional sanctions, including suspension or expulsion.
- e. Provision of a Specific Service. A student may be required to provide a specific service, such as the repair or restoration of any property damaged or taken by the student. If the student fails to provide the service as directed, the student may be subjected to additional sanctions, including suspension or expulsion.
- f. Suspension. A student may be suspended from classes and future enrollment and excluded from participation in all aspects of campus life for a specified period of time.
- g. Expulsion. A student may be dismissed from IPFW. The student may, after two years, petition for readmission to IPFW.

4. Campus Appeals Board

- a. Composition. The Campus Appeals Board shall consist of nine members selected in the following manner: four students appointed by the president of Indiana-Purdue Student Government Association subject to confirmation by the Student Senate; three faculty members elected by the Fort Wayne Senate; and two administrative staff members appointed by the chancellor, one of whom shall be designated as chair of the Campus Appeals Board. An equal number of alternates from each constituent group shall be appointed at the same time and in the same manner as the regular members. From such panels of members and alternates, the

chair shall designate a hearing panel consisting of a minimum of five members including at least two students.

- b. Terms of Office. The term of office for student members and their alternates shall be one year, and for the faculty and administrative members, it shall be two years, except that members shall continue to have jurisdiction of any case under consideration at the expiration of their term. The terms of office for all members shall begin at the start of the fall semester. No member shall serve more than two consecutive terms. If any appointing authority fails to make the initial appointments to the Campus Appeals Board within the time specified, or to fill any vacancy on the panel of alternates within five days after being notified to do so by the chief administrative officer, or if at any time the Campus Appeals Board cannot function because of the refusal of any member or members to serve, the chancellor may make appointments, fill vacancies, or take such other action as deemed necessary to constitute a Campus Appeals Board.

c. Hearings

1. The Campus Appeals Board may hear the following types of appeals from students: appeals of disciplinary findings and sanctions imposed by the dean of students, including findings and sanctions concerning student organizations; appeals of Student Judicial Court rulings; and appeals of faculty/staff decisions claimed to violate established student rights. Students who wish to request a hearing before the Campus Appeals Board shall submit a written request to the dean of students. The dean of students shall contact the chair of the Board, who will make arrangements for the hearing by phone or e-mail. The student and all other parties shall be notified of the arrangements for the hearing.

2. In all cases where an appeal is heard, the chair shall inform the parties to the appeal, in writing, of the following:

- (a) The violation alleged to have been committed, by citing the relevant section of these regulations;
- (b) The date, time, and place of the alleged violation, and other relevant circumstances of the complaint, including a summary of the evidence upon which the charges are based;
- (c) The date, time, and place of the hearing, which shall not be earlier than 10 class days after the date of the notice except by agreement of parties to the complaint;
- (d) That the parties must prepare a list of the persons that may be presented as witnesses and/or whose statements may be offered as evidence at the hearing for distribution to the parties and submit that list to the chair no later than five class days before the hearing, excluding Saturdays, Sundays, and holidays;
- (e) That the student is required to be present at the hearing and is entitled to present witnesses and to cross-examine witnesses who appear unless the Campus Appeals Board decides to proceed in the absence of the student because of extraordinary circumstances such as a student's refusal or inability to attend;
- (f) That the student is entitled to be represented at the hearing by counsel or an advisor of his or her choice at his or her own expense, but that the student is still required to be present even if represented by counsel or an advisor;

and that an advisor or counsel may not participate in presenting the case, questioning witnesses, or making statements during the hearings;

(g) That IPFW may be represented by legal counsel if it so elects, whose sole function shall be to advise the Appeals Board; and that counsel may not participate in presenting the case, questioning witnesses, making statements during the hearing, or be involved in the Board's determination of the appeal;

(h) That the hearing will be closed to the public, unless both parties to the appeal request an open hearing. The chair of the Campus Appeals Board shall make arrangements satisfactory to the Campus Appeals Board to accommodate observers if a hearing is to be public, and the Campus Appeals Board's choice of the place and determination of the number of observers that can be conveniently accommodated are final;

(i) That failure to appear at the hearing will be action for which the student forfeits the right of appeal if the Campus Appeals Board, upon diligent inquiry, finds such failure to be inexcusable;

(j) That the decision of the Campus Appeals Board shall be based solely upon matters introduced at the hearing and must be based upon preponderance of evidence;

(k) That within 10 class days after the conclusion of the hearing, the chair of the Campus Appeals Board shall render a written decision and include a brief explanation of the decision and set forth the findings of fact upon which the decision is made. The chair shall promptly furnish copies of the decision to the student and to others with a need to know as determined by the Board. In the case of appeals concerning disciplinary findings and sanctions for alleged sexual assaults, both the appealing student and the student's accuser shall be informed of the outcome of the appeals proceedings.

Additional information to be provided in writing to the parties to the appeal is dependent upon the type of appeal to be heard.

3. Students who are appealing a dean of students' disciplinary finding and sanction shall additionally be informed:

(a) That the student need not answer questions during the hearing, and that a choice to remain silent will not be taken as an admission of guilt, nor shall it be detrimental to the student's position;

(b) Of the sanctions that may be imposed by the Campus Appeals Board;

(c) That the Campus Appeals Board shall make a finding whether the student has committed the violation(s) as charged and shall either reverse the decision of the dean of students and acquit the student, affirm the finding of the dean of students and the disciplinary sanction imposed, or affirm the finding of the dean of students but in cases where a proposed disciplinary sanction is believed to be inappropriate to the misconduct, reduce or increase the severity of the sanction;

(d) That the decision of the Campus Appeals Board is final and not subject to further appeal.

4. Students who are appealing a dean of students finding and sanction against a student organization shall additionally be informed:

(a) That the Campus Appeals Board shall have jurisdiction to hear and shall be required to hear any appeal from a student organization which the dean of students has refused to recognize, has suspended for a period of time, or from which recognition has been withdrawn. In such cases, the Campus Appeals Board shall have the authority to reverse the finding of the dean and restore the student organization to its original status, or to affirm the finding and penalty imposed by the dean, or to reduce or increase the severity of the disciplinary penalty. The action of the Campus Appeals Board shall be final.

5. Students who are appealing Student Judicial Court rulings shall additionally be informed:

(a) That the Campus Appeals Board shall have discretionary jurisdiction to hear appeals from the student government association. In such cases, it may affirm or reverse a decision, and its action shall be final.

6. Students who are appealing faculty/staff actions or decisions claimed to violate rights established under Part I of the Code, the Americans with Disabilities Act, Ethical Guidelines for Computer Users, or HIV/AIDS Guidelines shall additionally be informed:

(a) That the Campus Appeals Board shall have the authority to convey recommendations to the chancellor of IPFW, whose decision is final.

d. Appeals from Student Judicial Court. The Campus Appeals Board shall have discretionary jurisdiction to hear appeals from the student government association. In such cases, it may affirm or reverse a decision, and its action shall be final.

C. Summary Action

Summary disciplinary action by way of temporary suspension and exclusion from IPFW property may be taken against a student charged with misconduct without the issuance of a notice of charges and without the procedures prescribed in Part III-B on the following conditions: (1) Summary action shall be taken only by the chancellor or the chancellor's designee, and only after the student shall have been given an opportunity to be heard if such procedure is practical and feasible under the circumstances; (2) Summary action shall be taken only if the chancellor or the chancellor's designee is satisfied that the continued presence of the student on IPFW property threatens harm to the student or to any other persons or to the property of IPFW or of others. Whenever summary action is taken under this provision, the procedures provided for in Part III-B for hearing and appeal shall be expedited so far as possible in order to shorten the period of summary action.

D. Time Limitations

Time limitations specified in the preceding sections of this code may be extended by either the dean of students or the Campus Appeals Board for a reasonable period if an extension is justified by good cause under the totality of the circumstances. The documentation for extending the time limitations must be provided to the student.

Part IV. Policy on Students with Mental Disorders

Preamble. Incidents of alleged student misconduct normally will be adjudicated in accordance with the provisions of the preceding regulations. If, however, the available evidence indicates that the student may be suffering from a mental disorder (as defined by the current edition of the *American Psychiatric Association Diagnostic and Statistical Manual*), and if the student's behavior poses a significant danger of causing harm to self, other persons, or property, or substantially disrupts the normal activities of IPFW, the student may be asked to withdraw voluntarily or may be administratively withdrawn involuntarily from IPFW.

A. Review and Hearing Procedures

1. The dean of students shall determine in each individual case whether it shall be handled through this policy or through other student disciplinary procedures.
2. A student may be requested in writing and/or orally (depending upon the urgency of the situation) to attend an informal meeting with the dean of students and an IPFW counselor for the purpose of determining the seriousness of the student's condition and, if so, the necessity for withdrawal. Such a request will include a statement of the reasons for IPFW concern. Parents, spouses, or other appropriate persons (i.e., faculty, counselors, psychologists, etc.) may be contacted either by the student or by IPFW for information and may, with the consent of the student, participate in the informal meeting. At the meeting the reasons for IPFW's concern regarding the student will be clearly stated, and the student will be given an opportunity to respond to these concerns. If after the meeting the student is found not to have a serious mental disorder, the student will be so informed in writing and allowed to continue as a student.
3. If, after the informal meeting, the dean of students and the IPFW counselor decide that the student should withdraw from IPFW and be permitted to re-enter IPFW only with their approval, the student shall be informed of such decision and the reasons therefore. The student will receive a written notice of the decision and reasons within 10 class days after the informal hearing. If the student agrees to voluntarily withdraw from IPFW on such conditions, regular withdrawal procedures will be followed. However, the student may be permitted to withdraw voluntarily without grades if in the judgment of the dean of students and the IPFW counselor the circumstances warrant such action.
4. If the student refuses to accept the decision of withdrawal reached by the dean of students and the IPFW counselor and refuses to withdraw from IPFW voluntarily, the student shall notify the dean of students of such refusal. The student may then appeal the withdrawal decision to a committee appointed by the chief administrative officer of IPFW, consisting of a faculty member, a student, and an IPFW administrator, other than a member of the staff of the dean of students. The committee shall hear the entire matter again after notice to the student and the dean of students. The issues to be determined by the committee shall be:

- (1) whether the student has a serious mental disorder, and (2) if so, whether the student should be involuntarily withdrawn from IPFW. The student and the dean of students and the IPFW

counselor may attend the hearing and present evidence and question witnesses. They may be represented by counsel. The committee may, at its discretion, authorize an independent evaluation of the student by a certified psychologist or licensed psychiatrist at IPFW's expense. The committee shall make a written report containing its findings and conclusions within 10 class days after the hearing. Copies of the report shall be furnished to the student, the dean of students, and the chief administrative officer of IPFW. The decision of the committee shall be binding upon the student and IPFW.

Part V. Student Complaint Procedures

Students having complaints concerning actions or decisions that are claimed to violate rights established under Part I of the Code, the Americans with Disabilities Act, Ethical Guidelines for Computer Users, or HIV/AIDS Guidelines, must first seek to resolve their complaints at the lowest unit level. Good-faith efforts will ensure the timely handling of such complaints. Depending upon the nature of the complaints, appropriate faculty or administrators may be designated to investigate, mediate, and suggest a resolution. Only after all such remedies have been exhausted may the students request a hearing before the Campus Appeals Board. The Campus Appeals Board shall have the authority and duty to reach findings and to convey recommendations to the chief administrative officer of IPFW.

Part VI. Authority, Application, and Amendments

A. Authority

As provided in the IPFW Management and Academic Mission Agreement, "Purdue University shall be responsible for all policies related to student matters. IPFW student rights, responsibilities, and standards of conduct will be established by campus administrators in consultation with the student and faculty government organizations and with the IPFW Community Advisory Council and shall be consistent with the principles established by Purdue and Indiana universities."

B. Application

These regulations, as from time to time amended, shall apply to all undergraduate and graduate students with either IU or Purdue affiliation while enrolled at IPFW and shall be deemed a part of the terms and conditions of admission and enrollment at IPFW. In case of any conflict or inconsistencies with any other rules, regulations, directives, or policies now existing, these regulations shall govern. They shall be enforced by the chancellor of IPFW.

C. Amendments

These regulations, and any amendments hereto, shall take effect on a date prescribed by the Trustees of Purdue University and shall remain in effect until rescinded or modified by them. Amendments may be proposed at any time by the Indiana-Purdue Student Government Association, Fort Wayne Senate, IPFW administrative staff, Community Advisory Council, or by the Trustees of Purdue University.



Administration

Martin C. Jischke, President, Purdue University

Adam W. Herbert, President, Indiana University

Michael A. Wartell, Chancellor, IPFW

Joanne B. Lantz, Chancellor Emerita, IPFW

General and Staff Officers

Walter J. Branson, Vice Chancellor for Financial Affairs

Susan B. Hannah, Vice Chancellor for Academic Affairs

Edna D. Neal, Vice Chancellor for Student Affairs

Jack C. Dahl, Associate Vice Chancellor for Institutional Research

Jeanette Clausen, Associate Vice Chancellor for Faculty Affairs

Carl N. Drummond, Associate Vice Chancellor for Research and External Support

Steven T. Sarratore, Associate Vice Chancellor for Academic Programs, Director of Graduate Studies

Linda L. Ruffolo, Executive Director of Development

Irene Walters, Executive Director of University Relations and Communications

Judith A. Dilorio, Equal Employment Opportunity Officer

Patrick A. McLaughlin, Registrar

Academic Units

School of Arts and Sciences

Administration L. Balthaser (emerita), Bruening (associate dean), Legg (associate dean), Lipman (dean)

Center for Academic Support and Advancement Anderson, Darabi (director), Ehle, Keck, Kirkwood

Department of Audiology and Speech Sciences Dalby, Egly, P. Flynn (emerita), L. Hess (chair)

Department of Biology Becker (emeritus), Blumenthal, Bosela, W. Cooper, Davies (emeritus), DeMott, Dhawale, Gillespie, Haddock, Holt (emeritus), Jordan, Kingsbury (chair), Lyng, Manalis (emeritus), McLellan, Mourad, Mustafa, Paladino, Richeson (emerita), D. Ross, Shannon, Tobolski (emeritus), Visalli

Department of Chemistry Berger, Coburn, Columbia, Cox (emeritus), Duchovic, Ericson, Farrar, J. Flynn (emeritus), Friedel (associate chair), R. Friedman (chair), Kimble, Linn, Longroy (emeritus), V. Maloney, Pacer (emeritus), Slack (emerita), Stevenson (emeritus), Wartell

Department of Communication Banks, Bermes, Carr, Dixon, R. Hess, Mallin, McCants (emeritus), Simpson, Switzer (chair), Tankel

Department of English and Linguistics Amidon, Anders, Blythe, J. Brennan, Cain, Crismore, Darabi, Dehr, Devine (emeritus), Farnsworth, Felber, L. Friedman (emeritus), Griggs, Hostetter (emeritus), Hume, Kalamaras, Kaufmann, Kozicki (emeritus), Lin, Minton, Moritz, Novak (emeritus), O'Hear (emeritus), Parker, R. Ramsey (chair), C. Roberts, L. Roberts, Simon, Standley (emerita), Stapleton, Stauffer (emerita), Sun, C. Thompson, van Nuis, Weller, Westerfield, Woolf (emeritus)

Department of Geosciences Argast, Chowdhury (emeritus), Crow, Drummond, Farlow, Flodin, Isiorho (chair), Sunderman (emeritus)

Department of History J. Bell (emeritus), Blumenshine, Cantor (emeritus), Erickson, Fischer (chair), Gendzel, Haw, C. Scott (emeritus), A. Violette, R. Weiner

Journalism Program Colbert (coordinator)

Liberal Studies Program Kaufmann (director)

Department of Mathematical Sciences Akkari, Beineke, Bulmahn (emerita), Chauhan, Coffman, Conn (emerita), Coroian, Dragnev, Finco (emeritus), Frederick, Hamburger, Hersberger, LaMaster, Legg (chair), Lipman, Mau, Osowski, Pan, Parcon, Pippert, Svoboda, D. Townsend, Vandell, J. Vetter, Wagner, Walsh, C. Weakley, W. Weakley, Zook, Zubovic

Department of Modern Foreign Languages Benito, Clausen, Conforti, Corbin, Craig (emerita), Fox, Harroff, Heimann, Jehle (emeritus), R. Johnson, Manheim (emeritus), Oberstar (chair), Rosenfeld (emerita), Seiler (emerita), Summers, Virtue

Peace and Conflict Studies Program Ashton (director)

Department of Philosophy Bruening, Butler (chair), Dixie, Fairchild (emeritus), Long, Squadrito, Strayer

Department of Physics Grove, Lichti (emeritus), Littlefield (emeritus), D. Maloney, Masters, Miers (emeritus), Robinson (chair), Vasquez, Wang

Department of Political Science Bartky, Coufoudakis (emeritus), Downs (director of Mike Downs Center for Indiana Politics), Hannah, Houseman (emeritus), Lutz (chair), Smulkstys (emeritus), Toole, Ulmschneider, Wolf

Department of Psychology Abbott, Bendele, Blakemore (chair), Bordens, Cannon (emeritus), DeFonso, DiClementi, Fazel (emeritus), Fliotsos (emeritus), Gerow (emeritus), C. Hill, Jackson, Kaiser, Kepes (emeritus), Lantz (emerita), Lawton, Lundy, Vartanian, Young

Department of Sociology and Anthropology

Anthropology Program Kuznar, McCullough (director, Archaeological Survey), A. Sandstrom (director), Sutter

Sociology Program Ashton, Dilorio, Hollis, Iadicola, Nusbaumer, Overton, Shupe, W. Tsai, Usman (chair)

Women's Studies Program Fox (director), Patterson

School of Business and Management Sciences

Administration DeChant (director of student center), J. Moore (associate dean), Shipchandler (associate dean for external relations), Wellington (dean)

Department of Accounting and Finance Chuwonganant, D. Davis (emerita), S.W. Davis, Keller, Minke, Mitchell (emerita), Papiernik, Pfeffenberger (emeritus), Pollock, Schmelze, Segars, Sharma (chair), Slaubaugh

Department of Economics Bialik, Bullion (cochair), Dilts (cochair), Haber, Manzer, Rassuli, Samavati

Department of Management and Marketing Berry (emeritus), Bingi, H. Gibbons (emerita), R. Hill (emeritus), Hockemeyer (emerita), Jeong, Karim, Khamalah, Leonard (emeritus), Lingaraj (chair), Maile (emeritus), J. Moore, Moustafa, Person (emerita), Shipchandler, Sukpanich, Todorovic, Turnipseed, Wellington

Division of Continuing Studies

Administration Braun (director of special programs and outreach), Byers (director of off-campus programs), Conklin (executive director), Marchionni (marketing specialist), McCrory (director of entrepreneurship and company training), Miarka-

Grzelak (Web/data specialist), Wood (director of distance learning and Weekend College)

General Studies Hook (director), McMurtrie (academic advisor)

School of Education

Administration Beard (director of licensing and advising), Holsinger (education specialist), Jordan (director of curriculum lab), Kanpol (dean), Murphey (associate dean), Reynolds (director of field services and student teaching), K. Smith (coordinator of advising), R. Wiener (emerita)

Educational Studies Agness, Choi, Dirkes (emerita), Hickey, Huffman (emerita), Kanpol, Kirby (emeritus), McFarland, Madden (emeritus), Merz, Moss, Murphey, J. Nichols (chair of educational studies), Nowak, Phillips (emeritus), Skelton (emeritus), D. F. Smith, Souers (emerita), Swim, L. Wise (emeritus)

Professional Studies Burg, Garrett, Garvey, Keller (emeritus), M. Myers, Nitza, Parke, Rodriguez (emeritus), Utesch (chair of professional studies)

School of Engineering, Technology, and Computer Science

Administration Mansfield (dean emeritus), Voland (dean), Broberg (associate dean), Modesitt (associate dean)

Department of Civil and Architectural Engineering

Technology Devine, Ding, B. Franke, Kendall, Kubik, Marshall II, Tannous, Unsell (chair)

Department of Computer Science R. Barrett, Erbach (chair), Kim, Leeper (emeritus), Liu, Mansfield (emeritus), K. Modesitt, Petruska, Sanders, Sedlmeyer, Silver (emeritus), Temte, D. Thuente (emeritus), Udoh

Department of Electrical and Computer Engineering

Technology Broberg, Detraz (emeritus), H. Gates (emeritus), Gideon (emeritus), Goodman, Hack, Laverghetta, Lin (chair), G. Steffen

Department of Engineering Abu-Mulaweh, Chatterjea, Du, K. Johnson (emeritus), Kang, Mahmoud (emeritus), Mauritzen, Mueller, Njock Libii, Oloomi, Pomalaza-Raez (chair), E. Thompson, Voland, Wang, Younis, Zhao

Department of Manufacturing Technology Allendorph (emeritus), Dupen, Gerdorn (emeritus), Z. Liang, McAleece (emeritus), Messal (emeritus), Narang, Perry (chair), Pugh, Quinn (emeritus), Rosencrans (emeritus), Schmidt, Tryon (emeritus), Worthley (emeritus)

School of Health Sciences

Administration Csicsko (allied health advisor), J. Jones (dean), O'Connell (associate dean), Stonestreet (marketing and developmental coordinator)

Department of Consumer and Family Sciences Knight (director), Lolkus, E. Waters (emerita)

Division of Dental Education Brian, Champion (director, dental laboratory technology), M. Cooper, Foley (director, dental hygiene), Huxoll (emerita), J. Jones (director), Kracher (director, dental assisting), Leeuw, Mann, Perez, Reininger (emeritus), Schimmele (emeritus), Stuart, Zonakis (emeritus)

Department of Human Services Eber, Hawley (emeritus), Parker, Wark, (chair)

Department of Nursing J. Bauman (academic advisor), Beckman, Cowen (emerita), Carlson, Crill (emerita), Drake (lab coordinator), Eichenauer (emerita), Erdman (emerita), Fincher (emerita), Franz (emerita), Freiburger (emerita), Funck (emerita), Graham, Harges, Hartman, B. Hill (emerita), Jensen, L. Meyer (undergraduate director), J. Modesitt (academic advisor), Modlin, O'Connell, Salmon, Sorge, Sternberger (chair), Tierney

Division of Labor Studies (IUPUI Program)

Administration Crouch (noncredit coordinator), Mulder (credit coordinator)

Library

Administration Adkins, Arvin, M. Baden, K. Balthaser (emeritus), Codispoti, Griffin, W. Hunsberger (emeritus), P. Sandstrom, Skekloff, Truesdell, J. Violette, (director),

Division of Organizational Leadership and Supervision

G. W. Abbott (emeritus), Bushong (emeritus), Chandler (emeritus), Creasser (emeritus), Gilbreath, Groff, Harp (emerita), Hite, Mansour-Cole, McDonald (chair), Montesino, Paddock (emerita), Rickert (emerita), Sherr, J. Smith, Wakley (emerita)

Division of Public and Environmental Affairs

Public and Environmental Affairs Administration Fife, Grant (director of graduate studies), Guthrie (emeritus), Hancock (director and assistant dean), Leinbach (coordinator of advising and student services), Ludwin, Miller, T. Moore, Otani, Owen (emeritus), T. Stucky, Ziegler

School of Visual and Performing Arts

Administration Christy (dean)

Department of Music Ator (emeritus), Bean (chair), Bookout, Christy, Ferguson-Lydy, Gausline, Haritun, Meyers (emeritus), Outland, Prickett, Reinhardt, Resch, Robertson, Saunders, Stolba (emerita), Vernon, Wright-Bower

Department of Theatre Bernard, Coughlin, Humphrey, Life (chair), Purse-Wiedenhoef, Ridgeway, Sarratore, Stewart (technical director), Troy

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Fine Arts Program Bradley (emeritus), Ganz, H. Garcia (emeritus), Goodman, Hrehov (acting chair), D. Kruse (emeritus), Lee (emeritus), McCroskey-Hrehov, McCullough (emeritus), Oettel (emeritus), Ushenko

Visual Communication and Design Program Campbell, Krist, LeBlanc (acting chair), Motz, Murray, Papazian

Indiana University School of Medicine, Fort Wayne Campus

Administration D. Bell, Bryan (emeritus), Hoversland, Merkel, Ragatz, (director), Redman, Sweazey, Vilensky

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James T. Born, Systems Administrator (1999)

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Franklin A. Bryan, Associate Professor Emeritus of Postgraduate Medicine B.S. Indiana University, 1939; M.D., 1942.

George W. M. Bullion, Associate Professor and Cochair of Economics and Director of the Center for Economic Education (1971) B.S., University of Tennessee, 1963; M.S., 1965; Ph.D., Purdue University, 1970.

Barbara J. Bulmahn, Professor Emerita of Mathematical Sciences B.A., Valparaiso University, 1959; M.A.T., Purdue University, 1966; M.S., Ball State University, 1979.

James E. Burg, Associate Professor of Education (1997) B.A., Michigan State University, 1988; M.A., 1990; Ph.D. Purdue University, 1994.

Diana S. Burns, Director of Cooperative Education (1990) B.S., The Ohio State University, 1981; M.A., 1990.

Eric T. Burns, Head Men's and Women's Tennis Coach (2002) B.A., Franklin College, 1999; M.A., Ball State University, 2003.

F. Lee Bushong, Professor Emeritus of Supervision B.S., Ball State University, 1943; M.S., Purdue University, 1952.

Clark W. Butler, Professor and Chair of Philosophy (1969) Certificate, Universite de Tunis, 1965; B.A., University of Southern California, 1966; Ph.D., 1970.

Susan E. Byers, Director of Off-Campus Programs for the Division of Continuing Studies (1997) B.G.S., Ball State University, 1989; M.A., 1991.

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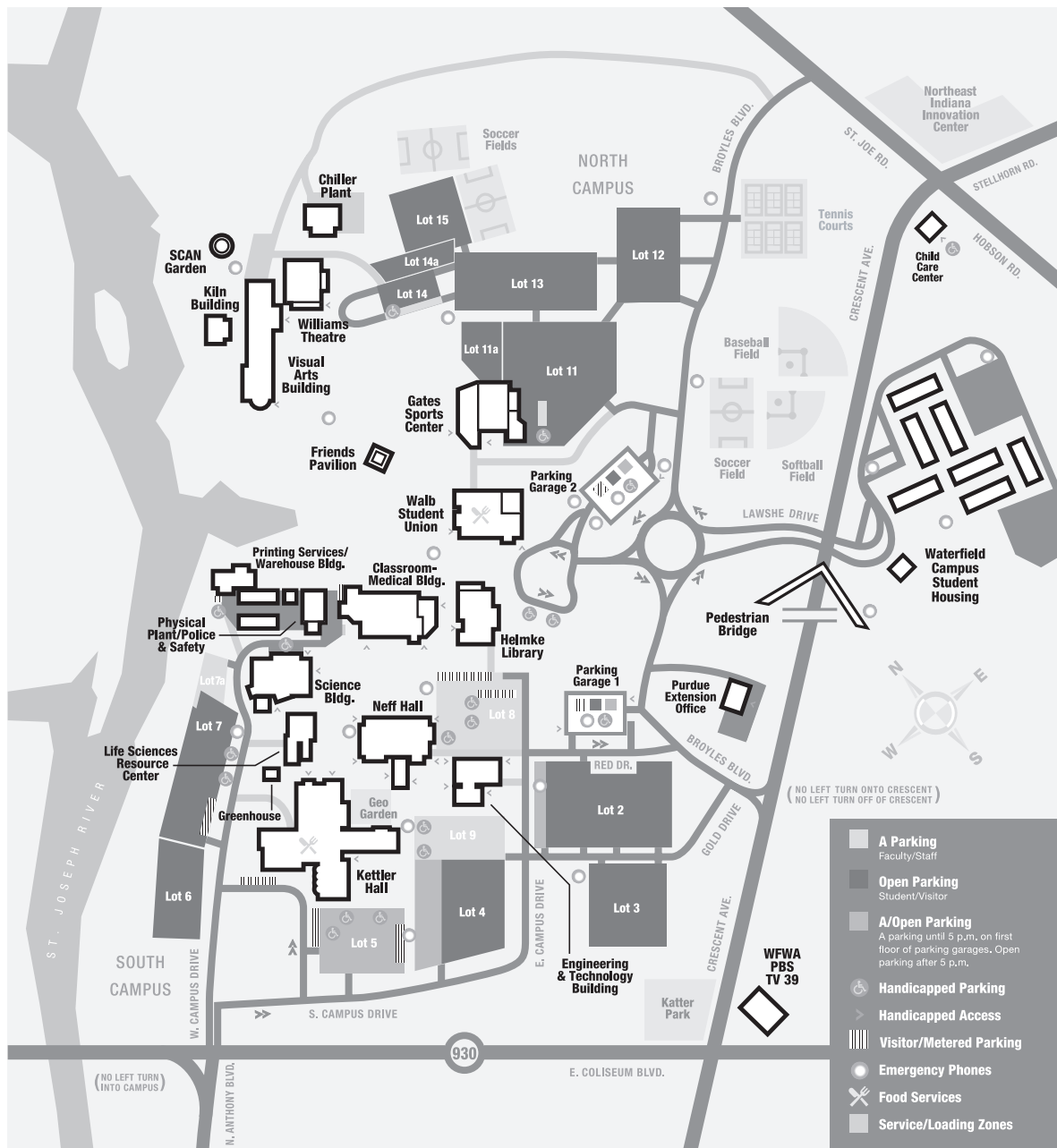
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Campus Map



Campus Vicinity



New at IPFW: Student Housing



In fall 2004, IPFW adds a new dimension to the campus with the opening of Student Housing. Located on the Waterfield Campus (a section of land between Hobson Road and Crescent Avenue), the newly constructed Student Housing offers several furnished apartment styles (one-, two-, or four-bedroom). Each apartment has a fully equipped kitchen, air conditioning, restroom, and the same computer network capabilities as the rest of campus. There are also basketball courts and a fitness center. Students can walk to the main campus over the Willis Family Bridge. The exciting addition of Student Housing at IPFW allows students to learn and explore all that university life has to offer!

Amenities:

- Fully furnished apartments
- Individual leases
- Private bedrooms individually keyed
- Fully equipped kitchens and comfortable living and dining areas
- High-speed Internet and cable television
- Community center
- Social lounge with big-screen television
- 24-hour laundry facility
- Basketball court
- Computer learning center/cyber lounge
- On-site community assistance
- On-site management and maintenance

260-481-4180

www.ipfwstudenthousing.com



2004–2005 Academic Calendar

Fall Semester 2004

Monday, Aug. 23	<i>Classes Begin</i>
Friday, Sept. 3	<i>Classes Suspended at 4:30 p.m. (Labor Day Recess)</i>
Tuesday, Sept. 7	<i>Classes Resume</i>
Monday–Tuesday, Oct. 11–12	<i>Fall Recess</i>
Tuesday, Nov. 23	<i>Thanksgiving Recess Begins After Last Class</i>
Monday, Nov. 29	<i>Classes Resume</i>
Monday–Sunday, Dec. 13–19	<i>Final Exam Week/ Last Week of Classes</i>

Spring Semester 2005

Monday, Jan. 10	<i>Classes Begin</i>
Monday, Jan. 17	<i>Martin Luther King Jr. Holiday</i>
Monday, March 7	<i>Spring Recess Begins</i>
Monday, March 14	<i>Classes Resume</i>
Friday, March 25	<i>Classes Suspended at 4:30 p.m.</i>
Monday, March 28	<i>Classes Resume</i>
Monday–Sunday, May 2–8	<i>Final Exam Week/ Last Week of Classes</i>
Wednesday, May 11	<i>Tentative Date of Commencement</i>

Summer Semester 2005

Monday, May 9	<i>Summer Semester Begins</i>
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Summer Session I 2005

Monday, May 16	<i>Classes Begin</i>
Friday, May 27	<i>Classes Suspended at 4:30 p.m.</i>
Monday, May 30	<i>Memorial Day Recess</i>
Friday, June 24	<i>Classes End</i>

Summer Session II 2005

Monday, June 27	<i>Classes Begin</i>
Friday, July 1	<i>Classes Suspended at 4:30 p.m.</i>
Monday, July 4	<i>Independence Day Recess</i>
Friday, Aug. 5	<i>Classes End</i>
Sunday, Aug. 21	<i>Summer Semester Ends</i>

2005–2006 Academic Calendar

Fall Semester 2005

Monday, Aug. 22	<i>Classes Begin</i>
Friday, Sept. 2	<i>Classes Suspended at 4:30 p.m. (Labor Day Recess)</i>
Tuesday, Sept. 6	<i>Classes Resume</i>
Monday–Tuesday, Oct. 10–11	<i>Fall Recess</i>
Tuesday, Nov. 22	<i>Thanksgiving Recess Begins After Last Class</i>
Monday, Nov. 28	<i>Classes Resume</i>
Monday–Sunday, Dec. 12–18	<i>Final Exam Week/ Last Week of Classes</i>

Spring Semester 2006

Monday, Jan. 9	<i>Classes Begin</i>
Monday, Jan. 16	<i>Martin Luther King Jr. Holiday</i>
Monday, March 6	<i>Spring Recess Begins</i>
Monday, March 13	<i>Classes Resume</i>
Friday, April 14	<i>Classes Suspended at 4:30 p.m.</i>
Monday, April 17	<i>Classes Resume</i>
Monday–Sunday, May 1–7	<i>Final Exam Week/ Last Week of Classes</i>
Wednesday, May 10	<i>Tentative Date of Commencement</i>

Summer Semester 2006

Monday, May 8	<i>Summer Semester Begins</i>
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Summer Session I 2006

Monday, May 15	<i>Classes Begin</i>
Friday, May 26	<i>Classes Suspended at 4:30 p.m.</i>
Monday, May 29	<i>Memorial Day Recess</i>
Friday, June 23	<i>Classes End</i>

Summer Session II 2006

Monday, June 26	<i>Classes Begin</i>
Friday, June 30	<i>Classes Suspended at 4:30 p.m.</i>
Monday, July 3	<i>Classes Resume</i>
Tuesday, July 4	<i>Independence Day Recess</i>
Friday, Aug. 4	<i>Classes End</i>
Sunday, Aug. 20	<i>Summer Semester Ends</i>



Office of the Registrar

Indiana University–Purdue University Fort Wayne
2101 E. Coliseum Blvd.
Fort Wayne, IN 46805-1499

About IPFW

Indiana University-Purdue University Fort Wayne (IPFW) is a joint campus of two internationally recognized Big Ten schools. IPFW is accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools. It has the broadest scope of programs of all institutions of higher learning in northeastern Indiana, offering more than 180 degree and certificate options. IPFW has a diverse enrollment of nearly 12,000 students encompassing many ages, races, and nationalities. Through exemplary standards in teaching, research, and service, IPFW reflects Indiana University and Purdue University's commitments to excellence and lifelong learning. IPFW provides its students the opportunity for success through its academic diversity, affordability, and flexibility.

