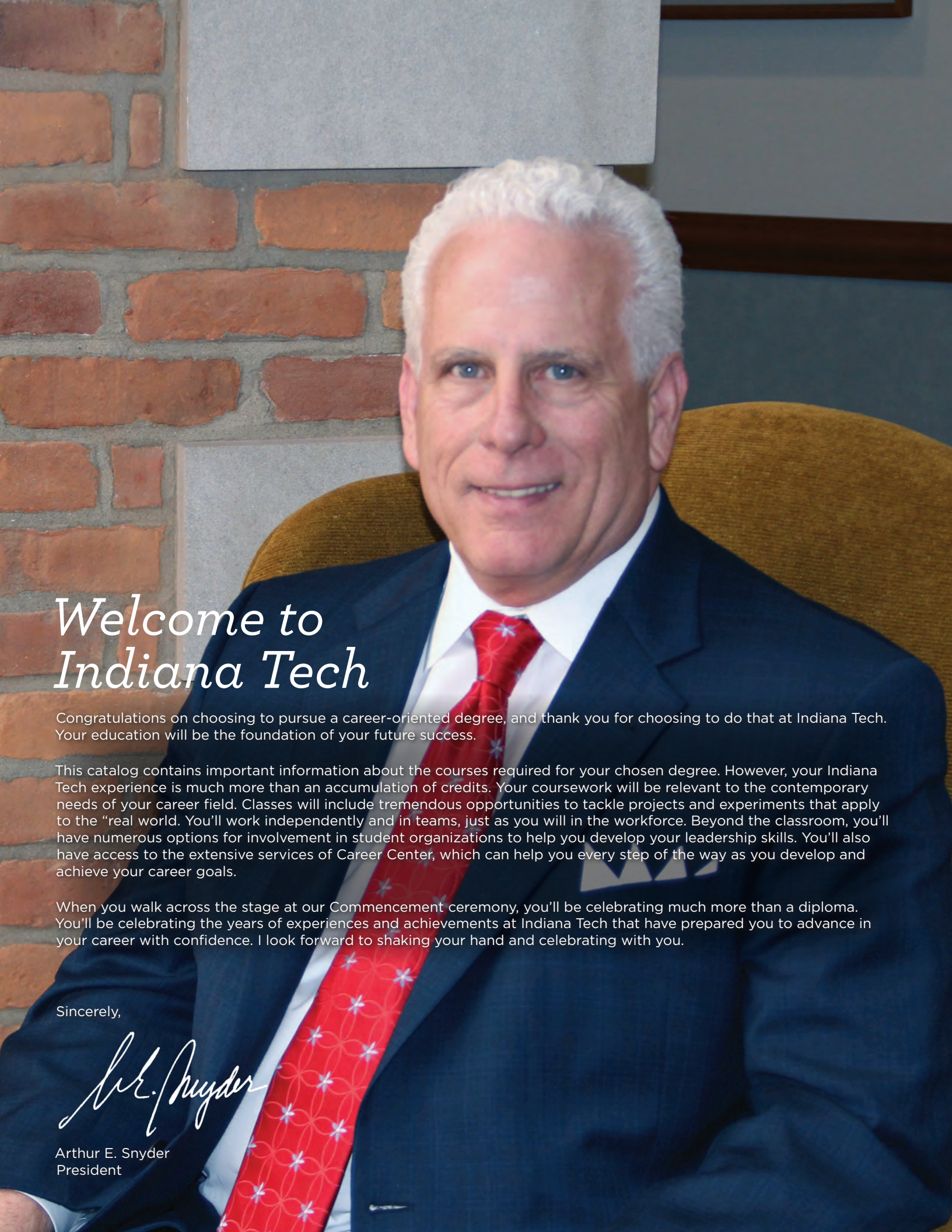
INDIANA TECH

the BIG ORANGE book

2012-13 Academic Catalog

Live. Learn. Lead.



Welcome to Indiana Tech

Congratulations on choosing to pursue a career-oriented degree, and thank you for choosing to do that at Indiana Tech. Your education will be the foundation of your future success.

This catalog contains important information about the courses required for your chosen degree. However, your Indiana Tech experience is much more than an accumulation of credits. Your coursework will be relevant to the contemporary needs of your career field. Classes will include tremendous opportunities to tackle projects and experiments that apply to the "real world. You'll work independently and in teams, just as you will in the workforce. Beyond the classroom, you'll have numerous options for involvement in student organizations to help you develop your leadership skills. You'll also have access to the extensive services of Career Center, which can help you every step of the way as you develop and achieve your career goals.

When you walk across the stage at our Commencement ceremony, you'll be celebrating much more than a diploma. You'll be celebrating the years of experiences and achievements at Indiana Tech that have prepared you to advance in your career with confidence. I look forward to shaking your hand and celebrating with you.

Sincerely,

Arthur E. Snyder
President

This catalog holds detailed information about each of our degree programs, descriptions of classes, financial aid information and the requirements for admissions and graduation.

Before you dig in, it may help to know how Indiana Tech is organized. The university's traditional day school programs are divided into three different colleges, each covering a different area of study. There is the College of Business, College of Engineering, and College of General Science. There is also the School of Computer Science, which is part of the College of Engineering, and the Center for Criminal Sciences and School of Education, both part of the College of General Studies.

Indiana Tech is also home to the College of Professional Studies, which offers accelerated courses for mature learners. The College of Professional Studies offers many of the same undergraduate degrees found in the other three colleges as well as several master's degrees and a Ph.D.

Indiana Tech's traditional day school is located in Fort Wayne, Indiana. Students enrolled in the College of Professional Studies may attend classes at various locations convenient for them throughout Indiana and Kentucky. Many programs are also available online.

Table of Contents

Table of Contents

2012/13 Academic Calendar

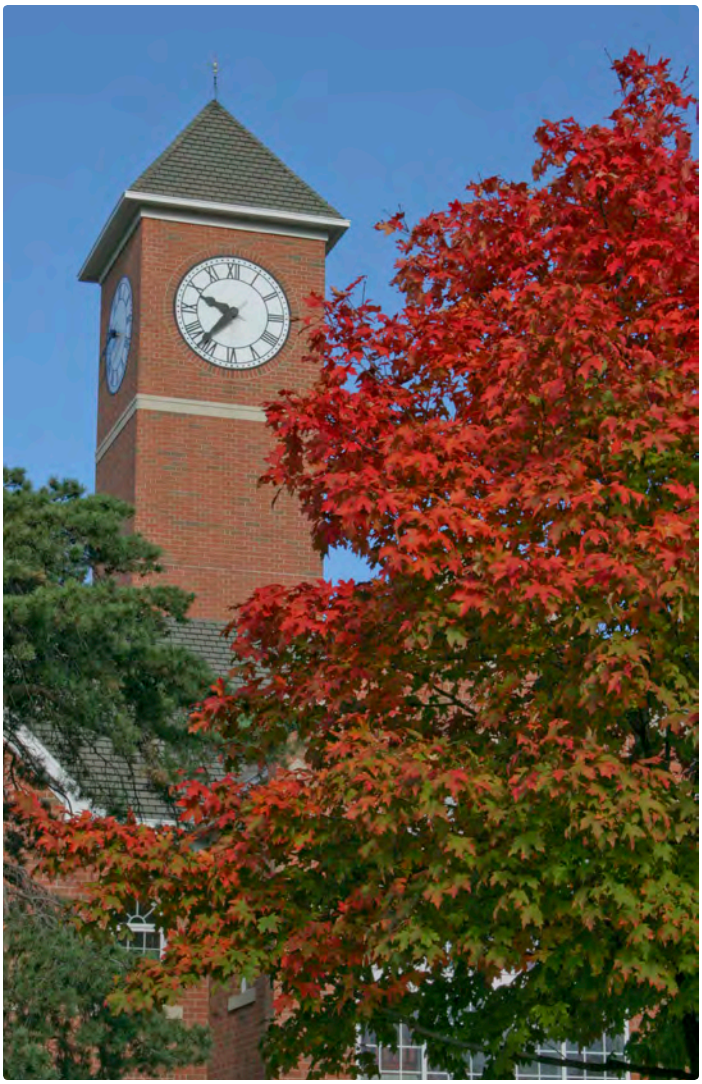
2012 Fall Semester

New Students Arrive	Sunday	August 19
Registration & Orientation for New Students	Mon-Tues	August 20-21
First Day of Classes	Wednesday	August 22
Spring/WInter Pre-registration Begins	Monday	November 5
Thanksgiving Break, last day of classes	Tuesday	November 20
Classes Resume	Monday	November 26
Spring/Winter Pre-registration Ends	Friday	November 30
Last Day of Classes	Friday	December 7
Final Examinations	Mon-Thur.	December 10-13
Last Day to Return Textbooks	Thursday	December 13

2013 Spring Semester

New Students Arrive	Sunday	January 20
No Classes, M. L. King Birthday	Monday	January 21
Registration & Orientation	Tuesday	January 22
First Day of Classes	Wednesday	January 23
Spring Break, last day of classes	Friday	March 22
Classes Resume	Monday	April 1
Last Day to Withdraw from a Class	Tuesday	March 27
Summer/Fall Pre-registration Begins	Monday	April 8
Summer/Fall Pre-registration Ends	Friday	May 3
Last Day of Classes	Friday	May 10
Final Examinations	Mon-Thur.	May 13-16
Last Day to Return Textbooks	Thursday	May 16
Commencement	Saturday	May 18

2013 Summer Sessions – Dates to be announced



Our Philosophy

Core Purpose

To provide career-focused, professional programs of higher education

Our Mission

Indiana Tech provides learners of all ages, at various career levels, undergraduate and graduate professional education in the areas of business, computer studies, engi-neering, and other professional concentrations; prepares them for active participation, career development and advancement, and leadership in the complex, global society of the 21st century; and motivates them toward a life of significance and worth.

Core Values

- Respect: Treating all stakeholders fairly and equitably
- Commitment: Affirming an unceasing dedication to educating the whole learner
- Honesty: Demonstrating truthful behavior in an open environment
- Passion: Possessing a burning desire to fulfill our purpose, mission, and vision
- Integrity: Behaving consistently with mission and core values

Operational Imperatives

- Manage the university's finances in a fiscally responsible manner
- Maintain a consistent and well-planned budget process and review
- Sustain a pleasant work environment, one that fosters challenge and productivity
- Reach our goals through team relationships across all departments
- Strive to contribute to our local communities in a positive way
- Beautify the natural aesthetics of our campuses
- Ensure a drug-free and harassment-free workplace

Vision

Indiana Tech is dedicated to prepar-ing our students for professional and personal success in the real world. To that end, we are committed to the following:

- Striving for academic excellence and continuous improvement in all programs
- Strengthening and building upon our commitment to relationship-based education
- Attracting, developing, and retaining dedicated and excellent teachers, staff, and administrators committed to making a significant difference in the lives of our students and the community
- Integrating theory and practice through learning activities encompassing real-world experience and scholarly exploration.
- Expanding the scope of programs offered, thereby giving students more career options
- Giving each student the support and encouragement needed to stay in school to complete their education
- Emphasizing ethics and integrity in all that we do
- Fostering a life of balance among academics, social and cultural activities
- Increasing the geographic diversity of our student population
- Providing professional development and life-long learning
- Evaluating each decision by asking, "Does It Positively Impact Students?" (DIPIS)

Faculty

Listed below are the full-time faculty, emeritus faculty, and academic staff of Indiana Tech with the year of initial appointment given in parentheses.

Timothy Allwein (2000)
Associate Professor of Business Administration
B.A., Indiana University, 1979
M.B.A., Indiana University, 1980
Th.M., Dallas Theological Seminary, 1986
Certified Human Resource Specialist (CHRS)
Certified Employer Rights & Responsibilities Professional (CERRP)
Certified Workers' Compensation Professional (CWCP)

Peter C. Alexander (2012)
Dean, Law School
B.A., Southern Illinois University, 1979
J.D., Northeastern University School of Law, 1983

David A. Aschliman (2002)
Dean, College of Engineering and Computer Sciences
Associate Professor of Mechanical Engineering
B.S.M.E., Purdue University, 1976
M.S.M.E., Purdue University, 1987

Shankar Atre (2008)
Associate Professor of Electrical Engineering
B.S., Nagpur University, 1962
B.E., Nagpur University, 1965
M.E., M.S. University of Baroda, 1968
Ph.D., Indian Institute of Technology, 1973

Justin Boyce (2010)
Assistant Professor of Psychology
B.S., University of the Virgin Islands, 1994
M.A., University of the Virgin Islands, 1996
Ph.D., West Virginia University, 2000

Lisa Brown (2012)
Assistant Professor of Accounting/Finance
B.S., University of Phoenix, 2006
M.B.A., University of Phoenix, 2008

Margaret A. Canales (2001)
Associate Professor of Industrial and Manufacturing Engineering
B.S.M.E., Tri-State University, 1985
M.B.A., Indiana Wesleyan University, 1992
Ph.D., Columbus University, 2001
Certified Instructor by the National Institute of Standards and Technology

andré douglas pond cummings
Associate Dean for Academic Affairs, Law School
B.S., Brigham Young University, 1994
J.D., Howard University School of Law, 1997

Victoria Duke (2012)
Associate Professor of Law
B.A., Southwest Texas State University, 1982
J.D., Thurgood Marshall School of Law, 1987

Steve Dusseau (1996)
Professor of Industrial and Manufacturing Engineering
B.S.Met.E., Michigan Technological University, 1989
M.B.A., Northwest Missouri State University, 1993
Ph.D., University of Missouri-Rolla, 1996

Craig Dyer (2006)
Assistant Professor of Sports Management
B.S., Indiana State University, 1995
M.B.A., Indiana Tech, 2004

Kelly Fast (2012)
Director, Health Information Technology
Assistant Professor, Health Information Technology
B.S.B.A., Quincy University
M.S., College of St. Scholastica

Robert J. Fontaine (2000)
Associate Professor of Information Systems
B.S.E.E., Union College, 1987
M.B.A., Indiana Tech, 2002

Robert Freewalt (2002)
Associate Professor of Accounting
B.S., University of Illinois, 1971
M.B.A., Northwestern University, 1974
Certified Public Accountant

Norma Friedman (1978)
Professor Emeritus
B.S., University of Massachusetts, 1976
M.Ed., Antioch Graduate Center, 1978
M.A., Columbia University, 1985
Ed.D., Columbia University, 1988

Les Grundman (2012)
Associate Professor Mechanical Engineering
B.S.M.E., University of Nebraska, 1983
M.S.M.E., Purdue University, 1987

Sherrill L. Hamman (1985)
Associate Professor of Business Administration
B.S., Ball State University, 1976
M.S.Ed., Indiana University, 1996

Jerome Heaven (2005)
Assistant Professor of Mathematics
B.S., University of the West Indies, 1998
M.S., Temple University, 2000

Steven F. Hundersmarck (2008)
Director, Center for Criminal Sciences
Assistant Professor of Criminal Sciences
B.S., Madonna University, 1991
M.A., Central Michigan University, 1996
Ph.D., Michigan State University, 2004

Faculty

Rex W. Joyner (1990)
Professor of Physics
B.S., Rose-Hulman Institute of Technology, 1980
M.S., University of Notre Dame, 1983
Ph.D., University of Notre Dame, 1988

Lisa Kindred (2012)
Academic Coordinator
Assistant Professor of Business
B.S., Rutgers University, 2000
M.H.R.M, Rutgers University, 2001
Senior Professional in Human Resources

Dinesh Lad (2006)
Assistant Professor of Computer Engineering
B.S., Sardar Patel University
M.S., University of Puerto Rico

Doty Latuszek (2011)
Dean, College of General Studies
Associate Professor of Mathematics
B.S., Nazareth College, 1972
M.A., Western Michigan University, 1979
Ph.D., Western Michigan University, 2004

Brian Lewandowski (2008)
Director, Software Engineering
Assistant Professor of Software Engineering
B.S., Indiana Tech, 2008
M.B.A., Indiana Tech, 2010

Randall Liechty (2004)
Developmental Mathematics Specialist
Assistant Professor of Mathematics
B.A., Ball State University, 1970
M.A., Purdue University, 1973

Staci Lugar Brettin (2012)
Assistant Professor Marketing and Management
B.A., Ball State University
M.B.A., Bethel College
D.B.A., Anderson University

Guadalupe Luna (2012)
Professor of Law
B.A., University of Minnesota, 1981
J.D., University of Minnesota, 1985

Steve M. Malloris (2002)
Associate Professor of English
B.A., Indiana University, 1976
M.L.S., Indiana University, 1999
M.A., Butler University, 2008

Julie Mansfield (2002)
Associate Professor of Computer Sciences
High School Outreach Coordinator, Computer Studies
B.S., Indiana Tech, 1993
M.B.A., Indiana Tech, 2004
CCNA, Cisco Certified Networking Associate
CCAI, Cisco Certified Academy Instructor

Martin F. Mansfield (1984)
Associate Professor of Computer Science
Control Data Institute, 1974
B.S., University of Iowa, 1982
M.S.C.S., Ball State University, 1992

Yulia Tolstikov-Mast
Assistant Professor of Global Leadership
B.A., Rostov State Pedagogical University,
M.A., Purdue University,
Ph.D., University of Memphis,

Susan McGrade (2002)
Associate Professor of English
B.A., Earlham College, 1996
M.A., Indiana University, 2002
Ph.D., Indiana University of Pennsylvania, 2011

Gary A. Messick (1987)
Associate Dean, School of Computer Sciences
Associate Professor of Chemistry
B.S.Ch., Purdue University, 1970
M.S., Purdue University, 1975

John Minnich (2012)
Assistant Professor of Accounting
B.S., Manchester College, 2001
M.A., Manchester College, 2002
Certified Public Accountant

Timothy Mirtz (2011)
Assistant Professor of Education
B.A., Bethany College, 1986
D.C., Cleveland College, 1989
M.S.E., University of Kansas, 2003
Ph.D., University of Kansas, 2007

Andrew Nwanne (2006)
Associate Dean, College of Professional Studies
Associate Professor of Business
B.A., Bishop College, 1979
M.S., Amberton University, 1982
Ph.D., University of North Texas, 1986

Maximo Ortega (2006)
Assistant Professor of Industrial and Manufacturing Engineering
B.S., Chihuahua Institute of Technology, Mexico, 1982
M.S., Research and Advanced Studies Center, Mexico, 1990
M.S., Juarez institute of Technology, Mexico, 1995
Ph.D., State University of New York at Buffalo, 2001

Doug Perry (2011)
Vice President of Academic Affairs
A.A., Skyline College, 1973
B.S., Regents College, 1978
M.S., State University of New York, 1983
M.A., The City College, City University of New York, 1989
Ph.D., Mount Sinai School of Medicine, City University of New York, 1991

Faculty

Jack Phlipot (2005)
Coordinator of Biomedical Engineering
Associate Professor Biomedical Engineering
B.S., Bowling Green State University, 1986
M.B.A., Indiana Tech, 2004

Phebe Poydras (2012)
Associate Dean for Library Affairs, Law School
Assistant Professor of Law
B.A., University of New Orleans, 1991
J.D., Southern University Law Center, 1995
M.L.I.S., Louisiana State University, 1998

Kenneth Rauch (2010)
Director, Ph.D. in Global Leadership
Associate Professor of Leadership
A.S., Purdue University, 1987
B.S., Indiana Wesleyan University, 1989
M.S., Indiana University, 1992
Ed.D., Indiana Wesleyan University, 2007

John Renie (2010)
Associate Professor of Mechanical Engineering
B.S., Purdue University, 1974
M.S., Purdue University, 1976
Ph.D., Purdue University, 1982
Postdoctoral Fellowship, Purdue University, 1983

Cortney Robbins (2007)
Assistant Professor of English
B.A. Ball State University, 2004
M.A. Ball State University, 2007

Beth A. Robinson (2002)
Associate Professor of Therapeutic Recreation
B.S., Northwest Missouri State University, 1992
M.A., University of Nebraska at Omaha, 2000

David Rumsey (2011)
Assistant Professor of Mathematics
B.S., Purdue University, 1999
M.S., Purdue University, 2001
Ph.D., Bowling Green University, 2012

Edward Ruppel (2007)
Assistant Professor of Business Administration
B.S.B.A., LaSalle University, 1972
M.B.A., Xavier University, 1982

Robert Savage (1975)
Professor Emeritus
B.A., Grinnell College, 1964
M.A., University of Iowa, 1966
Ph.D., Ohio University, 1976

James Schaffer (1997)
Associate Professor of Business Administration
B.A., Oral Roberts University, 1997
M.S., Oklahoma University, 1981
Ph.D., Indiana University, 2000

William Schrader (1960)
Professor Emeritus
B.C.E., University of Louisville, 1959
M.C.E., University of Louisville, 1960
Ph.D., University of Kentucky, 1972
Professional Engineer, Indiana

Angela Schuricht (2010)
Assistant Professor of English
B.S., Ball State University, 1997
M.A., Northern Arizona University, 2003

Jenifer Schutte (2012)
Assistant Professor of Psychology
B.A., IPFW, 2003
M.A., Adler School of Professional Psychology, 2006
Candidate-Psy.D., Adler School of Professional Psychology

Constance Scott (2005)
Director, McMillen Library
B.A., Indiana State University
M.L.S., University of Wisconsin-Milwaukee

Mary C. Scudder (1997)
Director of Freshman College
Assistant Professor of Social Sciences
B.A., Purdue University, 1984
M.S., St. Francis College, 1994

Brad Shank (2002)
Associate Professor of Business
B.S., Purdue University, 1990
M.A., Ball State University, 1995

Arthur E. Snyder (2003)
President
B.S., Barry University
M.B.A., Barry University
Ed.D., Wilmington College

Kim Spielman (2007)
Associate Professor of Criminal Science
B.S., Indiana University, 1982
M.S., Indiana University, 1984
J.D., Ohio Northern University, Pettit College of Law, 1986

Tammy Taylor (2012)
Assistant Professor of Education
B.S., Indiana University, 1990
M.Ed., Indiana Wesleyan University, 2003

Cindy Price-Verduce (2008)
Director, Career Planning and Development
B.A., University of South Carolina
M.Ed., University of South Carolina
Candidate-Ph.D., Indiana Tech

Lori J. Wachtman (2000)
Academic Skills Specialist
Instructor of English
B.A., Concordia University-Wisconsin, 1991
M.A., Vermont College, 1996

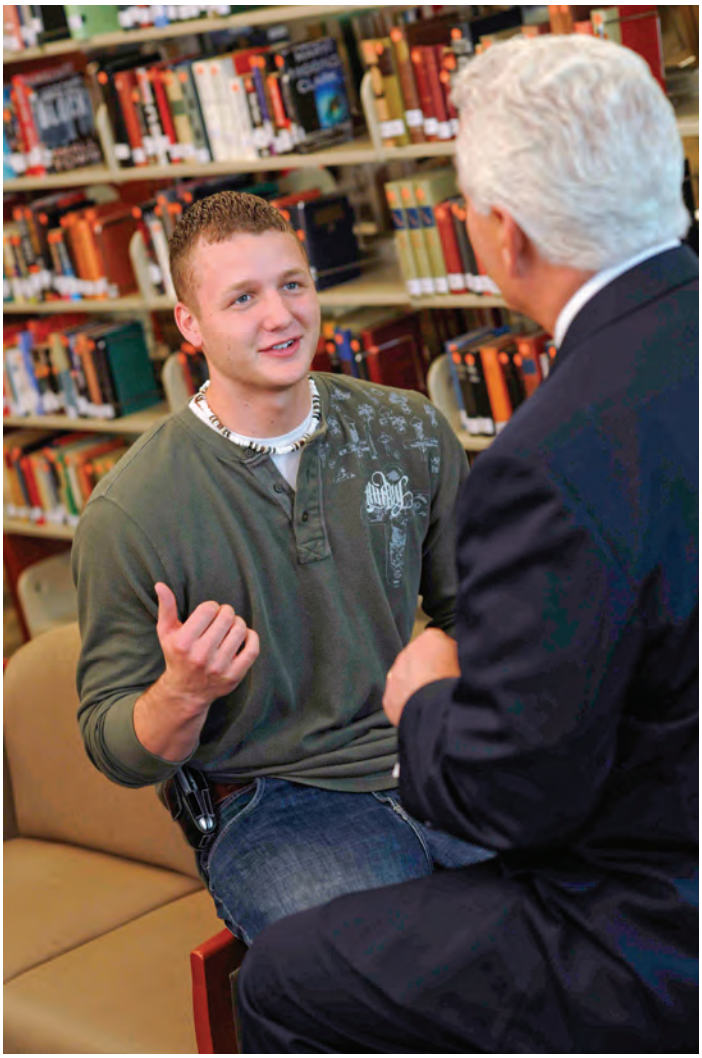
Faculty

Jeffrey L. Walls (1989)
Professor of Business Administration
B.S., Indiana University, 1980
M.B.A., St. Francis College, 1986
Ed.D., Ball State University, 1998
Senior Professional in Human Resources

Danielle Witzigreuter (2008)
Director, Title lll
B.A., Ball State University, 1998
M.A., Ball State University, 2000

Brad Yoder (2011)
Director of Teacher Education
Associate Professor of Education
B.S., Olivet Nazarene University, 1990
M.S., Indiana University, 1997
Ph.D., Indiana State University, 2005

Jeffrey Zimmerman (2011)
Dean, College of Business
B.S., State University of New York at Albany, 1984
M.A., West Virginia University, 1986
M.S., Purdue University, 1988
Ph.D., Purdue University, 1991



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Accreditation

Higher Learning Commission

Indiana Tech is accredited by The Higher Learning Commission and is a member of the North Central Association of Colleges and Schools, the regional accrediting agency for the nineteen north central states.

The Higher Learning Commission of NCA
30 North LaSalle Street, Suite 2400
Chicago, Illinois 60602-2504
Phone: (312) 263-0456

ABET

The biomedical engineering, electrical engineering and mechanical engineering degree programs are also accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Government Regulations

The university is approved and officially recognized by the U.S. Office of Education and the U.S. State Department, and is approved by the State Approval Agency for the enrollment of veterans and eligible persons.

SHRM HR Curriculum

The Society for Human Resource Management has confirmed that the curriculum taught at Indiana Tech in the Bachelor of Science in Business Administration with a concentration in human resources aligns with the recommended requirements for HR degree programs as outlined in the SHRM HR Curriculum Guidebook and Templates.

Learning Outcomes

The curricula at Indiana Tech are designed to assure that students will master the following learning outcomes:

- **Composition and Communication**
  1. Employ flexible strategies for creating and editing texts in both physical and digital format
  2. Demonstrate conventions of rhetorical situation, proper documentation, and Standard Written English

- **Critical Thinking**
  1. Given a problem or situation, identify possible resolutions (hypotheses)
  2. Assemble sufficient, relevant, and reliable information to analyze the problem
  3. Draw conclusion(s) from the information gathered so as to determine possible resolutions

- **Quantitative Reasoning**
  1. Form and analyze ratios, proportions, linear graphing situations, algebraic expressions, equations, and modeling contexts
  2. Algebraically simplify or solve variable expressions, exponential expressions, linear equations, and systems of equations
  3. Represent data through the use of data distribution, basic statistical measures, and elementary probability

- **Applying Technology**
  1. Collect and access credible data, and present it to demonstrate a particular perspective or result using appropriate software or equipment
  2. Prepare and present information using word processing, spreadsheet, presentation and email software

Degree Offerings

College of Business

Accounting, B.S. Acc., A.S.Acc.

Business Administration, B.S.B.A.
- *Concentrations:*
- Health Care Administration*
- Human Resources
- Management
- Management Information Systems*
- Marketing
- Sports Management

Business Administration, A.S.B.A.
- *Concentrations:*
- Management
- Production Management*

Business Administration, M.B.A.*
- *Concentrations:*
- Accounting
- Management
- Human Resources
- Marketing
- Health Care Management

Fashion Marketing & Management, B.S.FMM

Global Leadership, Ph.D.*
- *Specialties:*
- Academic Administration
- Organization Management

Organizational Leadership, B.S.O.L.* , M.S.O.L.*

Management, M.S.M.*

College of Engineering

Biomedical Engineering, B.S.B.M.E.

Computer Engineering, B.S.Cp.E.

Electrical Engineering, B.S.E.E.

Energy Engineering, B.S. En.E.

Industrial & Manufacturing Engineering, B.S.I.M.E., A.S.I.M.E.*

Mechanical Engineering, B.S.M.E.

Engineering Management, M.S.E.*

School of Computer Sciences

Computer Security & Investigation, B.S.C.S.I.

Computer Science, B.S.C.S./B.A.C.S.

Digital Graphics & Design, A.S.D.G.

Information Systems, B.S.I.S; B.A.I.S.

Networking, B.S. NET

Network Management, A.S.N.M.

Software Engineering, B.S.S.E.
- Optional Concentrations:
- Systems
- Game Development

Web Design, A.S.W.D.

Web Development, B.S.W.D.

College of General Studies

Communication, B.A.Comm.

General Studies, A.S.G.S.

Health Information Technology, A.S. HIT*

Human Services, B.S.H.S.*

Psychology, B.S.Psy.

Recreation Management, A.S.R.M.

Recreation and Leisure Studies, B.S.RLS

Recreation Therapy, B.S.RT

School of Education

Elementary Education K-6, B.S.El.Ed.

Physical Education, P-12, B.S.Phys.Ed.

Center for Criminal Sciences

Criminal Justice, B.S.C.J.
- *Specialties:*
- Crime Analysis
- Criminal Justice Administration
- Rehabilitative Services

Criminal Justice, A.S.C.J.

Paralegal Studies, A.S.P.S., B.S.P.S.

Minors: See pages 106 through 108 for a listing of minors currently available

* Offered *only* through the College of Professional Studies

COLLEGE OF BUSINESS

Indiana Tech's College of Business is committed to the development of professionals prepared to thrive in the complex business environment. To achieve this commitment, the college provides our students a broad-based undergraduate education built upon specific business knowledge. It offers advanced graduate programs which include in-depth studies with concentrations in specific areas of business. The programs foster graduates who are business leaders, lifelong learners, and well-rounded, educated citizens of the world.

Indiana Tech's College of Business achieves its mission by emphasizing academic excellence and relationship-based education. It maintains relevant undergraduate and graduate programs to meet current and evolving demands of business. These efforts include:

- General education competencies that are integrated within the business curriculum
- Emphasis on integrity and ethical behavior in all business and life decisions
- Ongoing assessment of programs and review of policies to drive continuous improvement
- Employment and development of faculty who are experts in their fields

The college offers semester and accelerated formats, and utilizes distance learning to extend educational opportunities to students.

Contents

College of Business

Accounting/Associate of Science

The purpose of the accounting associate degree program is to develop business people for entry-level positions in management accounting, financial services, auditing, management services, governmental and nonprofit agencies, public accounting, and taxation. There is an emphasis upon developing an understanding and respect for the ethical and professional standards of the accounting profession. Accountants are trained in our program to develop problem-solving skills and increase efficiency, improving both operating results and business value for their prospective employers.

Accounting courses are taught using case studies, problems, and computer applications so that concepts can be applied to real-life situations. The high level of student-professor interaction provides a learning environment that contributes to students with the practical experience and the skills that they need to participate in the fast-paced business environment.

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2850	Managing in a Legal Environment	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
ACC 2200	Intermediate Accounting I	3
ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

Electives	Humanities	6
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
IIT 2000	Pre-Internship Seminar	0

total credits required: 64

2-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

ACC 2140	Managerial Accounting	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3

total: 15

Semester III

BA 2010	Principles of Management	3
ACC 2200	Intermediate Accounting I	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
Elective	Humanities	3

total: 18

Semester IV

ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
BA 2850	Managing in the Legal Environment	3
SS 2210	Microeconomics	3
Elective	Humanities	3

total: 15

total credits required: 64

** Required for all students who plan to complete an internship.*

College of Business

Accounting/Bachelor of Science

The purpose of the accounting program is to develop professional business people for careers in management accounting, financial services, auditing, management services, governmental and nonprofit agencies, public accounting, and taxation. There is an emphasis upon developing an understanding and respect for the ethical and professional standards of the accounting profession. Accountants are trained in our program to develop problem-solving skills and increase efficiency, improving both operating results and business value for their prospective employers.

Indiana Tech's baccalaureate accounting program provides graduates with a sound foundation in management accounting and is built upon a solid foundation of knowledge in the areas of business, English, humanities, and social sciences. There are significant electives in the program as well, allowing students flexibility to emphasize optional areas of study in their academic preparation.

Accounting courses are taught using case studies, problems, and computer applications so that concepts can be applied to real-life situations. The high level of student-professor interaction provides a learning environment that contributes to graduates with strong accounting skills, business ethics, and integrity.

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
ACC 2200	Intermediate Accounting I	3
ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
ACC 2500	Individual Income Tax	3
ACC 3300	Auditing	3
ACC 3500	Corporate Income Tax	3
ACC 4700	Advanced Accounting I	3
ACC 4740	Advanced Accounting II	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Science

Choose one of the following courses:		3
BIO 1000	Introductory Biology	
CH 1000	Fundamentals of Chemistry	
PH 1000	Physical Science	
SCI 2000	Contemporary Issues in Science	

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
IIT 2000	Pre-Internship Seminar	0

Approved Electives 15

total credits required: 124

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Business

Accounting/Bachelor of Science

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

ACC 2140	Managerial Accounting	3
ENG 1270	English Composition II	3
PSY 1700	Introduction to Psychology	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
SS 2200	Macroeconomics	3

total: 15

Semester III

ACC 2200	Intermediate Accounting I	3
BA 2010	Principles of Management	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
Elective	(Humanities - literature)	3

total: 18

Semester IV

ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
BA 2850	Managing in the Legal Environment	3
SS 2210	Microeconomics	3
Elective	Humanities	3

total: 15

Semester V

ACC 2500	Individual Income Tax	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2200	Personal Finance	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

total: 15

Semester VI

ACC 3500	Corporate Income Tax	3
BA 2700	Organizational Behavior	3
FIN 3600	Corporate Finance	3
Electives	Approved	3
Elective	Humanities	3

total: 15

Semester VII

ACC 4700	Advanced Accounting I	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
Elective	Approved	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3

total: 15

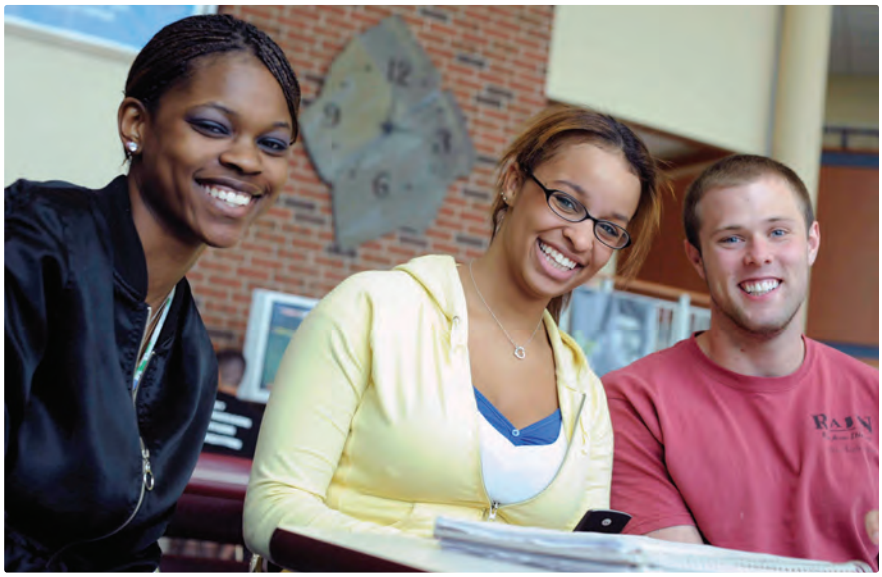
Semester VIII

ACC 3300	Auditing	3
ACC 4740	Advanced Accounting II	3
Electives	Approved	9

total: 15

total credits required: 124

** Required for all students who plan to complete an internship.*



College of Business

Business Administration/Bachelor of Science & Associate of Science

About the Programs

The program leading to the Bachelor of Science in Business Administration is based upon a philosophy of total student development. Students choosing this degree program are provided with an education that stresses an interdisciplinary approach. They are exposed to all aspects of the complex and changing business environment with a specific emphasis upon social, cultural, and political factors.

The total development objective creates a program blending a business education with that of the liberal arts. All students choosing a degree in business administration take a common core of nine courses such as Principles of Management, Marketing, Human Resources Management, and a capstone course called Business Policy and Strategic Planning. Additional courses are required in economics, accounting, math, computer information systems, English, social sciences, and humanities.

The program includes sufficient electives to allow students the option of a dual concentration if they plan their program of study carefully. In addition, the liberal arts component provides a sound foundation for both behavioral and quantitative business majors through the broadening of the students' social and cultural backgrounds.

Students in the business administration program gain an in-depth study of all facets of the business world. Students will study accounting, business law, human resource management and management problems and policies.

Classroom discussions are designed to help the student grasp fundamental principles and to motivate utilization of these principles in solving typical management problems.

Students graduating in business administration are qualified to assume positions as management trainees, working toward middle and upper-level management positions in a variety of businesses. Credits earned in the associate program are fully applicable toward the Bachelor of Science in Business Administration.

Business Administration /Bachelor of Science
Health Care Administration Concentration**

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Health Care Administration Concentration

HCA 1100	Introduction to Health Care Admin	3
HCA 2100	Legal Aspects of Health Care Admin	3
HCA 3100	Finance of Health Care Admin.	3
HCA 3200	Health Care Policy	3
HCA 4100	Managed Care & Medical Group Practice	3
HCA 4200	Legal Aspects of Health Care Admin	3
HIT 1100	Medical Terminology	3

Science

Choose one of the following two courses:		3
BIO 1000	Introductory Biology	
SCI 2000	Contemporary Issues in Science	

Approved Electives 21

total credits required: 123

*** Offered only through the College of Professional Studies.*

College of Business

Business Administration /Bachelor of Science
Human Resource Concentration

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Human Resources Concentration

BA 2600	Occupational Safety and Health	3
BA 3650	Compensation Management	3
BA 3800	Labor Relations	3
BA 4700	Training and Development.	3
PSY 2510	Theories of Counseling	3

Science

Choose one of the following courses:		3
BIO 1000	Introductory Biology	
CH 1000	Fundamentals of Chemistry	
PH 1000	Physical Science	
SCI 2000	Contemporary Issues in Science	

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Electives 24

total credits required: 124

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Business

Business Administration /Bachelor of Science
Human Resource Concentration

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

ACC 2140	Managerial Accounting	3
BA 2010	Principles of Management	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester III

BA 2410	Human Resource Management	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
SS 2200	Macroeconomics	3
Elective	Approved	3

total: 18

Semester IV

SS 2210	Microeconomics	3
Elective	Approved	3
BA 2500	Marketing	3
Elective	Humanities	3
BA 2200	Personal Finance	3

total: 15

Semester V

BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
Elective	Humanities	3
Elective	Approved	3
SS	2720 or 2800	3

total: 15

Semester VI

BA 2600	Occupational Safety & Health	3
BA 3200	Business Ethics	3
PSY 2510	Theories of Counseling	3
Elective	(Humanities - literature)	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3

total: 15

Semester VII

BA 3650	Compensation Management	3
BA 3800	Labor Relations	3
FIN 3600	Corporate Finance	3
Electives	Approved	6

total: 15

Semester VIII

BA 4700	Training & Development	3
BA 4910	Business Policy & Strategy Planning	3
Electives	Approved	9

total: 15

total credits required: 124

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Bachelor of Science
Management Concentration

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Management Concentration

BA 2020	Operations Management	3
BA 2430	International Management	3
BA 3110	Project Management I	3
BA 3710	Leadership	3
BA 4010	Quality Management.	3

Science

Choose one of the following courses:		3
BIO 1000	Introductory Biology	
CH 1000	Fundamentals of Chemistry	
PH 1000	Physical Science	
SCI 2000	Contemporary Issues in Scienc	

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Electives 24

total credits required: 124

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Bachelor of Science
Management Concentration

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

ACC 2140	Managerial Accounting	3
BA 2010	Principles of Management	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester III

BA 2020	Operations Management	3
BA 2410	Human Resource Management	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
SS 2200	Macroeconomics	3

total: 18

Semester IV

BA 2430	International Management	3
BA 2500	Marketing	3
BA 2200	Personal Finance	3
SS 2210	Microeconomics	3
Elective	Humanities	3

total: 15

Semester V

BA 2700	Organizational Behavior	3
BA 2850	Managing in the Legal Environment	3
Elective	Humanities	3
Elective	Approved	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	introduction to Sociology	

total: 15

Semester VI

BA 3110	Project Management I	3
BA 3200	Business Ethics	3
Elective	Approved	3
Elective	(Humanities - literature)	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3

total: 15

Semester VII

BA 4010	Quality Management	3
FIN 3600	Corporate Finance	3
Elective	Approved	9

total: 15

Semester VIII

BA 3710	Leadership	3
BA 4910	Business Policy & Strategic Planning	3
Electives	Approved	9

total: 15

total credits required: 124

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Associate of Science
Management Concentration

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2020	Operations Management	3
BA 2410	Human Resource Management	3
BA 2430	International Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

Electives	Humanities	3
PSY 1700	Introduction to Psychology	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Elective.....6

total credits required: 64

2-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

ACC 2140	Managerial Accounting	3
BA 2010	Principles of Management	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester III

BA 2020	Operations Management	3
BA 2410	Human Resource Management	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
Elective	Approved	3

total: 18

Semester IV

BA 2430	International Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3
Elective	Humanities	3
Electives	Approved	3

total: 15

total credits required: 64

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Bachelor of Science
Management Information Systems Concentration**

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Management Information Systems

^MIS 1300	Software Tools	3
^MIS 1500	Computer Systems & Hardware	3
^MIS 2100	Networking & Infrastructure	3
^MIS 2150	Component Analysis & Design	3
^MIS 3000	Programming & Logic	3
^MIS 3100	Database Management	3
^MIS 3150	Database Application Development	3
^MIS 3200	Web Applications & the Internet	3
^MIS 4000	Enterprise Resource Planning	3
^MIS 4200	Systems Analysis & Design	3
^MIS 4400	MIS Project Management	3

Accounting

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3

Mathematics

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the two following courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Science

Choose one of the following two courses:		3
BIO 1000	Introductory Biology	
SCI 2000	Contemporary Issues in Science	

Approved Electives 12

total credits required: 123

About TEAM Enrollment

The MIS concentration uses the TEAM approach. Courses marked with an asterisk (*) require TEAM enrollment. Although the College of Professional Studies gives students a great deal of flexibility in scheduling, some degree programs do require that a group of courses be taken in a certain order. This system, referred to as Tracked Educational Adult Modules (TEAM), uses a tracked teaching approach with students organized into TEAM groups of 12 to 18 members. The TEAM proceeds in a predetermined order through the courses that are unique to the degree.

*** Offered only through the College of Professional Studies.*

^ Requires TEAM enrollment.

College of Business

Business Administration/Bachelor of Science
Marketing Concentration

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3

Choose one of the following two courses: 3

- SS 2720 Group Dynamics
- SS 2800 Introduction to Sociology

Marketing Concentration

BA 2550	Personal Selling	3
BA 2800	E-Commerce	3
BA 3300	Marketing Research	3
BA 3500	Advertising	3
BA 3550	International Marketing.	3
BA 4500	Purchasing	3

Science

Choose one of the following courses: 3

- BIO 1000 Introductory Biology
- CH 1000 Fundamentals of Chemistry
- PH 1000 Physical Science
- SCI 2000 Contemporary Issues in Science

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Electives 21

total credits required: 124

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Business Administration/Bachelor of Science
Marketing Concentration

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3
	total:	**16**

Semester II

ACC 2140	Managerial Accounting	3
BA 2010	Principles of Management	3
*IIT 2000	Pre-Internship Seminar	0
ENG 1270	English Composition II	3
MA 1025	Mathematical Problem-Solving	3
PSY 1700	Introduction to Psychology	3
	total:	**15**

Semester III

BA 2410	Human Resource Management	3
ENG 2320	Professional Communication	3
IIT 1270	Introduction to Critical Inquiry	3
MA 2025	Statistical Problem-Solving	3
SS 2200	Macroeconomics	3
Elective	Approved	3
	total:	**18**

Semester IV

BA 2200	Personal Finance	3
BA 2500	Marketing	3
SS 2210	Microeconomics	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3
Elective	Humanities	3
	total:	**15**

Semester V

BA 2550	Personal Selling	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
Elective	Approved	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	
	total:	**15**

Semester VI

BA 3200	Business Ethics	3
BA 3500	Advertising	3
BA 3550	International Marketing	3
Elective	(Humanities - literature)	3
Elective	Approved	3
	total:	**15**

Semester VII

BA 2800	E-Commerce	3
BA 3300	Marketing Research & Decision Making	3
FIN 3600	Corporate Finance	3
Elective	Approved	6
	total:	**15**

Semester VIII

BA 4500	Purchasing	3
BA 4910	Business Policy & Strategic Planning	3
Elective	Approved	6
Elective	Humanities	3
	total:	**15**

total credits required: 124

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Bachelor of Science
Sport Management Concentration#

Required Courses

Business Administration Core

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategic Planning	3
FIN 3600	Corporate Finance	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
SS 2800	Introduction to Sociology	3

Sport Management Concentration

BA 2550	Personal Selling.	3
SM 1400	Introduction to Sport Management	3
SM 2600	Field Experience in Sport Management	3
SM 3100	Sport Facility & Event Management	3
SM 4200	Marketing & Promotion is Sport Admin.	3
SS 3300	Sport in Society.	3

Science

Choose one of the following courses: 3

- BIO 1000 Introductory Biology
- CH 1000 Fundamentals of Chemistry
- PH 1000 Physical Science
- SCI 2000 Contemporary Issues in Science

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Electives 21

total credits required: 124

▶ See next page for 4-year plan

 # Available only in the traditional day program

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Bachelor of Science
Sport Management Concentration#

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
PSY 1700	Introduction to Psychology	3
SM 1400	Introduction to Sports Management	3

total: 16

Semester II

BA 2010	Principles of Management	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem-Solving	3
MIS 1300	Software Tools	3

total: 15

Semester III

ACC 1010	Accounting Principles	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2850	Managing in a Legal Environment	3
ENG 2320	Professional Communications	3

total: 15

Semester IV

ACC 2140	Managerial Accounting	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
MA 2025	Statistical Problem-Solving	3
SM 2600	Field Experience in Sport Management	3

total: 15

Semester V

BA 2550	Personal Selling	3
SM 3100	Sport Facility & Event Management	3
SS 2200	Macroeconomics	3
Elective	Approved	3
Elective	Humanities	3

total: 15

Semester VI

BA 3200	Business Ethics	3
SS 2210	Microeconomics	3
SS 2800	Introduction to Sociology	3
Elective	(Humanities - Literature)	3
Elective	Approved	3

total: 15

Semester VII

FIN 3600	Corporate Finance	3
SM 4200	Marketing & Promotion in Sports Admin.	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3
Electives	Approved	9

total: 18

Semester VIII

BA 4910	Business Policy & Strategic Planning	3
SS 3300	Sport in Society	3
Elective	Humanities	3
Electives	Approved	6

total: 15

total credits required: 124

 # Available only in the traditional day program

** Required for all students who plan to complete an internship.*

College of Business

Business Administration/Associate of Science
Production Management Concentration**

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2020	Operations Management	3
BA 2600	Occupational Safety and Health	3
BA 2700	Organizational Behavior	3
BA 3110	Project Management I	3

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

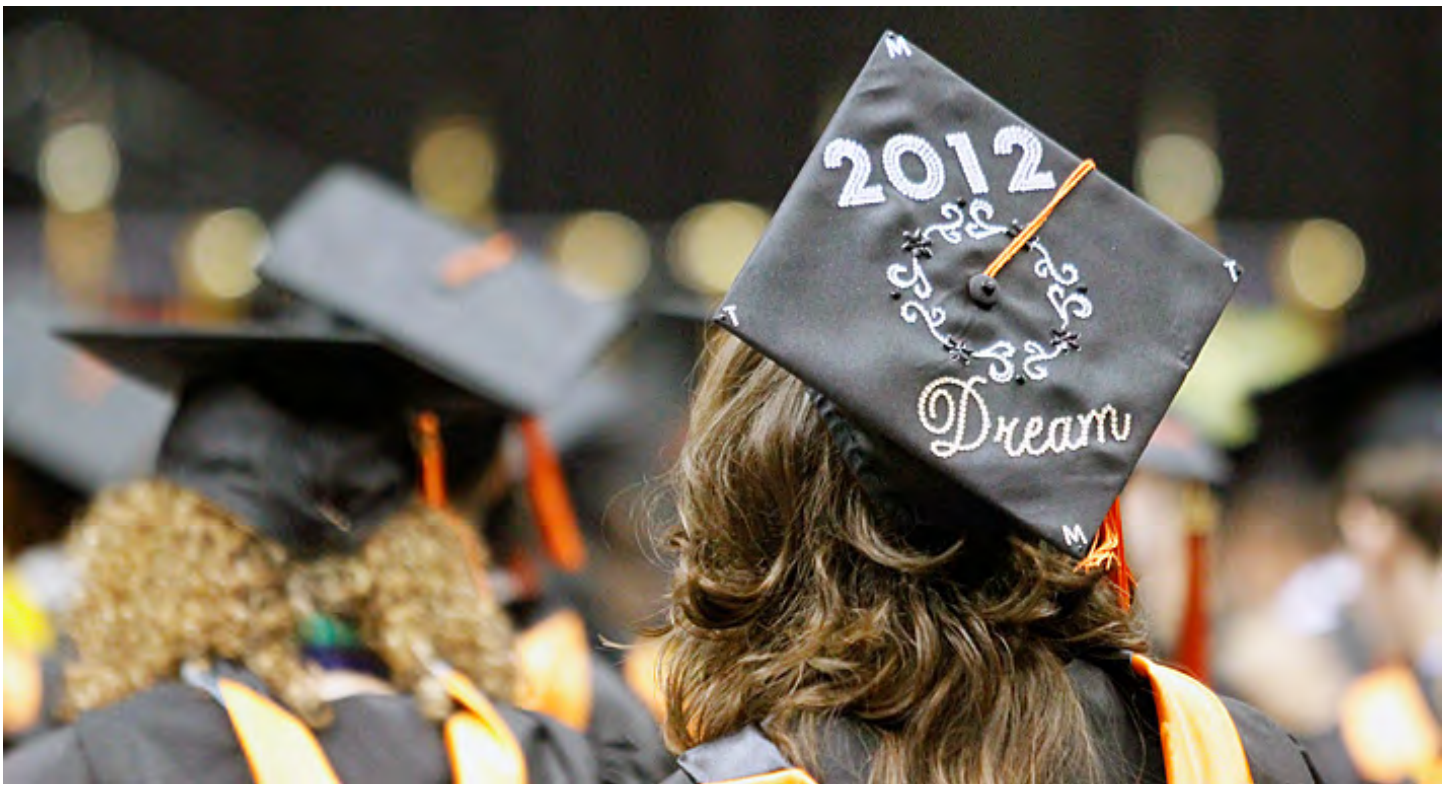
ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Elective	Humanities	3

Approved Electives 6

total credits required: 63



*** Offered only through the College of Professional Studies.*

College of Business

Fashion Marketing and Management/ Bachelor of Science

The Bachelor of Science in Fashion Marketing and Management provides students with comprehensive, industry-relevant knowledge based on theory and best practices in the fashion industry. The program prepares graduates for entry-level management careers in fashion retailing, merchandising, product development, marketing, visual merchandising, and buying.

Objectives of the program include offering courses that encourage studied creativity and strengthen critical thinking skills. Students complete a rigorous core of business classes, including marketing and management, and are required to complete accounting and economics classes. Fashion marketing and management courses are taught by experienced faculty committed to the professional development of all students. The curriculum offers engaging hands-on activities, problem-solving opportunities, and teamwork. There are electives offered in the program to allow students to tailor their degrees to satisfy their personal career goals. All students majoring in fashion marketing and management complete a 360-hour internship. This allows them to gain meaningful work experience in supervised and approved fashion internships. Internships may be at local, regional, or international fashion businesses. Study tours to Chicago and New York City provide opportunities to contact potential employers for internships and identify traditional and emerging careers in the fashion industry.

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3
BA 3200	Business Ethics	3
FIN 3600	Corporate Finance	3
Choose two of the following courses:		6
BA 2550	Personal Selling	
BA 2800	E-Commerce	
BA 3500	Advertising	

Math

MA 1000	Foundations of College Math	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
MIS 1300	Software Tools	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Fashion Marketing and Management

FMM 1200	Fashion Innovation and Marketing	3
FMM 2000	Textiles and Apparel Evaluation	3
FMM 3005	Profitable Merchandising	3
FMM 3010	Chicago Study Tour	1
FMM 3020	FMM Internship	4
FMM 4020	Trend Forecasting	3
Choose one of the following courses:		3
FMM 2010	Visual Merchandising & Promotions	
FMM 2020	Software Apps/CAD for Merchandisers	
Choose one of the following courses:		3
FMM 3000	Fashion Accessories	
FMM 4010	Product Development	

Science

Choose one of the following courses:		3
BIO 1000	Introductory Biology	
CH 1000	Fundamentals of Chemistry	
PH 1000	Physical Science	
SCI 2000	Contemporary Issues in Science	

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Thinking	3
*IIT 2000	Pre-Internship Seminar	0

Approved Electives 15

total credits required: 123

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Business

Fashion Marketing and Management/ Bachelor of Science

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
FMM 1200	Fashion Innovation & Marketing	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Math	3
MIS 1300	Software Tools	3

total: 16

Semester II

BA 2200	Personal Finance	3
ENG 1270	English Composition II	3
FMM 1200	Fashion Innovation & Marketing	3
IIT 1270	Introduction to Critical Inquiry	3
MA 1025	Mathematical Problem-Solving	3
Science	(BIO 1000, PH 1000, CH 1000, SCI 2000)	3

total: 15

Semester III

ACC 1010	Accounting Principles	3
BA 2010	Principles of Management	3
BA 2500	Marketing	3
ENG 2320	Professional Communication	3
FMM 2000	Textiles & Apparel Evaluation	3
IIT 2000	Pre-Internship Seminar	0

total: 15

Semester IV

ACC 2140	Managerial Accounting	3
BA 2850	Managing in the Legal Environment	3
Choose one of the following courses:		3
BA 2550	Personal Selling	
BA 2800	E-Commerce	
BA 3500	Advertising	
Choose one of the following two courses:		3
FMM 2010	Visual Merchandising & Promotions	
FMM 2020	Software Apps & CAD for Merchandisers	
MA 2025	Statistical Problem-Solving	3

total: 15

Semester V

FMM 3005	Profitable Merchandising	3
FMM 3010	Chicago Study Tour	1
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	
Elective	Humanities	3

total: 16

Semester VI

BA 2410	Human Resource Management	3
BA 3200	Business Ethics	3
Choose one of the following three courses:		3
BA 2550	Personal Selling	
BA 2800	E-Commerce	
BA 3500	Advertising	
*IIT 2000	Pre-Internship Seminar	0
SS 2210	Microeconomics	3
Elective	(Humanities - literature)	3

total: 15

Summer before Semester VII

FMM 3020	Internship	4

total: 4

Semester VII

FIN 3600	Corporate Finance	3
Choose one of the following two courses:		3
FMM 3000	Fashion Accessories	
FMM 4010	Product Development	
Elective	Approved	9

total: 15

Semester VIII

FMM 4020	Trend Forecasting	3
Elective	Humanities	3
Electives	Approved	6

total: 12

total credits required: 123

** Required for all students who plan to complete an internship.*

College of Business

Organizational Leadership/Bachelor of Science**

The organizational leadership program provides students with the leadership competencies needed for supervisory and middle management success in a variety of job families and functions. To fully develop the leadership skills of students, the program focuses on four key competency areas: operations and administrative competencies; human relations and interpersonal competencies; decision-making and critical thinking competencies; and communication competencies. To facilitate development of these competencies, courses marked with an carat (^) must be taken in sequence as part of a Tracked Educational Adult Module (TEAM).

Required Courses

Operations & Administrative Competencies

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2200	Personal Finance	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3
MIS 1300	Software Tools	3

Human Relations & Interpersonal Competencies

BA 2700	Organizational Behavior	3
BA 3710	Leadership	3
^OL 3000	Employee Development	3
PSY 2000	Understanding Diversity	3
SS 2850	Conflict Resolution	3

Decision-Making & Critical Thinking Competencies

BA 3200	Business Ethics	3
^OL 3200	Managing Organizational Change & Continuous Improvement	3
^OL 3300	Quantitative Decision Making	3
^OL 3400	Financial Systems for Decision-Making	3
^OL 4000	Strategic Planning	3
^OL 4100	Qualitative Decision Making	3
^OL 4900	Organizational Leadership Capstone	3

Communication Competencies

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM	Electives (3 credits must be literature)	9
PSY 1700	Introduction to Psychology	3
SS 2800	Introduction to Sociology	3
SS or PSY	Electives	3

Math & Sciences

MA 1000	Foundations of College Math	3
MA 2010	Foundations of Statistics	3
One of the two following courses		3
BIO 1000	Introductory Biology	
SCI 2000	Contemporary Issues in Science	

Approved Electives.....27

total credits required: 120

*** Offered only through the College of Professional Studies.*

^ Requires TEAM enrollment.

COLLEGE OF ENGINEERING

About the College of Engineering and Computer Sciences

The fundamental mission of the College of Engineering is to provide the individual student with an educational foundation broad enough to support a lifetime of learning and specific enough to provide the necessary skills for a successful entry into professional life or graduate study in engineering and/or computer science.

The engineer of the future must function in a global marketplace driven by technology and ruled by open competition. The College of Engineering recognizes that its fundamental obligation is to provide an engineering education rooted in solid fundamental knowledge and structured around up-to-date technical skills. However, it must also provide undergraduate students with a liberal and humanistic education to help them acquire an understanding of society and their cultural heritage; it must provide them with a breadth of knowledge and sensitivity to weigh ethical and moral issues and form values and life goals.

The college offers baccalaureate degrees in six academic areas: biomedical engineering, computer engineering, electrical engineering, energy engineering, mechanical engineering, and industrial and manufacturing engineering. Students in each program are provided with a solid foundation in the basic sciences and mathematics. In order to furnish breadth to the technical education of the students, supporting courses in communications, humanities, and social sciences are included in all the engineering and computer science programs. The use of computers is emphasized throughout all the academic offerings.

The college encourages lifelong learning among the faculty as a means of supporting the teaching commitments of the university. The engineering faculty members at Indiana Tech are particularly dedicated to the educational process, in which teaching is of primary importance. All courses in the college are taught by experienced and professional faculty, some of whom are local practicing engineers.

Contents

College of Engineering

Biomedical Engineering/Bachelor of Science

This program will prepare graduates for careers in the biomedical engineering field with a specialization in biomechanical skills. This interdisciplinary degree combines classical mechanical engineering and biological sciences. With a biomedical engineering degree, graduates are prepared to work at companies that design and manufacture medical devices including joints and tissues for the human body.

Biomedical engineering graduates will successfully demonstrate the eleven ABET program outcomes:
- Have the ability to use mathematics and the physical sciences to solve engineering problems
- Have the ability to design and conduct experiments and analyze and interpret data
- Have the ability to design and build a system, component, or process to meet desired needs
- Work effectively on project teams
- Have the ability to identify, model, and solve engineering problems
- Have effective written and oral communication skills
- Have the broad education necessary to understand how engineering solutions impact society
- Recognize the need for and have the ability to engage in lifelong learning
- Have a knowledge of contemporary issues that affect the biomedical engineering profession
- Have the ability to use the modern engineering tools necessary for the engineering practice
- Understand professional and ethical responsibilities

Graduates will be able to demonstrate that they have:
- An understanding of biology and physiology
- The capability to apply advanced mathematics, science, and engineering to solve the problems at the interface of engineering and biology
- The ability to make measurements on, and interpret data from, living systems
- The ability to address problems associated with the interaction between living and non-living materials and systems

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Social Sciences

PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Math & Science

BIO 2700	Pathophysiology	3
BIO 2710	Human Anatomy and Physiology I	3
BIO 2720	Human Anatomy and Physiology I Lab	1
BIO 2730	Human Anatomy & Physiology II	3
BIO 2740	Human Anatomy & Physiology II Lab	1
BIO 3500	Cell Biology	3
BIO 2950	Genetics	3
BIO 4710	Immunology	3
CH 1220	General Chemistry & Lab I	3
CH 1230	General Chemistry II	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2100	Differential Equations & Linear Algebra	4
MA 2430	Probability & Statistics for Engineers	3
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
PH 2300	General Physics II	3

Engineering

BME 3200	Thermodynamics & Fluids	3
BME 3250	Thermodynamics & Fluids Lab	1
BME 3800	Medical Device Design Project I	3
BME 3500	Biomechanics	3
BME 3810	Medical Device Design Project II	3
BME 4973	BME Senior Project I	2
BME 4974	BME Senior Project II	3
EE 2050	Electrical Engineering	3
EGR 1710	Engineering Graphics & Design	3
EGR 1500	Computer Programming for Engineers	3
EGR 2000	Engineering Communication	3
EGR 3600	CAD I — Parametric Modeling	3
EGR 2600	Materials Science	3
EGR 4400	Professional Practice I	3
EM 2010	Statics	3
EM 2020	Dynamics	3
EM 3100	Mechanics of Materials	3
EM 3150	Mechanics of Materials Laboratory	1
ME 3400	Mechanical Engineering Design I	3

Electives

Elective	Humanities (3 credits must be literature)	9
Elective	Technical Elective	3

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Engineering

Biomedical Engineering/Bachelor of Science

4-Year Plan

Semester I

BIO 2710	Human Anatomy and Physiology I	3
BIO 2720	Human Anatomy and Physiology I Lab	1
CH 1220	General Chemistry & Lab I	3
EGR 1710	Engineering Graphics & Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1200	Calculus I	4

total: 18

Semester II

BIO 2730	Human Anatomy & Physiology II	3
BIO 2740	Human Anatomy & Physiology II Lab	1
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1210	Calculus II	4
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1

total: 15

Semester III

EGR 1500	Computer Programming for Engineers	3
EGR 2000	Engineering Communication	3
EM 2010	Statics	3
MA 2100	Differential Equations & Linear Algebra	4
PH 2300	General Physics II	3

total: 16

Semester IV

CH 1230	General Chemistry II	3
EE 2050	Electrical Engineering	3
EGR 3600	CAD I — Parametric Modeling	3
EM 2020	Dynamics	3
EM 3100	Mechanics of Materials	3
EM 3150	Mechanics of Materials Laboratory	1

total: 16

Semester V

BIO 3500	Cell Biology	3
Elective	Humanities	3
MA 2430	Probability & Statistics for Engineers	3
ME 3400	Mechanical Engineering Design I	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester VI

BIO 2700	Pathophysiology	3
EGR 2600	Materials Science	3
BME 3200	Thermodynamics & Fluids	3
BME 3250	Thermodynamics & Fluids Lab	1
BME 3800	Medical Device Design Project I	3
Elective	Technical Elective	3

total: 16

Semester VII

BIO 2950	Genetics	3
BME 3500	Biomechanics	3
BME 3810	Medical Device Design Project II	3
BME 4973	BME Senior Project I	2
EGR 4400	Professional Practice I	3
Elective	(Humanities - 3 credits must be literature)	3

total: 17

Semester VIII

BIO 4710	Immunology	3
BME 4974	BME Senior Project II	3
SS 2200	Macroeconomics	3
Elective	Humanities	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

total: 15

total credits required: 128

** Required for all students who plan to complete an internship.*

College of Engineering

Computer Engineering/Bachelor of Science

The computer engineering program is designed to develop professionals who will analyze, design, construct, and maintain hardware and software systems. The program is structured so that studies in mathematics and science prepare the student for the theory of electric circuits, numerical techniques, and programming languages. Building on this foundation, studies in computer science, electronics, digital logic, and microprocessors build to an advanced study of computer hardware. Each of these areas is supported by formal laboratory experimentation and hardware design projects. Graduates of the computer engineering program will work on a variety of challenging projects within the areas of computer architecture, computer logic design, computer networks, and communications.

The computer engineering graduate will:

- Have the ability to use mathematics and the physical sciences to solve engineering problems
- Have the ability to design and conduct experiments and analyze and interpret data
- Have the ability to design and build a system, component, or process to meet desired needs within realistic constraints
- Work effectively on multidisciplinary project teams
- Have the ability to identify, model, and solve engineering problems
- Understand professional and ethical responsibilities
- Have effective written and oral communication skills
- Have the broad education necessary to understand how engineering solutions impact the global society, environment, and economy
- Recognize the need for and have the ability to engage in lifelong learning
- Have a knowledge of contemporary issues that affect the computer engineering profession
- Have the ability to use the modern engineering tools necessary for the engineering practice

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1220	General Chemistry & Lab I	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2150	Linear Algebra	3
MA 2300	Differential Equations	3
MA 2430	Probability & Statistics for Engineers	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1
PH 2300	General Physics II	3
PH 2310	General Physics II Lab	1

Engineering

EE 2100	Circuit Analysis I	3
EE 3100	Circuit Analysis II	3
EE 3150	Signals and Systems	3
EE 3200	Electronics Circuits I	3
EE 3650	Circuits Lab	2
EE 4150	Digital Signal Processing	3
EGR 1710	Engineering Graphics & Design	3
EGR 2000	Engineering Communication	3
EGR 4400	Professional Practice	3

Computer Sciences

CPE 3500	Computer Engineering I	3
CPE 3550	Computer Engineering I Lab	1
CPE 4500	Computer Engineering II	3
CPE 4550	Computer Engineering II Lab	1
CPE 4600	Embedded Systems	3
CPE 4700	Computer Architecture	3
CPE 4710	Senior Project Proposal	2
CPE 4720	Senior Project	2
CS 1200	Introduction to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
CS 2100	Introduction to Computer Systems	3
CS 2410	Discrete Structures	3
CS 3200	Operating Systems	3
CS 3800	Data Structures	3
CS 4500	Software Engineering	3
NET 1200	Network Design I	4
NET 1250	Network Design II	4

Humanities and Social Sciences

PSY 1700	Introduction to Psychology	3
Choose one of the following two courses:		3
	SS 2200 ... Macroeconomics	
	SS 2210 .... Microeconomics	
Choose one of the following two courses:		3
	SS 2720 ... Group Dynamics	
	SS 2800 ... Introduction to Sociology	

Electives

Elective	Humanities (3 credits must be literature)	9

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Engineering

Computer Engineering/Bachelor of Science

4-Year Plan

Semester I

CS 1200	Introduction to Computer Science	3
EGR 1710	Engineering Graphics & Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1200	Calculus I	4
NET 1200	Network Design I	4

total: 18

Semester II

CH 1220	General Chemistry & Lab I	3
CS 1300	Computer Science I	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1210	Calculus II	4
NET 1250	Network Design II	4

total: 17

Semester III

CS 1350	Computer Science II	3
CS 2410	Discrete Structures	3
EGR 2000	Engineering Communication	3
MA 2150	Linear Algebra	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1

total: 16

Semester IV

CS 2100	Introduction to Computer Systems	3
EE 2100	Circuit Analysis I	3
MA 2300	Differential Equations	3
PH 2300	General Physics II	3
PH 2310	General Physics II Lab	1
PSY 1700	Introduction to Psychology	3

total: 16

Semester V

CPE 3500	Computer Engineering I	3
CS 3800	Data Structures	3
EE 3100	Circuit Analysis II	3
EE 3200	Electronics Circuits I	3
EE 3650	Circuits Lab	2
MA 2430	Probability & Statistics for Engineers	3

total: 17

Semester VI

CPE 3550	Computer Engineering I Lab	1
CPE 4500	Computer Engineering II	3
CS 3200	Operating Systems	3
EE 3150	Signals and Systems	3
Elective	Humanities	3
Choose one of the following two courses:		3
SS 2200	Macroeconomics	
SS 2210	Microeconomics	

total: 16

Semester VII

CPE 4550	Computer Engineering II Lab	1
CPE 4700	Computer Architecture	3
CPE 4710	Senior Project Proposal	2
CS 4500	Software Engineering	3
Elective	Humanities (3 credits must be literature)	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

total: 15

Semester VIII

CPE 4600	Embedded Systems	3
CPE 4720	Senior Project	2
EE 4150	Digital Signal Processing	3
EGR 4400	Professional Practice	3
Elective	Humanities	3

total: 14

total credits required: 129

** Required for all students who plan to complete an internship.*

College of Engineering

Electrical Engineering/Bachelor of Science

The electrical engineering program prepares graduates for a successful career in the rapidly evolving and intellectually challenging field of electrical engineering. The program provides a broad foundation in traditional and contemporary areas of electrical engineering to support life-long learning and specific enough to provide the necessary skills for a successful entry into professional life. Studies in mathematics and science form the program foundation that prepares the student for depth in the electrical engineering topic of circuits. From this foundation, the principal areas of application are covered, including electronics, digital systems, electromagnetics, electrical machines, controls, and communications. Computer-based simulations and laboratory-based applications support theoretical study in each of these areas. Graduates work in a variety of careers including the design, development, and testing of systems and components for the aerospace, communications, power distribution, and instrumentation industries. The electrical engineering ABET program objectives and outcomes are identified below.

▸ **EE Program Objectives**

Our graduates:

1. Will be employed in electrical engineering related fields or in other career fields in industry, business, academe, government, or non-profit organizations
2. Will continue to enhance their professional skills by participating in professional organizations, completing additional college courses, or completing industry-sponsored short courses

▸ **EE Program Outcomes**

Graduates must:

(a) Have the ability to use mathematics and the physical sciences to solve engineering problems
(b) Have the ability to design and conduct experiments, and analyze and interpret data
(c) Have the ability to design and build a system, component, or process to meet desired needs within realistic constraints
(d) Have the ability to work individually and in teams to effectively solve engineering problems that cut across disciplines
(e) Have the ability to identify, model, and solve engineering problems
(f) Understand professional and ethical responsibilities
(g) Have effective written and oral communication skills
(h) Have the broad education necessary to understand how engineering solutions impact the global society, environment, and economy
(i) Recognize the need for and have the ability to engage in lifelong learning
(j) Have knowledge of contemporary issues that affect the electrical engineering profession
(k) Have the ability to use modern engineering tools necessary for engineering practice

* Outcomes (a) through (k) are consistent with criteria established by ABET, Inc.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Humanities and Social Sciences

PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Math and Science

CH 1220	General Chemistry & Lab I	3
CH 1230	General Chemistry II	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2100	Differential Equations & Algebra	4
MA 2200	Calculus III	4
MA 2430	Probability & Statistics for Engineers	3
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1

▶ Continued on next page

College of Engineering

Electrical Engineering/Bachelor of Science

Engineering

CPE 3500	Computer Engineering I	3
CPE 3550	Computer Engineering I Lab	2
EE 2100	Circuit Analysis I	3
EE 3100	Circuit Analysis II	3
EE 3150	Signals and Systems	3
EE 3200	Electronics I	3
EE 3220	Electronics II	3
EE 3500/3510	EM Fields & Waves/Electromagnetics I	3
EE 3550/3560	Trans. Lines/Electromagnetics II	3
EE 3650	Circuits Laboratory	2
EE 3750	Electronics Laboratory	2
EE 4100	Circuit Synthesis	3
EE 4200	Power Electronics	3
EE 4300	Principles of Communication Systems	3
EE 4350	Communications Laboratory	1
EE 4400	Electrical Machines	3
EE 4450	Machines & Controls Laboratory	1
EE 4800	Linear Controls	3
EE 4973	EE Senior Project I	2
EE 4974	EE Senior Project II	2
EGR 1500	Computer Programming for Engineers	3
EGR 1710	Engineering Graphics & Design	3
EGR 2000	Engineering Communication	3
EGR 4400	Professional Practice I	3
EGR 4820	Computer Integrated Manufacturing	2
EM 2010	Statics	3
EM 2020	Dynamics	3

Electives

Elective	(Humanities - 3 credits must be literature)	9

4-Year Plan

Semester I

CH 1220	General Chemistry & Lab I	3
EGR 1710	Engineering Graphics & Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1200	Calculus I	4
PSY 1700	Introduction to Psychology	3

total: 17

Semester II

CH 1230	General Chemistry II	3
EGR 1500	Computer Programming for Engineers	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1210	Calculus II	4
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1

total: 17

Semester III

EM 2010	Statics	3
MA 2100	Differential Equations & Algebra	4
MA 2430	Probability & Statistics for Engineers	3
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1
Elective	Humanities	3

total: 17

Semester IV

EE 2100	Circuit Analysis I	3
EGR 2000	Engineering Communication	3
EM 2020	Dynamics	3
MA 2200	Calculus III	4
Elective	Humanities	3

total: 16

Semester V

CPE 3500	Computer Engineering I	3
EE 3100	Circuit Analysis II	3
EE 3200	Electronics I	3
EE 3500/3510	EM Fields & Waves/Electromagnetics I	3
EE 3650	Circuits Laboratory	2
EGR 4820	Computer Integrated Manufacturing	2

total: 16

Semester VI

CPE 3550	Computer Engineering I Lab	2
EE 3150	Signals and Systems	3
EE 3220	Electronics II	3
EE 3550/3560	Trans. Lines/Electromagnetics II	3
EE 3750	Electronics Laboratory	2
Elective	Humanities (3 credits must be literature)	3

total: 16

Semester VII

EE 4200	Power Electronics	3
EE 4400	Electrical Machines	3
EE 4800	Linear Controls	3
EE 4973	EE Senior Project I	2
EGR 4400	Professional Practice I	3
SS 2200	Macroeconomics	3

total: 17

Semester VIII

EE 4100	Circuit Synthesis	3
EE 4300	Principles of Communication Systems	3
EE 4350	Communications Laboratory	1
EE 4450	Machines & Controls Laboratory	1
EE 4974	EE Senior Project II	2
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

total: 13

total credits required: 129

College of Engineering

Energy Engineering/Bachelor of Science

Graduates of the energy engineering program will understand the fundamental science and math relevant to energy production, distribution, regulation, and end use. They will be able to apply engineering concepts, calculations, and computer models to solve problems and analyze designs in these areas. The graduates will participate in a multi-year energy project, in which they address engineering project issues, such as allocating resources, meeting milestones, and solving specific engineering problems. Graduates will have basic knowledge in business and accounting to identify an appropriate balance of business and technical issues.

The energy engineering program outcomes include the following:
- Use mathematics and the physical sciences to solve engineering problems
- Analyze problems, design and conduct experiments, and analyze and interpret data
- Design and build a system, component, or process to meet desired needs within realistic constraints
- Communicate effectively and work effectively on project teams
- Understand professional and ethical responsibilities
- Understand how engineering solutions impact businesses, society, and the environment
- Understand current engineering issues and recognize the need for lifelong learning
- Use the modern engineering tools necessary for the engineering practice

Required Courses

Business

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
OL 3400	Financial Systems for Decision Making	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1000	Fundamentals of Chemistry	3
CS 1250	Problem Solving for Programmers	3
MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 1100	Applied Calculus I	3
MA 1110	Applied Calculus II	3
PH 1100	Fundamentals of Physics	3
PH 2100	Fundamentals of Physics II	3

Engineering

EE 2050	Overview of Electricity and Electronics	3
EGR 1710	Engineering Graphics & Design	3
EGR 2000	Engineering Communication	3
EGR 2650	Manufacturing Processes	3
EGR 3430	Applied Probability & Statistics	3
EGR 3600	CAD I – Parametric Modeling	3
EGR 4400	Professional Practice I	3
EM 2030	Statics & Dynamics	3
ENE 2100	Introduction to Energy Engineering Project	1
ENE 3010	Energy Engineering Project I	3
ENE 3020	Energy Engineering Project II	3
ENE 3140	Wind & Solar Power for Electrical Grid	3
ENE 3150	Energy Storage in Fuel Cells & Batteries	3
ENE 3160	HVAC & Geothermal Systems	3
ENE 3200	Ethanol and Biofuels Production	3
ENE 4973	Senior Thesis I	3
ENE 4974	Senior Thesis II	3
ENE 4950	ENE Internship or Elective	3
IME 2010	Safety Engineering	3
IME 2110	Quality Control I	3
ME 2050	Overview of Machines & Fluids	3

Humanities and Social Sciences

PSY 1700	Introduction to Psychology	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	
Choose one of the following two courses:		3
SS 2200	Macroeconomics	
SS 2210	Microeconomics	

Electives

Elective	Humanities (3 credits must be literature)	9
Elective	Technical Elective	3

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Engineering

Energy Engineering/Bachelor of Science

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
CH 1000	Fundamentals of Chemistry	3
EGR 1710	Engineering Graphics & Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1035	College Algebra	3

total: 16

Semester II

BA 2010	Principles of Management	3
CS 1250	Problem Solving for Programmers	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1060	Trigonometry	3
PH 1100	Fundamentals of Physics	3

total: 15

Semester III

EM 2030	Statics & Dynamics	3
IME 2010	Safety Engineering	3
MA 1100	Applied Calculus I	3
ME 2050	Overview of Machines & Fluids	3
PH 2100	Fundamentals of Physics II	3

total: 15

Semester IV

EE 2050	Overview of Electricity and Electronics	3
EGR 2000	Engineering Communication	3
ENE 2100	Introduction to Energy Engineering Project	1
IME 2110	Quality Control I	3
MA 1110	Applied Calculus II	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester V

EGR 2650	Manufacturing Processes	3
EGR 3430	Applied Probability & Statistics	3
ENE 3010	Energy Engineering Project I	3
ENE 3140	Wind & Solar Power for Electrical Grid	3
OL 3400	Financial Systems for Decision Making	3

total: 15

Semester VI

ENE 3020	Energy Engineering Project II	3
ENE 3150	Energy Storage in Fuel Cells and Batteries	3
ENE 3160	HVAC & Geothermal Systems	3
Elective	Humanities	3
Choose one of the following two courses:		3
	SS 2720 ... Group Dynamics	
	SS 2800 ... Introduction to Sociology	

total: 15

Semester VII

EGR 3600	CAD I – Parametric Modeling	3
EGR 4400	Professional Practice I	3
ENE 3200	Ethanol and Biofuels Production	3
ENE 4973	Senior Thesis I	3
Elective	Humanities	3

total: 15

Semester VIII

ENE 4950	ENE Internship or Elective	3
ENE 4974	Senior Thesis II	3
Elective	(Humanities - 3 credits must be literature)	3
Elective	Technical Elective	3
Choose one of the following two courses:		3
	SS 2200 ... Macroeconomics	
	SS 2210 .... Microeconomics	

total: 15

total credits required: 122

** Required for all students who plan to complete an internship.*

Industrial & Manufacturing Engineering/Bachelor of Science

The fundamental activity of graduates from the industrial and manufacturing engineering program is the operation of manufacturing or service operations in the most efficient manner. The curriculum encompasses not only the basic math and science courses taken by other branches of engineering, but also specialized knowledge in optimization techniques, industrial administration, and management of human resources. An important emphasis is placed on the concept of Total Quality throughout the program. The program includes courses in areas of high demand, such as computer-aided design and manufacturing, automation, robotics, lean, Six Sigma, human factors, and safety. An industrial and manufacturing engineer may seek employment in any company engaged in manufacturing or service operations.

IME program graduates will have the ability to:
- Communicate effectively through the use of engineering documents, technical reports, and presentations.
- Utilize critical thinking and comprehension skills.
- Function in multi-disciplinary teams.
- Understand the impact of engineering in a global/societal context.
- Integrate ethical and professional norms and a sense of fiscal responsibility.
- Understand contemporary issues.
- Engage in lifelong learning.
- Apply appropriate engineering tools to model and analyze manufacturing and service operations.

Required Courses

Business
BA 1200 ..... Foundations of Business 3
BA 2010 ..... Principles of Management 3
OL 3400 ..... Financial Systems for Decision Making 3

English
ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3

College Readiness
IIT 1000 ..... University Experience 1
*IIT 2000 ..... Pre-Internship Seminar 0

Math and Science
CH 1000 ..... Fundamentals of Chemistry 3
CS 1250 ..... Problem Solving for Programmers 3
MA 1035 ..... College Algebra 3
MA 1060 ..... Trigonometry 3
MA 1100 ..... Applied Calculus I 3
MA 1110 ..... Applied Calculus II 3
PH 1100 ..... Fundamentals of Physics I 3
PH 2100 ..... Fundamentals of Physics II 3

Engineering
EGR 1710 ..... Engineering Graphics and Design 3
EGR 2000 ..... Engineering Communication 3
EGR 2600 ..... Materials Science 3
EGR 2650 ..... Manufacturing Processes 3
EGR 3430 ..... Applied Probability & Statistics 3
EGR 3600 ..... CAD I – Parametric Modeling 3
EGR 4400 ..... Professional Practice I 3
EM 2030 ..... Statics & Dynamics 3
IME 2010 ..... Safety Engineering 3
IME 2020 ..... Work Design 3
IME 2110 ..... Quality Control I 3
IME 3020 ..... Computer Simulation of Mfg. Proc. 3
IME 3040 ..... Computer Integrated Mfg. Systems 4
IME 3060 ..... Advanced Computer Integrated Mfg. 3
IME 3110 ..... Quality Control II 3
IME 3120 ..... Design of Experiments 3
IME 4020 ..... Lean Manufacturing 3
IME 4110 ..... Total Quality Management 3
IME 4300 ..... Integrated Resource Management 3
IME 4950 ..... IME Internship or Elective Approved 3
IME 4973 ..... IME Senior Project I 2
IME 4974 ..... IME Senior Project II 2

Humanities and Social Sciences
PSY 1700 ..... Introduction to Psychology 3
SS 2200 ..... Macroeconomics 3
Choose one of the following two courses: 3
SS 2720 .... Group Dynamics
SS 2800 .... Introduction to Sociology

Electives
Elective ..... Humanities (3 credits must be literature) ... 9

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Engineering

Industrial & Manufacturing Engineering/Bachelor of Science

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
CH 1000	Fundamentals of Chemistry	3
EGR 1710	Engineering Graphics and Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1035	College Algebra	3
	total:	**16**

Semester II

BA 2010	Principles of Management	3
CS 1250	Problem Solving for Programmers	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1060	Trigonometry	3
PH 1100	Fundamentals of Physics I	3
	total:	**15**

Semester III

EM 2030	Statics & Dynamics	3
IME 2010	Safety Engineering	3
MA 1100	Applied Calculus I	3
PH 2100	Fundamentals of Physics II	3
PSY 1700	Introduction to Psychology	3
	total:	**15**

Semester IV

EGR 2000	Engineering Communication	3
EGR 2600	Materials Science	3
IME 2020	Work Design	3
IME 2110	Quality Control I	3
MA 1110	Applied Calculus II	3
	total:	**15**

Semester V

EGR 2650	Manufacturing Processes	3
EGR 3430	Applied Probability & Statistics	3
IME 3040	Computer Integrated Mfg. Systems	4
IME 3110	Quality Control II	3
OL 3400	Financial Systems for Decision Making	3
	total:	**16**

Semester VI

IME 3020	Computer Simulation of Mfg. Proc.	3
IME 3120	Design of Experiments	3
IME 3060	Advanced Computer Integrated Mfg.	3
Elective	Humanities	3
Choose one of the following two courses:		3
	SS 2720 ... Group Dynamics	
	SS 2800 ... Introduction to Sociology	
	total:	**15**

Semester VII

EGR 3600	CAD I – Parametric Modeling	3
EGR 4400	Professional Practice I	3
IME 4020	Lean Manufacturing	3
IME 4973	IME Senior Project I	2
SS 2200	Macroeconomics	3
Elective	Humanities	3
	total:	**17**

Semester VIII

IME 4110	Total Quality Management	3
IME 4300	Integrated Resource Management	3
IME 4950	IME Internship or Elective Approved	3
IME 4974	IME Senior Project II	2
Elective	(Humanities - 3 credits must be literature)	3
	total:	**14**

total credits required: 123

** Required for all students who plan to complete an internship.*

College of Engineering

Industrial & Manufacturing Engineering/Associate of Science**

Graduates from this two-year degree understand the operational side of manufacturing and service systems. The curriculum encompasses the foundational math and science courses and introduces the student to optimization techniques, industrial administration, and management of human resources. Quality, lean manufacturing, safety, and other high-demand topics from the industrial and manufacturing fields yield a broad understanding of manufacturing and service operations.

Required Courses

Business Administration
BA 1200 ..... Foundations of Business 3

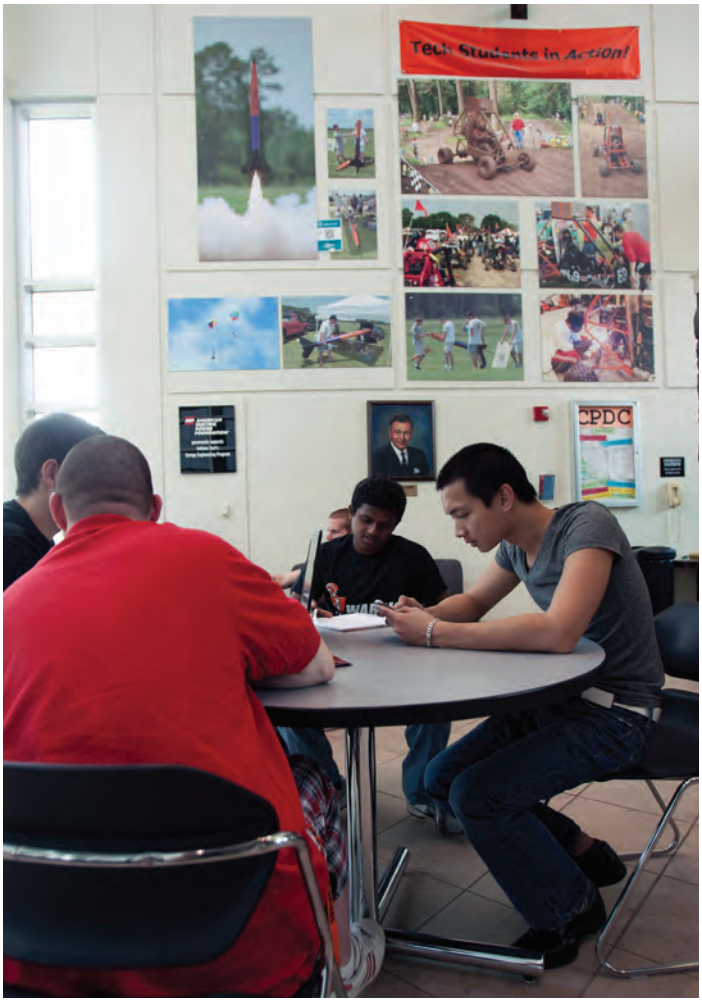
English
ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3

Humanities and Social Sciences
Elective ..... Humanities 3
SS 2200 ..... Macroeconomics 3

Math and Science
^CH 1000 ..... Fundamentals of Chemistry 3
^MA 1035 ..... College Algebra 3
^MA 1060 ..... Trigonometry 3
^MA 1100 ..... Applied Calculus I 3
^PH 1100 ..... Fundamentals of Physics 3

Engineering
^EGR 1710 ..... Engineering Graphics & Design 3
^EGR 2000 ..... Engineering Communication 3
^EGR 2650 ..... Manufacturing Processes 3
^EGR 3430 ..... Applied Probability & Statistics 3
^IME 2010 ..... Safety Engineering 3
^IME 2020 ..... Work Design 3
^IME 2110 ..... Quality Control I 3
^IME 3020 ..... Computer Simulation of Mfg. Processes 3
^IME 4020 ..... Lean Manufacturing 3
^IME 4300 ..... Integrated Resource Management 3

total credits required: 60



*** Offered only through the College of Professional Studies.*

^ Requires TEAM enrollment.

College of Engineering

Mechanical Engineering/Bachelor of Science

The mechanical engineering program provides graduates with a foundation in mathematics, science and engineering fundamentals, as well as a comprehensive knowledge of the mechanical engineering discipline. In the program, emphasis is placed on the general physical laws and theoretical concepts from which all technological applications derive. The program is structured so that studies in mathematics and science prepare the student for the theories of solid structures, thermodynamics, and fluid mechanics. From this foundation, the principal areas of application are covered, including: design of machines, heat transfer, and energy systems. Theoretical study in each of these areas is supported by extensive laboratory work with professional test instrumentation. Graduates often choose careers in the design and manufacturing of thermal and mechanical systems in traditional fields such as automotive, aerospace, HVAC, and instrumentation. The mechanical engineering ABET program objectives and outcomes are identified below.

▸ ME Program Objectives

Our graduates:

1. Will be employed in mechanical engineering related fields or in other career fields in industry, business, academe, government, or non-profit organizations
2. Will continue to enhance their professional skills by participating in professional organizations, completing additional college courses, or completing industry-sponsored short courses

▸ ME Program Outcomes

Graduates must:

(a) Have the ability to use mathematics and the physical sciences to solve engineering problems
(b) Have the ability to design and conduct experiments, and analyze and interpret data
(c) Have the ability to design and build a system, component, or process to meet desired needs within realistic constraints
(d) Work effectively on multidisciplinary project teams
(e) Have the ability to identify, model, and solve engineering problems
(f) Understand professional and ethical responsibilities
(g) Have effective written and oral communication skills
(h) Have the broad education necessary to understand how engineering solutions impact the global society, environment, and economy
(i) Recognize the need for and have the ability to engage in lifelong learning
(j) Have a knowledge of contemporary issues that affect the mechanical engineering profession
(k) Have the ability to use the modern engineering tools necessary for the engineering practice

* Outcomes (a) through (k) are consistent with criteria established by ABET, Inc.

▶ See next page for required courses

College of Engineering

Mechanical Engineering/Bachelor of Science

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1220	General Chemistry & Laboratory I	3
CH 1230	General Chemistry II	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2100	Differential Equations & Linear Algebra	4
MA 2200	Calculus III	4
MA 2430	Probability & Statistics for Engineers	3
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1

Engineering

EE 2050	Electrical Engineering	3
EGR 1500	Computer Programming for Engineers	3
EGR 1710	Engineering Graphics & Design	3
EGR 2000	Engineering Communication	3
EGR 2600	Materials Science	3
EGR 2650	Manufacturing Processes	3
EGR 3600	CAD I – Parametric Modeling	3
EGR 4400	Professional Practice I	3
EGR 4820	Computer Integrated Manufacturing	2
EM 2010	Statics	3
EM 2020	Dynamics	3
EM 3100	Mechanics of Materials	3
EM 3150	Mechanics of Materials Laboratory	1
EM 3500	Fluid Mechanics	3
EM 3550	Fluid Mechanics Laboratory	1
EM 3700	Mechanical Vibrations	3
ME 3110	Theory of Machines	3
ME 3400	Mechanical Engineering Design I	3
ME 3405	Finite Element Analysis	1
ME 3200	Thermodynamics I	3
ME 3410	Mechanical Engineering Design II	3
ME 4200	Thermodynamics II	3
ME 4260	Heat Transfer	3
ME 4270	Heat Transfer Laboratory	1
ME 4280	Energy Systems Design	2
ME 4950	Internship or Tech Elective	3
ME 4973	ME Senior Project I	2
ME 4974	ME Senior Project II	2

Social Sciences

PSY 1700	Introduction to Psychology	3
Choose one of the following two courses:		3
	SS 2200 ... Macroeconomics	
	SS 2210 .... Microeconomics	
Choose one of the following two courses:		3
	SS 2720 ... Group Dynamics	
	SS 2800 ... Introduction to Sociology	

Electives

Elective	Humanities (3 credits must be literature)	9

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of Engineering

Mechanical Engineering/Bachelor of Science

4-Year Plan

Semester I

CH 1220	General Chemistry & Laboratory I	3
EGR 1710	Engineering Graphics & Design	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1200	Calculus I	4
PSY 1700	Introduction to Psychology	3

total: 17

Semester II

CH 1230	General Chemistry II	3
EGR 1500	Computer Programming for Engineers	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1210	Calculus II	4
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1

total: 17

Semester III

EGR 2000	Engineering Communication	3
EM 2010	Statics	3
MA 2100	Differential Equations & Linear Algebra	4
MA 2430	Probability & Statistics for Engineers	3
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1

total: 17

Semester IV

EGR 2600	Materials Science	3
EGR 3600	CAD I – Parametric Modeling	3
EM 2020	Dynamics	3
EM 3100	Mechanics of Materials	3
EM 3150	Mechanics of Materials Laboratory	1
MA 2200	Calculus III	4

total: 17

Semester V

EGR 2650	Manufacturing Processes	3
EM 3500	Fluid Mechanics	3
EM 3550	Fluid Mechanics Laboratory	1
ME 3110	Theory of Machines	3
ME 3400	Mechanical Engineering Design I	3
ME 3405	Finite Element Analysis	1
Elective	Humanities	3

total: 17

Semester VI

EE 2050	Electrical Engineering	3
ME 3200	Thermodynamics I	3
ME 3410	Mechanical Engineering Design II	3
ME 4260	Heat Transfer	3
ME 4270	Heat Transfer Laboratory	1
Elective	Humanities	3

total: 16

Semester VII

EGR 4400	Professional Practice I	3
EGR 4820	Computer Integrated Manufacturing	2
ME 4200	Thermodynamics II	3
ME 4973	ME Senior Project I	2
Elective	(Humanities – 3 credits must be literature).	3
Choose one of the following two courses:		3
	SS 2200 ... Macroeconomics	
	SS 2210 .... Microeconomics	

total: 16

Semester VIII

EM 3700	Mechanical Vibrations	3
ME 4280	Energy Systems Design	2
ME 4950	Internship or Tech Elective	3
ME 4974	ME Senior Project II	2
Choose one of the following two courses:		3
	SS 2720 ... Group Dynamics	
	SS 2800... Introduction to Sociology	

total: 13

total credits required: 130

** Required for all students who plan to complete an internship.*

SCHOOL OF COMPUTER SCIENCES

part of the College of Engineering

School of Computer Sciences

Indiana Tech has the programs to help you push the boundaries of computer science. Our degrees are designed as intense programs to prepare you for the challenges of this competitive field. Our faculty works hard to make the course work valuable by keeping it up-to-date with the knowledge and skills that are important to business and industry. Course work is supported by modern labs and up-to-date software. Faculty also specialize in individual attention to ensure that you get the education you need and want.

Whichever computer sciences degree you choose, you can be assured that you'll get a well-rounded education that also includes English, humanities, and social science. Upon graduation you'll be well-prepared to enter the workforce with a wealth of background knowledge, technical skills, and practical experience.

Contents

School of Computer Sciences

Computer Science/Bachelor of Arts

This program provides the student with a broad background in the field of computer science while allowing the latitude to fill out his or her education in other fields such as information systems, humanities, social sciences, or business. Students will acquire a theoretical background in computer science with study in the basics of program development, data structures, operating systems, computer architecture, and theory of computation. Emphasis is placed on software design and development. This program also provides sufficient electives to complete a minor.

Graduates are prepared to enter the software development field at the programmer level. Graduates will be prepared to work in various technology support roles that require a high level of technical competency. Depending on the student's choice of elective courses, the graduate may find employment as a programmer, software developer, or software designer, or any field of endeavor that requires computer expertise. The graduate may also pursue further education in graduate school.

Required Courses

English

ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3
ENG 2320 ..... Professional Communication 3

College Readiness

IIT 1000 ..... University Experience 1
*IIT 2000 ..... Pre-Internship Seminar 0

Math and Science

Choose one of the following two courses: 3
- CH 1100 ..... Chemistry for Changing Times
- CH 1220 ..... General Chemistry & Lab I

MA 1035 ..... College Algebra 3
MA 1060 ..... Trigonometry 3
Choose one of the following two sequences: 6
- MA 1100 ..... Applied Calculus I
- MA 1110 ..... Applied Calculus II
- or
- MA 1200 ..... Calculus I
- MA 1210 ..... Calculus II

Choose one of the following two courses: 3
- MA 2025 ..... Statistical Problem Solving
- MA 3430 ..... Probability & Statistics

Computer Sciences

CS 1200 ..... Introduction to Computer Science 3
CS 1300 ..... Computer Science I 3
CS 1350 ..... Computer Science II 3
CS 1500 ..... Introduction to Server Systems 3
CS 2100 ..... Introduction to Computer Systems 3
CS 2410 ..... Discrete Structures 3
CS 3200 ..... Operating Systems 3
CS 3700 ..... Object Orientation 3
CS 3800 ..... Data Structures & Algorithms 3
CS 4000 ..... Seminar 1
CS 4500 ..... Software Engineering 3
CS 4600 ..... Organization of Programming Languages 3
CS 4800 ..... System Software 3

Humanities and Social Sciences

HUM 2000 ..... Introduction to Humanities 3
HUM 3710 ..... Ethics 3
PSY 1700 ..... Introduction to Psychology 3
Choose one of the following two courses 3
- SS 2720 ..... Group Dynamics
- SS 2800 ..... Sociology

Electives

Electives ..... Approved 30
Elective ..... Humanities (3 credits must be literature) 6
Elective ..... PSY/SS 6
Elective ..... Science 3

Total credits required: 122

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Computer Science/Bachelor of Arts

4-Year Plan

Semester I

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1035	College Algebra	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

CS 1300	Computer Science I	3
ENG 1270	English Composition II	3
HUM 2000	Introduction to Humanities	3
*IIT 2000	Pre-Internship Seminar	0
MA 1060	Trigonometry	3
Choose one of the following two courses:		3
CH 1100	Chemistry for Changing Times	
CH 1220	General Chemistry & Lab I	

total: 15

Semester III

CS 1350	Computer Science II	3
CS 2410	Discrete Structures	3
ENG 2320	Professional Communication	3
Electives	Approved	3
Choose one of the following two courses:		3
MA 1100	Applied Calculus I	
MA 1200	Calculus I	

total: 15

Semester IV

CS 2100	Introduction to Computer Systems	3
Elective	Approved	3
Elective	PSY/SS	3
Elective	Science	3
Choose one of the following two courses:		3
MA 1110	Applied Calculus II	
MA 1210	Calculus II	

total: 15

Semester V

CS 3800	Data Structures & Algorithms	3
Choose one of the following two courses:		3
MA 2025	Statistical Problem Solving	
MA 3430	Probability & Statistics	
Elective	Approved	6
Elective	PSY/SS	3

total: 15

Semester VI

CS 3200	Operating Systems	3
CS 3700	Object Orientation	3
Elective	Humanities	3
Electives	Approved	6

total: 15

Semester VII

CS 4500	Software Engineering	3
CS 4600	Organization of Programming Languages	3
Elective	Approved	3
Elective	Humanities (3 credits must be literature)	3
Choose one of the following two courses:		3
SS 2720	Group Dynamics	
SS 2800	Sociology	

total: 15

Semester VIII

CS 4000	Seminar	1
CS 4800	System Software	3
HUM 3710	Ethics	3
Electives	Approved	9

total: 16

total credits required: 122

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Computer Science/Bachelor of Science

This program provides the student with a broad, theoretical background in computer science with study in the basics of program development, data structures, operating systems, computer architecture, theory of computation, network design and implementation, and allied sciences. Emphasis is placed on software design and development and networking. Students undertake network and software projects of increasing sophistication as they progress through their coursework. This program prepares students either to enter a career upon graduation or to enter graduate school. Graduates can expect employment opportunities in industry and government that are exciting, challenging, and well paid.

A graduate of this program is equipped to design and create software to meet a variety of needs. Graduates are also capable of working in a range of technology support roles that require a high level of competency. Graduates have gone on to become software engineers, software developers, web developers, database programmers, and system administrators, as well as to continue their education in graduate school.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
Choose one of the following two courses:		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1220	General Chemistry & Lab I	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2150	Linear Algebra	3
MA 2300	Differential Equations	3
MA 3200	Graph Theory	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1
PH 2300	Physics II	3
PH 2310	Physics Lab II	1

Computer Sciences

CS 1200	Introduction to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
CS 1500	Introduction to Server Systems	3
CS 2100	Introduction to Computer Systems	3
CS 2410	Discrete Structures	3
CS 2500	Database Systems	3
CS 3200	Operating Systems	3
CS 3500	Numerical Methods	3
CS 3700	Object Orientation	3
CS 3800	Data Structures & Algorithms	3
CS 4000	Computer Science Seminar	1
CS 4500	Software Engineering	3
CS 4600	Organization of Programming Languages	3
CS 4800	Systems Software	3
NET 1200	Network Design I	3
NET 1250	Network Design II	

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	

Electives

Elective	Approved	12
Elective	Humanities (3 credits must be literature)	3
Elective	PSY/SS	3
Elective	Technical	3

Total credits required: 123

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Computer Science/Bachelor of Science

4-Year Plan

Semester I

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1200	Calculus I	4
NET 1200	Network Design I	3

total: 17

Semester II

CH 1220	General Chemistry & Lab I	3
CS 1300	Computer Science I	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1210	Calculus II	4
NET 1250	Network Design II	3

total: 16

Semester III

CS 1350	Computer Science II	3
CS 2410	Discrete Structures	3
MA 2150	Linear Algebra	3
PSY 1700	Introduction to Psychology	3
Choose one of the following two courses:		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	

total: 15

Semester IV

CS 2100	Introduction to Computer Systems	3
CS 2500	Database Systems	3
HUM 2000	Introduction to Humanities	3
MA 2300	Differential Equations	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1

total: 16

Semester V

CS 3500	Numerical Methods	3
CS 3800	Data Structures & Algorithms	3
MA 2430	Probability & Statistics	3
PH 2300	Physics II	3
PH 2310	Physics Lab II	1

total: 13

Semester VI

CS 3200	Operating Systems	3
CS 3700	Object Orientation	3
Elective	Approved	6
Elective	Humanities (3 credits must be literature)	3

total: 15

Semester VII

CS 4500	Software Engineering	3
CS 4600	Organization of Programming Languages	3
MA 3200	Graph Theory	3
Elective	PSY/SS	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	

total: 15

Semester VIII

CS 4000	Computer Science Seminar	1
CS 4800	Systems Software	3
HUM 3710	Ethics	3
Elective	Approved	6
Elective	(Technical)	3

total: 16

Total credits required: 123

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Computer Security & Investigation/Bachelor of Science

The computer security and investigation (CSI) program blends the technical aspects of information security with a fundamental understanding of criminal investigation. The result is a cutting edge degree where students become digital forensic detectives, ready to fight the crime taking place on the Internet and on the electronic streets. Not even evidence that has been deleted or hidden will prevent these students from uncovering the truth and preparing a case against felons, hackers, and cyber bad guys. With hands-on course work in forensics, criminology, social science, computer programming, networking and electronics, this degree gives students the expertise badly needed by today's law enforcement and intelligence agencies. As the methods that criminals use become more and more sophisticated, Indiana Tech's CSI degree program ensures that our graduates will keep ahead of them.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math

MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 2025	Statistical Problem Solving	3

Business

BA 1200	Foundations of Business	3

Computer Sciences

CS 1250	Problem Solving for Programmers	3
CS 2500	Database Systems	3
IS 1150	Principles of Information Systems	3
IS 1300	Programming I	3
IS 2100	Internet Programming	3
IS 2300	Programming II	3
IS 3100	Information Security	3
IS 3200	Computer Forensics	3
IS 4100	System Analysis & Design	3
IS 4600	Disaster Recovery	3
IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Elective Approved	6
NET 1200	Network Design I	3
NET 1250	Network Design II	3
NET 1500	Circuits & Signals	3
NET 3300	Network Security	3

Criminal Justice

CJ 1100	Introduction to the Criminal Justice System	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
CJ 3200	Understanding Criminal Behavior	3
CJ 4320	Fundamentals of Crime Analysis	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
PSY 2520	Abnormal Psychology	3
PSY 4540	Forensic Psychology	3
SS 2800	Sociology	3

Electives

Elective	Approved	6
Elective	Humanities	3
Elective	Science	3
Elective	Social Science	3

Total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Computer Security & Investigation/Bachelor of Science

4-Year Plan

Semester I

CJ 1100	Introduction to the Criminal Justice System	3
CS 1250	Problem Solving for Programmers	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1150	Principles of Information Systems	3
MA 1035	College Algebra	3
	total:	**16**

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1300	Programming I	3
MA 1060	Trigonometry	3
NET 1500	Circuits & Signals	3
	total:	**15**

Semester III

CJ 2400	Understanding Procedural Law	3
HUM 2000	Introduction to Humanities	3
IS 2100	Internet Programming	3
NET 1200	Network Design I	3
PSY 1700	Introduction to Psychology	3
	total:	**15**

Semester IV

ENG 2320	Professional Communication	3
IS 2300	Programming II	3
MA 2025	Statistical Problem Solving	3
NET 1250	Network Design II	3
Elective	Science	3
	total:	**15**

Semester V

CJ 2500	Basics of Criminal Investigation	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
PSY 2520	Abnormal Psychology	3
Elective	Approved	3
	total:	**15**

Semester VI

CJ 3200	Understanding Criminal Behavior	3
HUM 3710	Ethics	3
IS 3200	Computer Forensics	3
SS 2800	Sociology	3
Elective	Approved	3
	total:	**15**

Semester VII

IS 4100	System Analysis & Design	3
IS 4600	Disaster Recovery	3
PSY 4540	Forensic Psychology	3
Elective	Humanities	3
Elective	Social Science	3
	total:	**15**

Semester VIII

CJ 4320	Fundamentals of Crime Analysis	3
IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Elective Approved	6
NET 3300	Network Security	3
	total:	**15**

Total credits required: 121

** Required for all students who plan to complete an internship.*

Digital Graphics & Design/Associate of Science

Graphic communications is a discipline in which information is creatively conveyed visually. This program is for students who have an interest in graphic design using computer technology. Emphasis is on concept development and acquiring the technical skills for visual communication. Students will use their creativity, knowledge of design theory, and technology skills to serve the graphic communication needs of a wide variety of businesses and industry. These include advertising and marketing, in-house design departments, publishing, web design firms, Internet companies and communication graphics. Employment opportunities will include graphic designer, digital imaging specialist, multimedia specialist, and web graphics designer.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math

MA 1025	Mathematical Problem-Solving	3

Business

BA 1200	Foundations of Business	3
BA 2500	Marketing	3
BA 2550	Personal Selling	3
BA 3500	Advertising	3

Computer Sciences

IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
IS 1400	Visual Communications	3
IS 1600	Drawing: Design Reasoning	3
IS 1800	Web Multimedia	3
IS 2400	Design Fundamentals	3
IS 2450	3D Animation	3
IS 2950	Graphics Portfolio	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3

Electives

Elective	PSY/SS	3
Elective	Science	3

Total credits required: 61

2-Year Plan

Semester I

BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1200	Digital Imaging	3
IS 1600	Drawing: Design Reasoning	3
MA 1025	Mathematical Problem-Solving	3

total: 16

Semester II

BA 2500	Marketing	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1150	Principles of Information Systems	3
IS 1400	Visual Communications	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester III

ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
IS 1800	Web Multimedia	3
IS 2400	Design Fundamentals	3
Elective	PSY/SS	3

total: 15

Semester IV

BA 2550	Personal Selling	3
BA 3500	Advertising	3
IS 2450	3D Animation	3
IS 2950	Graphics Portfolio	3
Elective	(Science)	3

total: 15

Total credits required: 61

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Information Systems/Bachelor of Arts

This program focuses on information systems while providing the student with additional opportunities to pursue his or her interest in other fields such as accounting, computer networking, information security, e-commerce, industrial manufacturing, marketing, humanities, or social sciences. Students will study computer programming, communications, the Internet, databases, and business administration. The program includes the application, implementation, and management of information systems. Both existing and emerging technologies are emphasized in this program.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

MA 1035	College Algebra	3
MA 2025	Statistical Problem Solving	3

Business

ACC 1010	Accounting Principles	3
ACC 2140	Managerial Accounting	3
BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2500	Marketing	3
BA 2800	E-commerce	3

Computer Sciences

CS 1250	Problem Solving	3
CS 2500	Database Systems	3
IS 1150	Principles of Information Systems	3
IS 1300	Programming I	3
IS 2100	Internet Programming	3
IS 2200	Developing Business Solutions	3
IS 2300	Programming II	3
IS 2900	Web Applications	3
IS 3100	Information Security	3
IS 4100	Systems Analysis & Design	3
IS 4600	Disaster Recovery	3
IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Electives Approved	6

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
SS 2800	Sociology	3

Electives

Elective	Approved	15
Elective	Humanities	9
Elective	Science	3
Elective	PSY/SS	6

total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Information Systems/Bachelor of Arts

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1150	Principles of Information Systems	3
MA 1035	College Algebra	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1300	Programming I	3
PSY 1700	Introduction to Psychology	3
Elective	Approved	3

total: 15

Semester III

ACC 2140	Managerial Accounting	3
BA 2010	Principles of Management	3
HUM 2000	Introduction to Humanities	3
IS 2100	Internet Programming	3
IS 2200	Developing Business Solutions	3

total: 15

Semester IV

ENG 2320	Professional Communication	3
IS 2300	Programming II	3
MA 2025	Statistical Problem Solving	3
Elective	Humanities	3
Elective	Science	3

total: 15

Semester V

BA 2500	Marketing	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
Elective	Approved	3
Elective	Humanities	3

total: 15

Semester VI

BA 2800	E-commerce	3
HUM 3710	Ethics	3
IS 2900	Web Applications	3
SS 2800	Sociology	3
Elective	Approved	3

total: 15

Semester VII

IS 4100	Systems Analysis & Design	3
IS 4600	Disaster Recovery	3
Elective	Approved	3
Elective	Humanities	3
Elective	PSY/SS	3

total: 15

Semester VIII

IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Electives Approved	6
Elective	Approved	3
Elective	PSY/SS	3

total: 15

total credits required: 121

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Information Systems/Bachelor of Science

This program provides the student with both the breadth and depth necessary for network infrastructure design and implementation. Emphasis is placed on the use of different networking technologies, protocols and paradigms; this includes voice, video and data. Students undertake networking projects of increasing sophistication as they progress through their course work. Study includes networking hardware, networking operating systems, wireless hardware and software security. Emerging technologies are explored throughout the program. This program prepares students to enter a career upon graduation.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communications	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 2025	Statistical Problem Solving	3

Business

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2500	Marketing	3
BA 2800	E-commerce	3

Computer Sciences

CS 1250	Problem Solving for Programmers	3
CS 2500	Database Systems	3
IS 1150	Principles of Information Systems	3
IS 1300	Programming I	3
IS 2100	Internet Programming	3
IS 2200	Developing Business Solutions	3
IS 2300	Programming II	3
IS 2600	Web Site Design	3
IS 2900	Web Applications	3
IS 3100	Information Security	3
IS 3200	Computer Forensics	3
IS 3300	Developing Mobile Applications	3
IS 4100	System Analysis & Design	3
IS 4600	Disaster Recovery	3
IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Elective Approved	6
NET 1200	Network Design I	3
NET 1500	Circuits & Signals	3
NET 1250	Network Design II	3
NET 3300	Network Security	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
SS 2800	Sociology	3

Electives

Elective	Humanities	3
Elective	PSY/SS	6
Elective	Science	3

Total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Information Systems/Bachelor of Science

4-Year Plan

Semester I

ACC 1010	Accounting Principles	3
CS 1250	Problem Solving for Programmers	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1150	Principles of Information Systems	3
MA 1035	College Algebra	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1300	Programming I	3
MA 1060	Trigonometry	3
NET 1500	Circuits & Signals	3

total: 15

Semester III

BA 2010	Principles of Management	3
IS 2100	Internet Programming	3
IS 2200	Developing Business Solutions	3
NET 1200	Network Design I	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester IV

ENG 2320	Professional Communications	3
IS 2300	Programming II	3
IS 2600	Web Site Design	3
MA 2025	Statistical Problem Solving	3
NET 1250	Network Design II	3

total: 15

Semester V

BA 2500	Marketing	3
CS 2500	Database Systems	3
HUM 2000	Introduction to Humanities	3
IS 3100	Information Security	3
SS 2800	Sociology	3

total: 15

Semester VI

BA 2800	E-commerce	3
HUM 3710	Ethics	3
IS 2900	Web Applications	3
IS 3200	Computer Forensics	3
Elective	Science	3

total: 15

Semester VII

IS 3300	Developing Mobile Applications	3
IS 4100	System Analysis & Design	3
IS 4600	Disaster Recovery	3
Elective	Humanities	3
Elective	PSY/SS	3

total: 15

Semester VIII

IS 4700	Information Systems Senior Project	3
IS 4950	Internship or Elective Approved	6
NET 3300	Network Security	3
Elective	PSY/SS	3

total: 15

total credits required: 121

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Networking/Bachelor of Science

This program provides the student with both the breadth and depth necessary for network infrastructure design and implementation. Emphasis is placed on the use of different networking technologies, protocols and paradigms; this includes voice, video and data. Students undertake networking projects of increasing sophistication as they progress through their course work. Study includes networking hardware and operating systems. Students will study implementation of network and information security. Emerging technologies are explored throughout the program. This program prepares students to enter a career upon graduation.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 2025	Statistical Problem Solving	3

Computer Sciences

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
CS 1600	Project Management Seminar	1
CS 2500	Database Systems	3
IS 1300	Programming I	3
IS 3100	Information Security	3
IS 3200	Computer Forensics	3
NET 1200	Network Design I	3
NET 1250	Network Design II	3
NET 2000	Windows Networking	3
NET 2200	Advanced Routing & Switching	3
NET 2300	Script Programming	3
NET 2500	Linux Networking	3
NET 3200	Wireless & Mobile Communication	3
NET 3300	Network Security	3
NET 3400	Directed Studies in Networking	3
NET 4000	Networking Seminar	1
NET 4100	Network Design & Administration	3
NET 4200	Advanced Server Systems	3
NET 4300	Voice & Video Systems	3
Choose one of the following courses		3
NET 4900	Networking Project	
IS 4950	Internship	

Engineering

Choose one of the following two courses:		3
EE 2050	Electricity & Electronics	
NET 1500	Circuits & Signals	
Choose of the following courses		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	
EGR 4400	Professional Practice	3

Humanities and Social Sciences

HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
SS 2720	Group Dynamics	3

Electives

Elective	Approved	15
Elective	Humanities (3 credits must be literature)	6
Elective	PSY/SS	6
Elective	Science	3

Total credits required: 123

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Networking/Bachelor of Science

4-Year Plan

Semester I

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1035	College Algebra	3
SS 2720	Group Dynamics	3

total: 16

Semester II

CS 1600	Project Management Seminar	1
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1300	Programming I	3
MA 1060	Trigonometry	3
NET 1200	Network Design I	3
Elective	Science	3

total: 16

Semester III

CS 2500	Database Systems	3
Choose one of the following two courses:		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	
NET 1250	Network Design II	3
NET 2300	Script Programming	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester IV

Choose one of the following two courses:		3
EE 2050	Electricity & Electronics	
NET 1500	Circuits & Signals	
HUM 3710	Ethics	3
NET 2200	Advanced Routing & Switching	3
NET 2500	Linux Networking	3
Elective	PSY/SS	3

total: 15

Semester V

IS 3100	Information Security	3
MA 2025	Statistical Problem Solving	3
NET 2000	Windows Networking	3
Elective	Approved	3
Elective	PSY/SS	3

total: 15

Semester VI

IS 3200	Computer Forensics	3
NET 3200	Wireless & Mobile Communication	3
NET 3300	Network Security	3
NET 3400	Directed Studies in Networking	3
Electives	Approved	3

total: 15

Semester VII

EGR 4400	Professional Practice	3
NET 4200	Advanced Server Systems	3
NET 4300	Voice & Video Systems	3
Elective	Approved	3
Elective	Humanities	3

total: 15

Semester VIII

NET 4000	Networking Seminar	1
NET 4100	Network Design & Administration	3
Choose one of the following two courses:		3
NET 4900	Networking Project	
IS 4950	Internship	
Elective	Humanities (3 credits must be literature)	3
Electives	Approved	6

total: 16

total credits required: 123

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Network Management/Associate of Science

This program provides the student with a background in local and wide area network (LAN/WAN) design and implementation. Network administration issues are also addressed. This program helps to prepare a student to pursue certification as a Cisco Certified Networking Associate. Graduates will be prepared to enter the networking field at a technician level. Graduates will be able to assist in the design and installation of network solutions for businesses, schools, or government offices.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
Choose one of the following two courses:		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math

MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 2025	Statistical Problem Solving	3

Computer Sciences

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
IS 1300	Programming I	3
NET 1200	Network Design I	3
NET 1250	Network Design II	3
NET 1500	Circuits and Signals	3
NET 2000	Windows Networking	3
NET 2200	Advanced Routing & Switches	3
NET 2300	Script Programming	3
NET 2500	Linux Networking	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3
SS 2720	Group Dynamics	3

Electives

Elective	Approved	3

Total credits required: 61

2-Year Plan

Semester I

CS 1200	Introduction to Computer Science	3
CS 1500	Introduction to Server Systems	3
ENG 1250	English Composition 1	3
IIT 1000	University Experience	1
MA 1035	College Algebra	3
SS 2720	Group Dynamics	3

total: 16

Semester II

ENG 1270	English Composition II	3
IS 1300	Programming I	3
MA 1060	Trigonometry	3
NET 1200	Network Design I	3
NET 1500	Circuits and Signals	3

total: 15

Semester III

NET 1250	Network Design II	3
NET 2000	Windows Networking	3
NET 2300	Script Programming	3
Elective	Approved	3
Choose one of the following two courses:		3
EGR 2000	Engineering Communication	
ENG 2320	Professional Communication	

total: 15

Semester IV

HUM 2000	Introduction to Humanities	3
MA 2025	Statistical Problem Solving	3
NET 2200	Advanced Routing & Switches	3
NET 2500	Linux Networking	3
PSY 1700	Introduction to Psychology	3

total: 15

total credits required: 61

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Software Engineering/Bachelor of Science

A new era in education has begun. In the software engineering program (S.E.), semesters are based around completing various projects, not just going through a schedule of individual classes. You will still have courses in math, English, and other humanities, but now they relate to the S.E. projects you are working on. For example, skills gained from composition will directly enhance a student's ability to communicate S.E. concepts in the business world. This program also provides extensive experience in working in teams. The result is a program that is intensely practical and academically rigorous.

Graduates can expect employment opportunities in many industries such as health care and defense that both are challenging and rewarding. A graduate of this program is equipped to design and create software to meet a variety of needs. Graduates are also capable of collaborating in a team environment, as well as working alone. Graduates can become software engineers, software developers, software designers, and project managers as well as continue their education in graduate school.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communications	1

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1220	General Chemistry & Lab I	3
MA 1200	Calculus I	4
MA 1210	Calculus II	4
MA 2150	Linear Algebra	3
MA 2300	Differential Equations	3
PH 1300	Physics I	3
PH 1310	Physics I Lab	1
PH 2300	Physics II	3
PH 2310	Physics II Lab	1

Computer Sciences

CS 2100	Intro to Computer Systems	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
CS 1500	Introduction to Server Systems	3
CS 1600	Project Management Seminar	1
CS 2410	Discrete Structures	3
CS 2500	Database Systems	3
CS 3500	Numerical Methods	3
CS 3700	Object Orientation	3
CS 3800	Data Structures & Algorithms	3
CS 4600	Organization of Progressive Languages	3
SE 1100	Introduction to SE/Projects	3
SE 2100	SE Project I	3
SE 2110	SE Project II	3
SE 2120	SE Project III	3
SE 3110	SE Project IV*	3
SE 3120	SE Project V* (substitute CS 4800 for Systems Concentration)	3
SE 4900	SE Project/Directive Studies/Internship* (substitute CS 3200 for Gaming or Systems Concentration for 3 credits)	6
SE 4950	SE Project/Internship	9

** Required for all students who plan to complete an internship.*

Engineering

EGR 3410	Statistical Quality Analysis I	3
EGR 3420	Statistical Quality Analysis II	3

Humanities and Social Sciences

HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3

Electives

Elective	Humanities	6
Elective	PSY/SS	6

Total credits required: 122

▶ See next page for 4-year plan

School of Computer Sciences

Software Engineering/Bachelor of Science

4-Year Plan

Semester I

CS 1300	Computer Science I	3
CS 1500	Introduction to Server Systems	3
ENG 1250A	English Composition I	1
ENG 1270A	English Composition II	1
IIT 1000	University Experience	1
MA 1200	Calculus I	4
SE 1100	Introduction to SE/Projects	3

total: 16

Semester II

CS 1350	Computer Science II	3
CS 1600	Project Management Seminar	1
ENG 1250B	English Composition I	1
ENG 1270B	English Composition II	1
*IIT 2000	Pre-internship Seminar	0
MA 1210	Calculus II	4
PSY 1700	Introduction to Psychology	3
SE 2100	SE Project I	3

total: 16

Semester III

CS 2410	Discrete Structures	3
CS 2500	Database Systems	3
ENG 1250C	English Composition I	1
ENG 1270C	English Composition II	1
ENG 2320A	Professional Communications	1
MA 2150	Linear Algebra	3
SE 2110	SE Project II	3

total: 15

Semester IV

CS 3700	Object Orientation	3
ENG 2320B	Professional Communications	1
MA 2300	Differential Equations	3
PH 1300	Physics I	3
PH 1310	Physics I Lab	1
SE 2120	SE Project III	3
Elective	Humanities	3

total: 17

Semester V

CS 3500	Numerical Methods	3
CS 3800	Data Structures & Algorithms	3
EGR 3410	Statistical Quality Analysis I	3
ENG 2320C	Professional Communications	1
PH 2300	Physics II	3
PH 2310	Physics II Lab	1
SE 3110	SE Project IV*	3

total: 17

Semester VI

CH 1220	General Chemistry & Lab I	3
CS 2100	Intro to Computer Systems	3
EGR 3420	Statistical Quality Analysis II	3
SE 3120	SE Project V*	3
Elective	Humanities	3

total: 15

Semester VII

SE 4900	SE Project/Directive Studies/Internship*	6
CS 4600	Organization of Progressive Languages	3
HUM 3710	Ethics	3
Elective	(PSY/SS)	3

total: 15

Semester VIII

SE 4950	SE Project/Internship	9
Elective	(PSY/SS)	3

total: 12

total credits required: 123

** Required for all students who plan to complete an internship.*

Software Engineering/Bachelor of Science
Gaming or Systems Concentration

4-Year Plans

Gaming Concentration

Semesters I, II, and III are same as previous page.

Semester IV

CS 2100	Introduction to Computer Systems	3
CS 3700	Object Orientation	3
ENG 2320B	Professional Communications	1
MA 2300	Differential Equations	3
PH 1300	Physics I	3
PH 1310	Physics I Lab	1
SE 2120	SE Project III	3

total: 17

Semester V is same as previous page.

Semester VI

CH 1220	General Chemistry & Lab I	3
CS 3200	Operating Systems	3
EGR 3420	Statistical Quality Analysis II	3
SE 3120	SE Project V Game Project	3
Elective	Humanities	3

total: 15

Semester VII

CS 4600	Organization of Programming Languages	3
SE 4900	SE Project/Distribution Processing	3
Elective	Humanities (Ethics)	3
Elective	(PSY/SS)	6

total: 15

Semester VIII

SE 4950	SE Project/Internship	9
Elective	Humanities	3

total: 12

total credits required: 123

Systems Concentration

Semesters I, II and III are same as previous page.

Semester IV

CS 2100	Introduction to Computer Systems	3
CS 3700	Object Orientation	3
ENG 2320B	Professional Communications	1
MA 2300	Differential Equations	3
PH 1300	Physics I	3
PH 1310	Physics I Lab	1
SE 2120	SE Project III	3

total: 17

Semester V is same as previous page.

Semester VI

CH 1220	General Chemistry & Lab I	3
CS 3200	Operating Systems	3
CS 4800	Systems Software	3
EGR 3420	Statistical Quality Analysis II	3
Elective	Humanities	3

total: 15

Semester VII

SE 4900	SE Project/Systems Software	3
CS 4600	Organization of Programming Languages	3
Elective	Humanities (Ethics)	3
Elective	(PSY/SS)	6

total: 15

Semester VIII

SE 4950	SE Project/Internship	9
Elective	Humanities	3

total: 12

total credits required: 123

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Web Design/Associate of Science

This program provides the student with theoretical and practical coursework in web layout and design, enhancement, and maintenance of a web site. Students learn to use the tools most often associated with web site creation. Graduates of this program will be equipped to develop a web presence for a small business or organization. This degree will also provide the credentials for an entry level position on a web design team in a larger organization.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

College Readiness

IIT 1000	University Experience	1

Math

MA 1035	College Algebra	3

Business

BA 1200	Foundations of Business	3
BA 2500	Marketing	3

Computer Sciences

CS 1250	Problem Solving	3
CS 2500	Database Systems	3
IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
IS 1300	Programming I	3
IS 1400	Visual Communications	3
IS 1800	Web Multimedia	3
IS 2100	Internet Programming	3
IS 2300	Programming II	3
IS 2600	Web Site Design	3
IS 2900	Web Applications	3
NET 1200	Network Design I	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3

Electives

Elective	PSY/SS	3

Total credits required: 62

2-Year Plan

Semester I

CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
MA 1035	College Algebra	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
IS 1300	Programming I	3
IS 1400	Visual Communications	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester III

BA 2500	Marketing	3
CS 2500	Database Systems	3
IS 1800	Web Multimedia	3
IS 2100	Internet Programming	3
NET 1200	Network Design I	3

total: 15

Semester IV

IS 2300	Programming II	3
IS 2600	Web Site Design	3
IS 2900	Web Applications	3
HUM 2000	Introduction to Humanities	3
Elective	(PSY/SS)	3

total: 15

total credits required: 61

School of Computer Sciences

Web Development/Bachelor of Science

This program provides the student with theoretical and practical coursework in web development, web design, and web management. Students will acquire expertise in the technologies used to develop web applications and the skills required to produce well designed graphical web interfaces. Additional focus is placed on the organizational and administrative aspects of web site support and management. As they progress through the program, students will complete web projects that apply the coursework from each area of study. Upon completion students will be prepared to enter into a career in web development or continue their education in an MBA degree program.

Required Courses

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Math and Science

CH 1100	Chemistry for Changing Times	3
MA 1035	College Algebra	3
MA 2025	Statistical Problem Solving	3

Business

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2500	Marketing	3
BA 2550	Personal Selling	3
BA 2700	Organizational Behavior	3
BA 2800	E-commerce	3

Computer Sciences

CS 1250	Problem Solving	3
CS 2500	Database Systems	3
IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
IS 1300	Programming I	3
IS 1400	Visual Communication	3
IS 1800	Web Multimedia	3
IS 2100	Internet Programming	3
IS 2300	Programming II	3
IS 2600	Web Site Design	3
IS 2900	Web Applications	3
IS 3100	Information Security	3
IS 3300	Developing Mobile Applications	3
IS 4100	Systems Analysis & Design	3
IS 4910	Graphics Portfolio I	3
IS 4920	Graphics Portfolio II	3
IS 4950	Internship or Elective Approved	6
NET 1200	Network Design I	3

Humanities and Social Sciences

HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3
SS 2800	Sociology	3

Electives

Elective	Approved	6
Elective	Humanities	6
Elective	PSY/SS	6

Total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

School of Computer Sciences

Web Development/Bachelor of Science

4-Year Plan

Semester I

CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
MA 1035	College Algebra	3
	total:	**16**

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
IS 1300	Programming I	3
IS 1400	Visual Communication	3
PSY 1700	Introduction to Psychology	3
	total:	**15**

Semester III

BA 2010	Principles of Management	3
IS 1800	Web Multimedia	3
IS 2100	Internet Programming	3
MA 2025	Statistical Problem Solving	3
NET 1200	Network Design I	3
	total:	**15**

Semester IV

BA 2500	Marketing	3
ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
IS 2300	Programming II	3
IS 2600	Web Site Design	3
	total:	**15**

Semester V

BA 2700	Organizational Behavior	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
SS 2800	Sociology	3
Elective	Humanities	3
	total:	**15**

Semester VI

BA 2550	Personal Selling	3
BA 2800	E-commerce	3
CH 1100	Chemistry for Changing Times	3
IS 2900	Web Applications	3
Elective	Approved	3
	total:	**15**

Semester VII

IS 3300	Developing Mobile Applications	3
IS 4100	Systems Analysis & Design	3
IS 4910	Graphics Portfolio I	3
Elective	Approved	3
Elective	PSY/SS	3
	total:	**15**

Semester VIII

IS 4920	Graphics Portfolio II	3
IS 4950	Internship or Elective Approved	6
Elective	Humanities	3
Elective	PSY/SS	3
	total:	**15**

total credits required: 121

** Required for all students who plan to complete an internship.*

COLLEGE OF GENERAL STUDIES

About the College of General Studies

The College of General Studies at Indiana Tech is dedicated to extending learning beyond traditional borders and engaging a richly diverse student population. Our college promotes innovative learning experiences for all students in career programs, social sciences, humanities, and language arts which will enhance their critical, intellectual, and creative skills necessary in our complex world.

Through completion of these foundational general education requirements, students will be able to shape their lives and careers, and become engaged citizens and leaders in their fields. In addition, the College of General Studies offers career-focused professional preparation for vital social service programs.

Convinced that learning in the liberal arts is essential to developing the whole person, the College of General Studies seeks to promote critical, intellectual, and creative skills. The College of General Studies will achieve its vision through continually improving the educational experiences of our students. We meet current and evolving demands of life and work beyond the college classroom by engaging in the following efforts:

The college offers semester, accelerated, and distance learning courses to accommodate the educational needs of all students.

- Providing outstanding general education courses integrated with each student's major
- Providing an Honors Program to engage students in a variety of academically challenging and imaginative experiences
- Providing career programs in communication, criminal sciences, elementary education, paralegal studies, physical education, pre-law, psychology, recreation management, recreation and leisure studies, and recreation therapy
- Providing academic minors in coaching and human performance, English, humanities, and psychology
- Engaging in a cycle of college program and policy review as a means of ongoing assessment and continuous improvement
- Emphasizing integrity and ethical behavior in all work and life decisions
- Employing and developing faculty who create outstanding new programs, shape curricula, teach and mentor students

Contents

College of General Studies

Communication/Bachelor of Arts

Communication is an essential part of life. Consider the global economy we live in today—products can be bought, sold, shipped and delivered across the globe in a matter of hours. Cultures and societies the world over are separated by a few clicks of the mouse. Truly, businesses, organizations, and society in general rely on good communicators for success. This degree hones your ability to listen, understand, and share information. Indiana Tech's communication degree offers students a well-rounded educational experience, by combining a variety of courses in business, humanities, psychology, and social sciences with communication courses. The program puts much emphasis on understanding how social, cultural, and economic diversity affects the way people and organizations communicate. You'll be ready for an exciting career in advertising, marketing, copy writing, or public relations. The career possibilities are virtually endless for a skilled communicator.

Required Courses

Communication

COMM 1250	Foundations of Communication	3
COMM 1500	Rhetoric & Argument	3
COMM 1600	Introduction to Journalism	3
COMM 2000	Persuasion & Propaganda	3
COMM 2500	Public Communication	3
COMM 3100	Media Theory & Criticism	3
COMM 3150	Intercultural Communication	3
COMM 3250	Media Writing	3
COMM 4250	Crisis Communication	3
COMM 4750	Applied Communication	3
COMM 4910	Senior Capstone	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0

Business and Technology

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3
BA 3500	Advertising	3
BA 4800	Public Relations	3
IS 1200	Digital Imaging	3
IS 1400	Visual Communication	3
MIS 1300	Software Tools	3

English and Humanities

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
HUM 3110	Introduction to Cinema	3
HUM 3710	Ethics	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2010	Foundations of Statistics	3

Social Sciences

PSY 1700	Introduction to Psychology	3
PSY 2000	Understanding Diversity	3
SS 2720	Group Dynamics	3
SS 2800	Introduction to Sociology	3
Choose one of the following:		3
SS 2200	Macroeconomics	
SS 2210	Microeconomics	

Electives

Elective	Humanities (must be a literature)	3
Elective	Science	3
Electives	Advisor approved	12

Total credits required: 124

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Communication/Bachelor of Arts

4-Year Plan

Semester I

COMM 1250	Foundations of Communication	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

COMM 1500	Rhetoric & Argument	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem Solving	3
PSY 2000	Understanding Diversity	3

total: 15

Semester III

BA 1200	Foundations of Business	3
COMM 1600	Introduction to Journalism	3
COMM 2500	Public Communication	3
ENG 2320	Professional Communication	3
Elective	Approved	3

total: 15

Semester IV

BA 2010	Principles of Management	3
COMM 2000	Persuasion & Propaganda	3
HUM 2000	Introduction to Humanities	3
IS 1200	Digital Imaging	3
SS 2720	Group Dynamics	3

total: 15

Semester V

BA 2500	Marketing	3
COMM 3100	Media Theory & Criticism	3
COMM 3150	Intercultural Communication	3
MA 2010	Foundations of Statistics	3
Elective	Humanities (3 credits must be literature)	3

total: 15

Semester VI

BA 3500	Advertising	3
COMM 3250	Media Writing	3
Choose one of the following two courses:		3
SS 2200	Macroeconomics	
SS 2210	Microeconomics	
SS 2800	Introduction to Sociology	3
Elective	Approved	3

total: 15

Semester VII

BA 2850	Managing in a Legal Environment	3
HUM 3110	Introduction to Cinema	3
HUM 3710	Ethics	3
Electives	Approved	6
Elective	(Science)	3

total: 18

Semester VIII

BA 4800	Public Relations	3
COMM 4250	Crisis Communication	3
COMM 4750	Applied Communication	3
COMM 4910	Senior Capstone	3
IS 1400	Visual Communication	3

total: 15

total credits required: 124

** Required for all students who plan to complete an internship.*

College of General Studies

General Studies/Associate of Science

Required Courses

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0

English and Humanities

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3

Technology

MIS 1300	Software Tools	3

Social Sciences and Electives

PSY 1700	Introduction to Psychology	3
Elective	Humanities	6
Elective	Social Science	6
Electives	Advisor approved	24

Total Credits 64

2-Year Plan

Semester I

ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
PSY 1700	Introduction to Psychology	3
MIS 1300	Software Tools	3
Elective	Approved	3

total: 16

Semester II

ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
MA 1025	Mathematical Problem Solving	3
Elective	Approved	3
Elective	Humanities	3

total: 15

Semester III

ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
Elective	Social Science	3
Elective	Approved	6

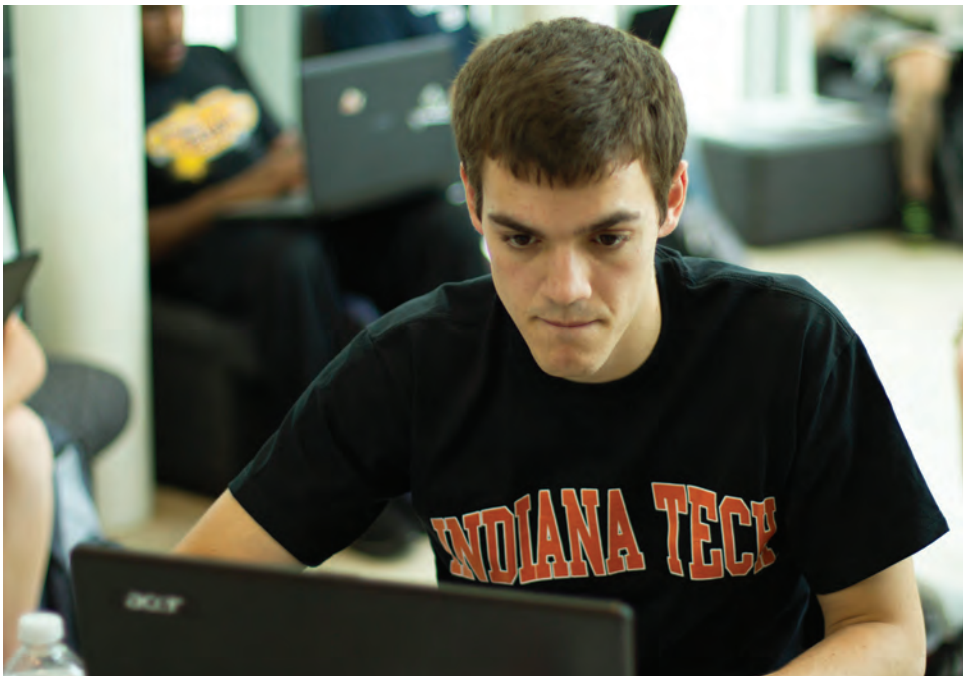
total: 15

Semester IV

Elective	Approved	12
Elective	Humanities	3
Elective	Social Science	3

total: 18

total credits required: 64



** Required for all students who plan to complete an internship.*

College of General Studies

Health Information Technology/Associate of Science**

Health Information Technology (HIT) supports patient care by providing data to the clinician at the point of care and by supporting institutional administration, including finance and practice management. Thus, HIT domain issues range from storage, retrieval, and interpretation of data in patient care to implementation and management of the complex information systems used in the administration of healthcare. The natural environment for this field includes hospitals, physician networks and practice groups, third-party payers, regulatory agencies, and industry suppliers such as pharmaceutical companies, biotechnology companies, and vendors of hospital equipment and medical supplies. There is substantial demand for workers with the skill-set provided in this program.

Required Courses

Health Care & Health Information Technology

HCA 1100	Introduction to Health Care Administration	3
HIT 1100	Medical Terminology	3
HIT 1200	Health Information Technology & Systems	3
HIT 1300	Medical Coding	3
HIT 1400	Advanced Coding	3
HIT 2000	Health Data Management	3
HIT 2200	Health Data Privacy & Security	3
HIT 2400	Health Information Technology Project Management	3
HIT 2600	Health Information Technology Field Experience	3

Biology

BIO 1110	Anatomy & Physiology	3
BIO 1210	Human Disease & Basic Pharmacology	3

English

##ENG 1100	Introduction to College Writing	3
ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2300	Professional Communication	3

Math, Science & Computer Studies

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem-Solving	3
CS 1250	Problem Solving for Programmers	3
MIS 1300	Software Tools	3
MIS 3100	Database Management	3
MIS 3150	Database Applications	3

total credits required: 63

*** Only offered online through the College of Professional Studies.*

Student may test out by placement exam.

College of General Studies

Human Services/Bachelor of Science**

The human services degree uses a tracked teaching approach, Tracked Educational Adult Modules (TEAM), with students organized into TEAM groups of 12 to 18 members. Each TEAM proceeds through the HS courses in a predetermined order. Since each course builds upon the previous one, students cannot drop in or out of the TEAM at will. If you drop from a TEAM, you may have to wait until the next TEAM to re-register for classes. For additional information, please contact the Warrior Information Network.

Required Courses

Business Administration

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2410	Human Resource Management	3
BA 2700	Organizational Behavior	3
BA 4700	Training & Development	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3
ENG 2400	Grant Writing	3

Math, Science & Computer Studies

BIO 1000	Introductory Biology	4
MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MIS 1300	Software Tools	3

Humanities & Social Sciences

CJ 3100	A System of Juvenile Justice	3
HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3
PSY 1700	Introduction to Psychology	3
^PSY 1750	Human Growth & Development	3
PSY 2000	Understanding Diversity	3
PSY 3730	Aging	3
PSY 2520	Abnormal Psychology	3
^PSY 3770	Assessment in Psychology	3
^PSY 3780	Research Methods and Statistics	3
SS 2200	Macroeconomics	3
SS 2720	Group Dynamics	3
SS 2800	Introduction to Sociology	3
^SS 2810	Social Problems	3
SS 2900	Community & Social Movements	3

Human Services

HS 1200	Introduction to Human Services	3
^HS 1500	Helping Relationships	3
^HS 2000	Human Services Programming	3
HS 2600	Field Experience	3
HS 4950	Internship	3

Electives

Electives	(PSY, SS, CJ, SPA)	6
Electives	(Humanities - 3 credits must be literature)	6
Elective	Approved	12

total credits required: 124

*** Offered only through the College of Professional Studies.*

^ Requires TEAM enrollment.

College of General Studies

Psychology/Bachelor of Science

The human mind is a complex thing. Our minds stipulate how we communicate, think, learn, feel, act and react to our surroundings. The psychology program at Indiana Tech is designed to teach you to understand the human brain and apply that knowledge to helping people. If you're fascinated by studying people and enjoy working with them, then you're made for a career in psychology. After all, if you truly want to help someone, it's essential that you understand them. The primary focus of the psychology curriculum is to provide the foundation for a practitioner-oriented career. The specific goals of the program are:

- Develop an appreciation and understanding of individual human behavior.
- Develop strong communication and critical thinking skills, as well as necessary math and technology skills.
- Provide students with the basic skills needed for an entry level psychology position or for continued professional development, such as graduate study.

The curriculum also includes course requirements appropriate for students interested in further graduate study and research. Graduates holding this degree may choose a career in many fields including human services, human resource development, sales, law enforcement, market research, child care, counseling, and residential care for elderly or developmentally-impaired persons.

Required Courses

Psychology

PSY 1700	Introduction to Psychology	3
PSY 1750	Human Growth & Development	3
PSY 2000	Understanding Diversity	3
PSY 2510	Theories of Counseling	3
PSY 2520	Abnormal Psychology	3
PSY 2760	Theories of Personality	3
PSY 2780	Social Psychology	3
PSY 3510	Biopsychology	3
PSY 3520	Applied Psychology	3
PSY 3730	Aging	3
PSY 3750	Interview Strategies for Helpers	3
PSY 3770	Assessment in Psychology	3
PSY 3780	Research Methods and Statistics	3
PSY 4200	Senior Seminar in Psychology	3
PSY 4510	Learning and Cognition	3
PSY 4520	Advanced Abnormal Psychology	3

College Readiness

IIT 1000	University Experience	1

Business

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2700	Organizational Behavior	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities

HUM 2000	Introduction to Humanities	3
HUM 3710	Ethics	3

Math

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem Solving	3

Science and Technology

BIO 1110	Anatomy & Physiology	3
MIS 1300	Software Tools	3

Social Sciences

CJ 1100	Introduction to Criminal Justice	3
SS 2720	Group Dynamics	3
SS 2800	Introduction to Sociology	3
SS 2810	Social Problems	3

Electives

Electives	(Humanities - must be literature)	3
Elective	(Social Science Approved)	3
Electives	PSY 4530 or PSY 4540	3
Electives	Approved	12

total credits required: 121

▶ See next page for 4-year plan

College of General Studies

Psychology/Bachelor of Science

4-Year Plan

Semester I

BA 1200	Introduction to Business	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

BA 2010	Principles of Management	3
ENG 1270	English Composition II	3
MA 1025	Mathematical Problem Solving	3
PSY 1750	Human Growth and Development	3
PSY 2000	Understanding Diversity	3

total: 15

Semester III

ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
MA 2025	Statistical Problem Solving	3
PSY 2760	Theory of Personality	3
SS 2800	Introduction to Sociology	3

total: 15

Semester IV

BIO 1110	Anatomy and Physiology	3
PSY 2510	Theories of Counseling	3
PSY 2780	Social Psychology	3
SS 2720	Group Dynamics	3
SS 2810	Social Problems	3

total: 15

Semester V

CJ 1100	Introduction to the Criminal Justice System	3
PSY 2520	Abnormal Psychology	3
PSY 3510	Biopsychology	3
PSY 3770	Assessment in Psychology	3
Elective	Social Science—advisor approved	3

total: 15

Semester VI

HUM 3710	Ethics	3
PSY 3750	Interview Strategies for Helpers	3
PSY 3780	Research and Statistics in Psychology	3
PSY 4520	Advanced Abnormal Psychology	3
Elective	Social Science	3

total: 15

Semester VII

PSY 3520	Applied Psychology	3
PSY 3730	Aging	3
PSY 4200	Senior Seminar in Psychology	3
PSY 4510	Learning and Cognition	3
Elective	Advisor approved	3

total: 15

Semester VIII

BA 2700	Organizational Behavior	3
Electives	PSY 4530 or PSY 4540	3
Electives	Approved (one must be a humanities)	9

total: 15

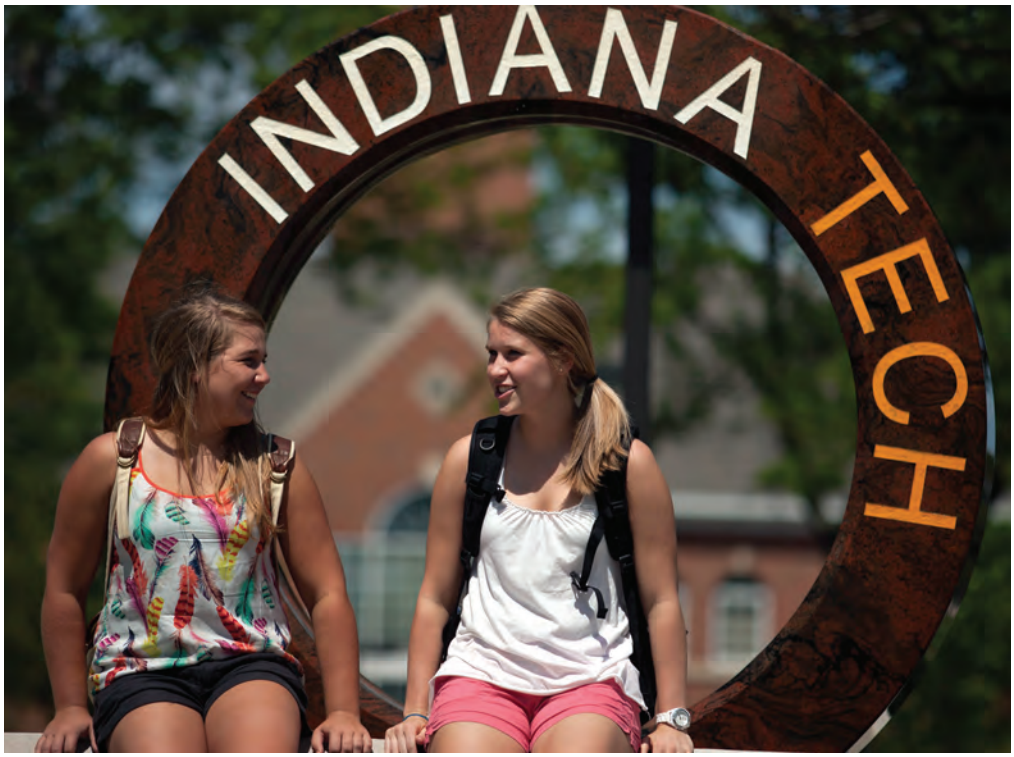
total credits required: 121

College of General Studies

The Recreation Management, Recreation & Leisure Studies, and Recreation Therapy Programs

Recreation management, recreation & leisure studies, and recreation therapy majors are prepared for employment or graduate studies in leisure services and recreation. The recreation professional diagnoses needs, develops programs, and manages physical, social and cultural activities and facilities.

The degrees in recreation management and recreation & leisure studies prepare a student to seek employment in a variety of recreation settings. The degree recreation therapy provides students with practical experience and a theoretical background sufficient to work in therapeutic and clinical settings. These programs have been designed according to national recreation curricular guidelines. Indiana Tech uses the guidelines set by the National Council for Therapeutic Recreation Certification in the major of recreation therapy. By taking the prescribed curriculum, students are eligible to take the NCTRC national certification exam. Indiana Tech offers three degree programs: A.S. in recreation management, B.S. in recreation& leisure studies, and B.S. in recreation therapy. The associate degree in recreation management is designed for activity specialists and programmers. Credits earned in the two-year program are fully applicable toward either recreation bachelor's degree. The bachelor's degree prepares students for supervisory and administrative positions. Our graduates have taken jobs as managers, programmers, coaches, and administrators all over the world. They work in many types of organizations including park and recreation complexes, fitness centers, scouting, amusement centers, community centers, church ministries, YMCAs, YWCAs, art councils, hospitals, veterans' centers, sporting goods companies, and social agencies. Recreation therapy students work with all types of special populations. All majors are urged to tailor their degree programs by choosing their areas of career interest with electives, special topics, practicums and internships.



College of General Studies

Recreation Management/Associate of Science

Required Courses

Recreation

REC 1200 ..... Introduction to Recreation Services 3
REC 2000 ..... Recreation Programming 3
REC 2500 ..... Community and Outdoor Recreation 3
RT 1200 ..... .Foundations of Recreation Therapy 3
Choose one of the following 3
REC 2600 Recreation Practicum
RT 2600 Recreation Therapy Practicum

College Readiness

IIT 1000 ..... University Experience 1
*IIT 2000 ..... .Pre-internship Seminar 0

Business

BA 1200 ..... Foundations of Business 3
BA 2010 ..... Principles of Management 3

English

ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3

Humanities

HUM 2000 ..... Introduction to Humanities 3

Math

MA 1000 ..... Foundations of College Mathematics 3
MA 1025 ..... Mathematical Problem-Solving 3

Science and Technology

BIO 1110 ..... Anatomy & Physiology 3
MIS 1300 ..... Software Tools 3

Psychology and Social Sciences

PSY 1700 ..... Introduction to Psychology 3
PSY 1750 ..... Human Growth & Development 3
PSY 2000 ..... Understanding Diversity 3
SS 2800 ..... Introduction to Sociology 3
Choose one of the following 3
BA 2700 ..... Organizational Behavior
SS 2720 ..... Group Dynamics

Electives

Elective ..... Approved 3

total credits required: 61

2-Year Plan

Semester I

ENG 1250 ..... English Composition I 3
IIT 1000 ..... University Experience 1
MIS 1300 ..... Software Tools 3
PSY 1700 ..... Introduction to Psychology 3
REC 1200 ..... Introduction to Recreation Management 3
RT 1200 ..... Foundations of Recreation Therapy 3
total: 16

Semester II

BA 1200 ..... Foundations of Business 3
ENG 1270 ..... English Composition II 3
*IIT 2000 ..... Pre-Internship Seminar 0
MA 1000 ..... Introduction to College Mathematics 3
PSY 1750 ..... Human Growth & Development 3
REC 2000 ..... Recreation Programming 3
total: 15

Semester III

BA 2010 ..... Principles of Management 3
BIO 1110 ..... Anatomy & Physiology 3
HUM 2000 ..... Introduction to Humanities 3
REC 2500 ..... Community and Outdoor Recreation 3
SS 2800 ..... Introduction to Sociology 3
total: 15

Semester IV

MA 1025 ..... Mathematical Problem Solving 3
PSY 2000 ..... Understanding Diversity 3
Choose one of the following 3
SS 2720 ..... Group Dynamics
BA 2700 ..... Organizational Behavior
Choose one of the following 3
REC 2600 ..... Recreation Practicum
RT 2600 ..... Recreation Therapy Practicum
Elective ..... Advisor approved 3
total: 15

total credits required: 61

** Required for all students who plan to complete an internship.*

College of General Studies

Recreation & Leisure Studies/Bachelor of Science

Required Courses

Recreation

REC 1200	Introduction to Recreation Services	3
REC 2000	Recreation Programming	3
REC 2500	Community and Outdoor Recreation	3
REC 3500	Promotion Strategies and Techniques	3
REC 4200	Legal Issues in Recreation and Sport	3
REC 4950	Recreation & Leisure Internship	6
RT 1200	Foundations of Recreation Therapy	3
Choose one of the following		3
REC 2600	Recreation Practicum	
RT 2600	Recreation Therapy Practicum	

College Readiness

IIT 1000	University Experience	1
IIT 1050	College Study Skills—if needed	0
*IIT 2000	Pre-internship Seminar	0

Business

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3
ENG 2400	Grant Writing	3

Humanities

HUM 2000	Introduction to Humanities	3
Elective	Humanities (3 credits must be literature)	6

Math

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem-Solving	3
MA 2025	Statistical Problem-Solving	3

Science and Technology

BIO 1110	Anatomy & Physiology	3
MIS 1300	Software Tools	3

Psychology and Social Sciences

HS 1200	Introduction to Human Services	3
PSY 1700	Introduction to Psychology	3
PSY 1750	Human Growth & Development	3
PSY 2000	Understanding Diversity	3
SS 1110	American Government	3
SS 2800	Introduction to Sociology	3
Choose one of the following		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	
SS 3300	Sport in Society	
Choose one of the following		3
SS 2720	Group Dynamics	
BA 2700	Organizational Behavior	

Physical Education and Sport Management

PHED 3700	Motor Learning and Development	3
SM 1400	Introduction to Sport Management	3
SM 3100	Sport Facility and Event Management	3

Electives

Electives	Approved	12

total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of General Studies

Recreation & Leisure Studies/Bachelor of Science

4-Year Plan

Semester I

ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MIS 1300	Software Tools	3
PSY 1700	Introduction to Psychology	3
REC 1200	Introduction to Recreation Management	3
RT 1200	Foundations of Recreation Therapy	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1000	Introduction to College Mathematics	3
PSY 1750	Human Growth & Development	3
REC 2000	Recreation Programming	3

total: 15

Semester III

BA 2010	Principles of Management	3
BIO 1110	Anatomy & Physiology	3
HUM 2000	Introduction to Humanities	3
REC 2500	Community and Outdoor Recreation	3
SS 2800	Introduction to Sociology	3

total: 15

Semester IV

MA 1025	Mathematical Problem Solving	3
PSY 2000	Understanding Diversity	3
Choose one of the following		3
SS 2720	Group Dynamics	
BA 2700	Organizational Behavior	
Choose one of the following		3
REC 2600	Recreation Practicum	
RT 2600	Recreation Therapy Practicum	
Elective	Advisor approved	3

total: 15

Semester V

BA 2410	Human Resource Management	3
ENG 2320	Professional Communication	3
HS 1200	Introduction to Human Services	3
SM 1400	Introduction to Sport Management	3
Elective	Humanities Literature	3

total: 15

Semester VI

BA 2500	Marketing	3
MA 2010	Foundations of Statistics	3
PHED 3700	Motor Learning and Development	3
REC 3500	Promotion Strategies and Techniques	3
REC 4200	Legal Issues in Recreation and Sport	3

total: 15

Semester VII

SM 3100	Sport Facility and Event Management	3
SS 1110	American Government	3
Choose one of the following		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	
SS 3300	Sport in Society	
Elective	Any humanities	3
Elective	Approved	3

total: 15

Semester VIII

REC 4950	Recreation and Leisure Internship	6
Electives	Approved	9

total: 15

total credits required 121

** Required for all students who plan to complete an internship.*

College of General Studies

Recreation Therapy/Bachelor of Science

Required Courses

Recreation Management and Recreation Therapy

REC 1200	Introduction to Recreation Services	3
REC 2000	Recreation Programming	3
REC 2500	Community and Outdoor Recreation	3
RT 1200	Foundations of Recreation Therapy	3
RT 2100	Disabling Conditions and Recreation Therapy's Impact	3
Choose one of the following		3
REC 2600	Recreation Practicum	
RT 2600	Recreation Therapy Practicum	
RT 3000	Client Assessment & Evaluation	3
RT 3400	Processes and Techniques	3
RT 3700	Administration and Management in Recreation Therapy	3
RT 4200	Advancement of the Profession	3
RT 4950	Recreation Therapy Internship	6

College Readiness

IIT 1000	University Experience	1
IIT 1050	College Study Skills—if needed	0
*IIT 2000	Pre-internship Seminar	0

Business

BA 1200	Foundations of Business	3
BA 2010	.Principles of Management	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities

HUM 2000	Introduction to Humanities	3
HUM	Elective-Literature	3
HUM	Elective	3

Math

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem-Solving	3
MA 2010	Foundations of Statistics	3

Science, Health Information and Technology

BIO 1110	Anatomy & Physiology	3
HIT 1100	Medical Terminology	3
MIS 1300	Software Tools	3

Psychology and Social Sciences

PSY 1700	Introduction to Psychology	3
PSY 1750	Human Growth & Development	3
PSY 2000	Understanding Diversity	3
PSY 2510	Theories of Counseling	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3
Choose one of the following		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	
SS 3300	Sport in Society	
Choose one of the following		3
SS 2720	Group Dynamics	
BA 2700	Organizational Behavior	

Physical Education

PHED 3700	Motor Learning and Development	3
PHED 4620	Biomechanics	3

Electives

Electives	Approved	12

total credits required: 121

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

College of General Studies

Recreation Therapy/Bachelor of Science

4-Year Plan

Semester I

ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MIS 1300	Software Tools	3
PSY 1700	Introduction to Psychology	3
REC 1200	Introduction to Recreation Management	3
RT 1200	Foundations of Recreation Therapy	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1270	English Composition II	3
*IIT 2000	Pre-Internship Seminar	0
MA 1000	Introduction to College Mathematics	3
PSY 1750	Human Growth & Development	3
REC 2000	Recreation Programming	3

total: 15

Semester III

BA 2010	Principles of Management	3
HUM 2000	Introduction to Humanities	3
REC 2500	Community and Outdoor Recreation	3
SS 2800	Introduction to Sociology	3
Elective	Approved	3

total: 15

Semester IV

BIO 1110	Anatomy & Physiology	3
MA 1025	Mathematical Problem Solving	3
PSY 2000	Understanding Diversity	3
Choose one of the following		3
SS 2720	Group Dynamics	
BA 2700	Organizational Behavior	
Choose one of the following		3
REC 2600	Recreation Practicum	
RT 2600	Recreation Therapy Practicum	

total: 15

Semester V

MA 2010	Foundations of Statistics	3
PSY 2510	Theories of Counseling	3
RT 2100	Disabling Conditions & Recreation Therapy's Impact	3
RT 3000	Client Assessment & Evaluation	3
Elective	Humanities Literature	3

total: 15

Semester VI

ENG 2320	Professional Communication	3
PHED 3700	Motor Learning and Development	3
PSY 2520	Abnormal Psychology	3
RT 3400	Processes and Techniques	3
RT 3700	Administration and Management in Recreation Therapy	3

total: 15

Semester VII

HIT 1100	Medical Terminology	3
PHED 4620	Biomechanics	3
RT 4200	Advancement of the Profession	3
Choose one of the following		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	
SS 3300	Sport in Society	
Elective	Any humanities	3

total: 15

Semester VIII

RT 4950	Recreation Therapy Internship	6
Electives	Approved	9

total: 15

total credits required 121

** Required for all students who plan to complete an internship.*

SCHOOL OF EDUCATION

part of the College of General Studies

School of Education Vision and Mission

The School of Education's mission is a statement of Indiana Tech's commitment to educate and train teacher candidates to become highly effective, career-focused teachers grounded in the knowledge and skill of best practice and, as a result, to be engaged in a life of significance and worth. Additionally, the curricula were developed to meet Indiana State Standards.

The School of Education's vision is represented in the axiom: Diverse Paths, Shared Vision. Inherent in our conceptual framework is a focus on developing the teacher candidate who demonstrates the supportive themes of

- knowledge of content, context, human development and pedagogy,
- skills and disposition of a reflective practitioner who considers the impact of actions,
- respect for and appreciation of diversity,
- professionalism in all aspects of his/her career.

Candidates grow and learn with the conviction of the goal, Diverse Paths, Shared Vision, and its four supporting themes: Knowledge, Reflection, Diversity, and Professionalism. Additionally, eight dispositions and extensive candidate proficiencies provide multiple measures from with to evaluate candidate performance, faculty effectiveness, and unit efficiency.

Content

School of Education

Teacher Education Dispositions

1. Knowledge in content

The teacher candidates understand and apply discipline specific concepts critical to the development of student learners. The teacher candidates incorporate into class activities and lesson plans elements essential for student learning. Development and mastery of content knowledge specific to what their teaching is another quality of teacher candidates.

2. Appreciate and embrace diversity

The teacher candidates understand and are able to differentiate approaches to student learning. The teacher candidates are culturally responsive to the needs of diverse learners. The teacher candidates create instructionally opportunities to enhance learning of diverse learners. The teacher candidates are aware of their own cultural respective and biases and how it relates to teaching.

3. Reflective practitioners

The teacher candidates continually reflect on their practice and search for resources to aid in problem solving and implement changes as necessary. The teacher candidates will engage in discussion with their instructors, cooperating teachers, and peers.

4. Understands the development and adaptation of practice

The teacher candidates understand how children learn and this understanding informs the teaching methods the candidates employ. The teacher candidates demonstrate teaching practices that bridge content knowledge and appropriate pedagogical practices. The teacher candidates have the belief that all students can learn.

5. Plans for Instruction and Assessment

The teacher candidates develop and implement lesson plans which meet multiple learning modalities and the culture needs of students. The teacher candidates understand, create, select, and use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

6. Professionalism

The teacher candidates are interested in lifelong learning, education reform, and evidence based education. The teacher candidates use data for informed decision making and instructional planning. The teacher candidates participate in professional development to increase content knowledge. The teacher candidates engage and collaborate with peers, students, teachers, and community stakeholders.

7. Technology

The teacher candidates incorporate technology to improve student learning. The teacher candidates incorporate existing technology to improve teaching practices, student learning, and data management. The teacher candidates use technology for innovation in practices for improving student learning.

8. Community Involvement

The teacher candidates are active participants in community growth and development. The teacher candidates successfully participate in service learning opportunities in the community. Based on service learning teacher candidates develop an appreciation for becoming an active community participant.

School of Education

Program Benchmarks and Transition Points

Criteria	Admission	Retention	Exit
GPA	Minimum GPA of 2.75	Minimum GPA of 2.75	Minimum GPA of 2.75
Application	Program Admission Application	Complete Student Teaching Application	Application for Graduation
Indiana Teacher Certification Exams	Passing score on the Praxis I Reading, Writing, Math	Passing score on the Praxis content knowledge exams	
Prerequisite coursework	Successful completion of 40 general education requirements, Completion of EDU 1000 and EDU 2050	Successful completion of all program coursework	Successful completion of all program coursework and clinical experiences
Proficiency Assessments	Candidate self-assessment and faculty assessment	University supervisor and mentor teacher assessment of proficiencies	Student Teaching formative and summative evaluation from mentor teacher and university supervisor
Culminating Project			Submission and presentation of Teacher Work Sample to peers and school of education faculty
Field Hours	Completion of 20 hours	ELED-Completion of up to 50 hours each semester in an elementary class setting	

Benchmark I Requirements: Admission to the Program

Admission into the Teacher Education Program: Indiana Tech students applying for admission into the Teacher Education Program must:

1. Successfully complete all subtests of the Pre-Professional Skills Test (Praxis I). The tests should be successfully completed before, during or immediately following the following: ENG 1250, ENG 1270, EDU 1000 and EDU 2050.
2. Complete a federal criminal background check, facilitated by the Teacher Education Program at Indiana Tech.
3. Successfully complete 40 credit hours of listed required courses and electives, with a Grade Point Average (GPA) of 2.75/40. Student must be currently taking coursework as required and be making satisfactory progress.
4. Submission of two positive dispositional statements completed by faculty.
5. Submission of an updated philosophy of teaching that reflects a current commitment to teacher education. (EDU 1000)
6. Complete a positive interview with Director of Teacher Education and Teacher Education Committee.

PRAXIS I Requirement

Students may only enroll in EDU 1000, EDU 2010, and EDU 2050 prior to passing PRAXIS I requirements.

Test Code	Test Name	IN Required Passing Score
5710	C-PPST: Reading	176
5720	C-PPST: Writing	172
5730	C-PPST: Mathematics	175
	Or an overall composite score	527

School of Education

Benchmark II Requirements: Retention in the Program

Retention in the Teacher Education Program

1. Meet the requirements of the Admission Benchmark.
2. Earn a minimum cumulative GPA of 2.75 in all professional education courses
3. Receive "adequate progress" (or above) evaluations by professors, supervisors and mentor teachers regarding methods in coursework and fieldwork.
4. Receive "adequate progress" (or above) ratings by professors, supervisors, and mentor teachers regarding dispositions as measured on the Faculty/Mentor Disposition Reference Form.
5. Successfully complete the Indiana Teacher Licensing exam.
6. Complete the Student Teaching Application (the date for submission is set by the Teacher Education Program)
7. Praxis II examinations must be passed prior to the start of student teaching.
8. Completion of required field experience hours:

PRAXIS II Requirement

Students must pass PRAXIS II requirements prior to being scheduled for student teaching during their professional semester.

Deadline for passing PRAXIS II for Fall Student teaching: April 1

Deadline for passing PRAXIS II for Spring Student teaching: October 1

Elementary Generalist: As of September 1, 2012 candidates may no longer take 5011/0011 & 0300 for licensure. All candidates who test after this date must take 5031 Elementary Education: Multiple Subjects. Candidates who have successfully completed both of the old tests prior to 9/1/12 may still use them after this date when applying for their initial license. However, if a candidate has only completed one of the two old tests they will be required to take 5031.

Physical Education: Physical Education Content Exam 0091 as required with a passing score of at 153 for Physical Education majors.

Benchmark III Requirements: Exit from the Program

Exit from the Teacher Education Program

1. Meet requirements of Retention Benchmark
2. Submit a Teacher Work Sample through TaskStream.
3. Successfully prepare and give a professional presentation of the Teacher Work Sample to peers and School of Education faculty
4. Student Teaching evaluations (formative and summative evaluations) from both the cooperating/mentor teacher and university supervisor for elementary education and physical education
5. Successful completion of Assessment of Comprehensive Content Knowledge of Physical Education Student Teachers for physical education majors.

School of Education

Elementary Education K-6/Bachelor of Science

Required Courses

Education

EDU 1000 ..... Introduction to Education 3
EDU 2010 ..... Educational Psychology 3
EDU 2050 ..... Technology Tools for Teaching 3
EDU 3000 ..... Teaching Methods for Language Arts 3
EDU 3120 ..... Teaching Methods for Math 3
EDU 3150 ..... Teaching Methods for Reading 3
EDU 3160 ..... Teaching Methods for Science/ Social Studies 3
EDU 3200 ..... Teaching Methods for Special Needs Students 3
EDU 3250 ..... Testing-Assessment for Teaching 3
EDU 4000 ..... Classroom Management & Discipline3
EDU 4030 ..... Integrated Methods: Art, Music, PE/Health. 3
EDU 4040 ..... Curriculum Theory and Research 3
EDU 4100 ..... Education Law and Ethics 3
EDU 4600 ..... Teaching Methods for Diagnostic & Corrective Reading 3
EDU 4850 ..... Student Teaching Seminar 1
EDU 4900 ..... Student Teaching (Early) 6
EDU 4950 ..... Student Teaching (Upper) 6

College Readiness

IIT 1000 ..... University Experience 1

English and Communications

ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3
Choose one of the following: 3
- ENG 2320 ..... Professional Communication
- COMM 2500 .. Public Communication

Humanities

Choose one of the following: 3
- HUM 2510 ..... Music Appreciation
- HUM 2520 ..... Art Appreciation
- HUM 3140 ..... Children's Literature

HUM ..... Elective 3

Mathematics

Choose one of the following: 3
- MA 1000 ..... Foundations of College Mathematics
- MA 1010 ..... Basic Algebra

Choose one of the following: 3
- MA 1025 ..... Mathematical Problem Solving
- MA 1035 ..... College Algebra

MA 2010 ..... Foundations of Statistics 3
MA 3520 ..... Math for Elementary Teachers I 3
MA 3530 ..... Math for Elementary Teachers II 3

Science

BIO 1000 ..... General Biology 3
PH 1000 ..... Physical Science 3

Social Sciences

PSY 1700 ..... Introduction to Psychology 3
PSY 1750 ..... Human Growth & Development 3
Choose one of the following: 3
- SS 2410 ..... World History
- SS 2430 ..... Early United States History
- SS 2440 ..... History of Modern America
- SS 2460 ..... African-American History

Minor

Elective courses from approved list 24

Total Credits required: 122

The core elementary education program prepares students for teaching grades K–6. Additionally, all elementary education students choose one of four concentrations to specialize in for grades 6–8: English, math, science, or social sciences. Which is right for you? We suggest you follow your passion. If there's a subject you love to learn, you'll probably love to teach it. Physical education students must choose the coaching and human performance minor. The required credits and approved courses you can choose from for each concentration are listed below.

Coaching and Human Performance Minor

24 credits from the following:
BIO 1110 ..... Anatomy & Physiology 3
PHED 2210 ..... Principles of Fitness & Nutrition 3
PHED 2220 ..... Philosophy of Coaching Sport 3
PHED 3710 ..... Prevention & Care of Athletic Injuries 3
PHED 3730 ..... Exercise Physiology 3
PHED 3810 ..... Theory of Strength & Conditioning 3
PHED 4630 ..... Coaching Practicum 3
Choose one of the following: 3
- PSY 3530 ..... Sport Psychology
- PSY 4530 ..... Health Psychology

▶ Minors continued on next page

School of Education

Elementary Education K-6/Bachelor of Science

English Minor
24 credits from the following:
ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3
ENG 2320 ..... Professional Communication 3
Choose 4 of the following: 12
- HUM 2000 ..... Introduction to Humanities
- HUM 3110 ..... Introduction to Cinema
- HUM 3150 ..... Children's Literature
- HUM 3320 ..... Major British Writers
- HUM 3330 ..... American Writers
- HUM 3360 ..... African American Literature
- HUM 3350 ..... Great Books of the Western World
- HUM 3380 ..... Shakespeare
- HUM 3370 ..... Horror in Film and Literature
- HUM 2990 ..... Special Topics (Literature)

Choose 1 of the following: 3
- COMM 1500 ... Rhetoric & Argumentation
- COMM 3100 ... Media Theory and Criticism
- COMM 3150 ... Intercultural Communications
- COMM 3250 .. Media Writing

Math for Educators Minor
24 credits from the following
MA 1000 ..... Foundations of College Mathematics 3
MA1 010 ..... Basic Algebra 3
MA1025 ..... Mathematical Problem Solving 3
MA 1035 ..... College Algebra 3
MA1050 ..... Geometry for Educators 3
MA1060 ..... Trigonometry 3
MA 2010 ..... Foundations of Statistics 3
MA2025 ..... Statistical Problem Solving 3
MA3520 ..... Math for Elementary Teachers I 3
MA3530 ..... Math for Elementary Teachers II 3

Science Minor
24 credits from the following:
BIO 1000 ..... Introduction to Biology 4
BIO 1110 ..... Anatomy & Physiology 3
CH 1220 ..... General Chemistry & Lab I 3
CH 1230 ..... General Chemistry II 3
PH 1000 ..... Physical Science 3
PH 1300 ..... General Physics I 3
PH 1310 ..... General Physics I Lab 1
PH 2100 ..... Fundamentals of Physics II 3
PH 2300 ..... General Physics II 3
PH 2310 ..... General Physics II Lab 1

Social Science Minor
24 credits from the following:
SS 2200 ..... Macroeconomics 3
SS 2210 ..... Microeconomics 3
SS 2410 ..... World History 3
SS 2430 ..... Early United States History 3
SS 2440 ..... History of Modern America 3
SS 2460 ..... African-American History 3
SS 2800 ..... Introduction to Sociology 3
SS 4990 ..... Special Topics in SS 3

School of Education

Elementary Education K-6/Bachelor of Science

4-Year Plan

Semester I

EDU 1000	Introduction to Education	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
Choose one of the following:		3
MA 1000	Foundations of College Math	
MA 1010	Basic Algebra	
PH 1000	Physical Science	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

BIO 1000	General Biology	3
ENG 1270	English Composition II	3
Choose one of the following:		3
HUM 2510	Music Appreciation	
HUM 2520	Art Appreciation	
PSY 1750	Human Growth & Development	3
Choose one of the following:		3
MA 1025	Mathematical Problem Solving	
MA 1035	College Algebra	

total: 15

Semester III

Choose one of the following:		3
COMM 2500	Public Communication	
ENG 2320	Professional Communication	
EDU 2050	Technology Tools for Teaching	3
HUM 3140	Children's Literature	3
MA 2010	Foundations of Statistics	3
Minor	From Approved List	3

total: 15

Semester IV

EDU 2010	Educational Psychology	3
EDU 4000	Classroom Management and Discipline	3
MA 3520	Math for Elementary Teachers I	3
Choose one of the following history electives		3
SS 2410	World History	
SS 2430	Early United States History	
SS 2440	History of Modern America	
SS 2460	African-American History	
Minor	From Approved List	3

total: 15

Semester V

EDU 3000	Teaching Methods for Language Arts	3
EDU 3150	Teaching Methods for Reading	3
EDU 3200	Teaching Methods for Special Needs Students	3
MA 3530	Math for Elementary Teachers II	3
Minor	From Approved List	6

total: 18

Semester VI

EDU 3120	Teaching Methods for Math	3
EDU 3160	Teaching Methods for Science/ Social Studies	3
EDU 3250	Testing-Assessment for Teaching	3
EDU 4100	Education Law and Ethics	3
Minor	From Approved List	3

total: 15

Semester VII

EDU 4030	Integrated Methods: Art, Music, PE/Health	3
EDU 4040	Curriculum Theory and Research	3
EDU 4600	Teaching Methods for Diagnostic & Corrective Reading	3
Minor	From Approved List	6

total: 15

Semester VIII

EDU 4900	Student Teaching (Early)	6
EDU 4950	Student Teaching (Upper)	6
EDU 4850	Student Teaching Seminar	1

total:13

Total credits required: 122

School of Education

Physical Education P-12/Bachelor of Science

Required Courses

Education and Physical Education

EDU 1000	Introduction to Education	3
EDU 2010	Educational Psychology	3
EDU 2050	Technology Tools for Teaching	3
EDU 3150	Methods of Teaching Reading	3
PHED 1110	Techniques of Individual & Dual Sports	2
PHED 1120	Techniques of Team Sports	2
PHED 1130	Techniques of Applied Skills & Methods	2
PHED 1140	History & Principles of Physical Education	3
PHED 2210	Principles of Fitness and Nutrition	3
PHED 2220	Philosophy of Coaching Sport	3
PHED 3700	Motor Learning & Development	3
PHED 3710	Prevention and Care of Athletic Injuries	3
PHED 3720	Secondary (7-12) Physical Education Methods	3
PHED 3730	Exercise Physiology	3
PHED 3800	Elementary (P-6) Physical Education Methods	3
PHED 3810	Theory of Strength and Conditioning	3
PHED 3850	Curriculum Theory and Development	3
PHED 4610	Measurement and Evaluation in PE	3
PHED 4620	Biomechanics	3
PHED 4630	Coaching Sport	3
PHED 4800	Administration of Sport and Physical Education	3
PHED 4810	Adapted Physical Education	3
PHED 4850	Professional Development Seminar	1
PHED 4900	Student Teaching—Lower Grades	6
PHED 4950	Student Teaching—Upper Grades	6

College Readiness

IIT 1000	University Experience	1

English and Communication

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
Choose one of the following		3
COMM 2500	Public Communication	
ENG 2320	Professional Communication	

Humanities

HUM 3710	Ethics	3
HUM	Elective-Literature	3
HUM	Elective	3

Mathematics

Choose one of the following:		3
MA 1000	Foundations of College Mathematics or	
MA 1010	Basic Algebra	
Choose one of the following:		3
MA 1025	Mathematical Problem Solving	
MA 1035	College Algebra	
MA 2010	Foundations of Statistics	3

Science

BIO 1110	Anatomy & Physiology	3
PH 1000	Physical Science	3

Social Sciences

PSY 1700	Introduction to Psychology	3
PSY 1750	Human Growth & Development	3
Choose one of the following:		3
PYS 3530	Sport Psychology	
PSY 4530	Health Psychology	
Choose one of the following:		3
SS 2410	World History	
SS 2430	Early United States History	
SS 2440	History of Modern America	
SS 2800	Introduction to Sociology	

Minor

Elective courses from approved list		3

Note: CPR/First Aid with AED required for PE students

Total Credits required: 125

▶ See next page for 4-year plan

School of Education

Physical Education P-12/Bachelor of Science

4-Year Plan

Semester I

EDU 1000	Introduction to Education	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
Choose one of the following:		3
MA 1000	Foundations of College Mathematics	
MA 1010	Basic Algebra	
PHED 1110	Techniques of Individual & Dual Sports	2
PSY 1700	Introduction to Psychology	3

total: 15

Semester II

BIO 1110	Anatomy & Physiology	3
EDU 2010	Educational Psychology	3
ENG 1270	English Composition II	3
Choose one of the following:		3
MA 1025	Mathematical Problem Solving	
MA 1035	College Algebra	
PHED 1140	History & Principles of Physical Education	3
PHED 1120	Techniques of Team Sports	2

total: 17

Semester III

Choose one of the following:		3
COMM 2500	Public Communication	
ENG 2320	Professional Communication	
EDU 2050	Technology Tools Teaching	3
PH 1000	Physical Science	3
PHED 1130	Techniques of Applied Skills & Methods	2
PSY 1750	Human Growth and Development	3
Elective	Humanities	3

total: 17

Semester IV

MA 2010	Foundations in Statistics	3
PHED 2210	Principles of Fitness and Nutrition	3
PHED 3710	Prevention and Care of Athletic Injuries	3
PHED 2220	Philosophy of Coaching Sport	3
Choose one of the following electives:		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	

total: 15

Semester V

EDU 3150	Methods of Teaching Reading	3
HUM 3710	Ethics	3
PHED 3850	Curriculum Theory and Development	3
PHED 3700	Motor Learning & Development	3
PHED 3810	Theory of Strength and Conditioning	3

total: 15

Semester VI

PHED 4620	Biomechanics	3
PHED 3800	Elementary (P-6) Physical Education Methods	3
PHED 4800	Administration of Sport and Physical Education	3
PHED 4810	Adapted Physical Education	3
Choose one of the following SS electives		3
SS 2800	Introduction to Sociology	
SS 2410	World History	
SS 2430	History of Modern America	

total: 15

Semester VII

HUM	Elective (literature course)	3
PHED 4610	Measurement and Evaluation in PE	3
PHED 3720	Secondary (7-12) Physical Education Methods	3
PHED 4630	Coaching Practicum	3
PHED 3730	Exercise Physiology	3
Elective	Approved	3

total: 18

Semester VIII

PHED 4850	Professional Development Seminar	1
PHED 4900	Student Teaching-Lower Grades	6
PHED 4950	Student Teaching Upper Grades	6

total: 13

total credits required: 125

CENTER FOR CRIMINAL SCIENCES

part of the College of General Studies

About the Center for Criminal Sciences

The field of criminal justice is continuously becoming more complex, diversified and technical in nature. Exciting new opportunities await individuals who are interested in pursuing a career in the field as police officers, crime scene technicians, correction officers, juvenile justice officers and counselors, probation workers, homeland security officers, FBI agents, U.S. Marshals, customs officers, lawyers, security agents and private investigators.

The work of Indiana Tech's Center for Criminal Sciences reflects the complex nature of modern police work. The center emphasizes learning focused on preparing students to succeed. Our programs include courses in criminal investigation, police work, corrections, juvenile justice, police operations, crime scene analysis, criminal profiling and law. To deliver the courses, we rely on a diverse group of professionals in the fields of police work, criminal intelligence, the military, law, probation, juvenile justice, and psychology. These professionals have advanced degrees and specialty training that makes them experts in their respective fields. Having professionals in the classroom also allows students to have access to instructors' real life experiences, firsthand knowledge of the job and career guidance.

Indiana Tech's instructors use a problem-solving approach to teaching. Since criminal justice involves solving human problems, this type of experiential teaching transfers quite well to the workplace. Examples of experiential learning include processing a crime scene, structuring a criminal profile, conducting mock criminal interrogations and doing a behavioral analysis of a criminal. To encourage future job success, the criminal justice department encourages student internships at the local, state, federal and private level.

In addition to expert instructors, we are committed to using the latest technology in the classroom. Students use criminal intelligence, digital imagery, forensic computer software, software for composite drawing, and crime scene software in their classes. Indiana Tech will continue to push the envelope to ensure that our students are up to date in the war against crime.

Content

Center for Criminal Sciences

Criminal Justice/Associate of Science

A growing number of law enforcement agencies require some college education for new officers, and Indiana Tech's associate degree will fulfill that entry-level requirement. The associate degree program includes eight core courses which examine the criminal justice system as a whole. Subsequent courses take a closer look at individual components of the criminal justice system, such as the police force, the courts and the corrections system.

The program gives students a general understanding of the criminal justice system that will enable them to excel in a variety of agencies, such as police forces at the local and state level. If you're looking for a springboard for further learning in other university majors or a police academy, the associate degree is a great choice.

Required Courses

Criminal Justice

CJ 1100	Introduction to the Criminal Justice System	3
CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3

Business and Technology

BA 1200	Foundations of Business	3
MIS 1300	Software Tools	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3

Social Science

PSY 1700	Introduction to Psychology	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3

total credits required: 64

2-Year Plan

Semester I

BA 1200	Foundations of Business	3
CJ 1100	Introduction to the Criminal Justice System	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3

total: 16

Semester II

CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-internship Seminar	0

total: 15

Semester III

CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester IV

CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
MA 1025	Mathematical Problem Solving	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3

total: 18

total credits required: 64

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Administration Specialty

The specialization in criminal justice administration prepares students for the work that goes on behind the scenes in a criminal justice organization. Managing the operations of a police organization requires a unique ability to understand the needs of the community being served, as well as the components of the organization. These courses enable graduates to enter organizations with a broader understanding of the rationale for decision-making within the organization.

If you enjoy leading a team of people and have the desire to make a real difference in your community, this is the degree for you.

With a criminal justice administration degree, graduates can excel as an administrator in municipal, county or state organizations. Other career options include becoming civil service officers, state and federal parole officers, court administrators, federal law enforcement officers or positions in private sector law enforcement.

Required Courses

Criminal Justice

CJ 1100	Introduction to the Criminal Justice System	3
CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
CJ 3300	Victimology	3
CJ 3510	Community and Problem Oriented Policing	3
CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
CJ 4110	Law Enforcement Planning Process	3
CJ 4210	Police Organization and Management	3

Business and Technology

BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
BA 2700	Organizational Behavior	3
MIS 1300	Software Tools	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
IIT 2000	Pre-Internship Seminar	0

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2010	Foundations of Statistics	3

Social Science

PSY 1700	Introduction to Psychology	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3
SS 2810	Social Problems	3

Electives

Elective	Humanities	3
Elective	Psychology	3
Elective	Science	3 or 4
Electives	Approved	21

Total credits required: 124 or 125

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Administration Specialty

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
CJ 1100	Introduction to the Criminal Justice System	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3

total: 16

Semester II

CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-internship Seminar	0

total: 15

Semester III

CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester IV

CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
MA 1025	Mathematical Problem Solving	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3

total: 15

Semester V

CJ 3300	Victimology	3
CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
HUM 2000	Introduction to Humanities	3
MA 2010	Foundations of Statistics	3
Elective	Approved	3

total: 15

Semester VI

BA 2010	Principles of Management	3
ENG 2320	Professional Communication	3
PH 1000, BIO 1110, CH 1100, SCI 2000 or equivalent		3 or 4
SS 2810	Social Problems	3
Elective	Approved or CJ	3

total: 15 or 16

Semester VII

BA 2700	Organizational Behavior	3
CJ 3510	Community & Problem Oriented Policing	3
Elective	Approved or CJ	3
Elective	Humanities	3
Elective	Psychology	3

total: 15

Semester VIII

CJ 4110	Law Enforcement Planning Process	3
CJ 4210	Police Organization & Management	3
Elective	Approved or CJ	3
Elective	Humanities - 3 credits must be literature	3
Elective	Psychology	3

total: 15

total credits required: 124 or 125

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Crime Analysis Specialty

The crime scene analysis specialty has been designed to meet the growing need for professionals who are capable of analyzing crime and crime scene evidence from multiple perspectives. The curriculum blends crime scene processing, forensic science, and criminal profiling along with crime data examination to give students a thorough understanding of crime analysis.

The curriculum includes many classes that emphasize a psychological understanding of criminal behavior. These courses, based on understanding the way criminals think and act, will help students achieve a unique experience in understanding the crime scene, evidence and profiling. This will allow students to analyze crime from multiple perspectives.

Graduates of the crime analysis program will be qualified to be either sworn law enforcement personnel or civilian employees in a variety of agencies. They will have the skills to gather, analyze and to solve criminal justice problems from multiple perspectives.

Required Courses

Criminal Justice

CJ 1100	Introduction to the Criminal Justice System	3
CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
CJ 3300	Victimology	3
CJ 3510	Community and Problem Oriented Policing	3
CJ 3520	Crime Scene Investigation	3
CJ 3620	Forensic Science & Criminalistics	3
CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
CJ 4120	Death Investigation	3
CJ 4220	Criminal Profiling	3
CJ 4320	Fundamentals of Crime Analysis	3

Business and Technology

BA 1200	Foundations of Business	3
MIS 1300	Software Tools	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2010	Foundations of Statistics	3

Social Science

PSY 1700	Introduction to Psychology	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3
SS 2810	Social Problems	3

Electives

Elective	Humanities	3
Elective	Psychology	3
Elective	Science	3 or 4
Elective	Science	3 or 4
Electives	Approved	21

total credits required: 124 or 125

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Crime Analysis Specialty

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
CJ 1100	Introduction to the Criminal Justice System	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3
	total:	**16**

Semester II

CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-internship Seminar	0
	total:	**15**

Semester III

CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
PSY 1700	Introduction to Psychology	3
	total:	**15**

Semester IV

CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
MA 1025	Mathematical Problem Solving	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3
	total:	**15**

Semester V

CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
CJ 3300	Victimology	3
HUM 2000	Introduction to Humanities	3
MA 2010	Foundations of Statistics	3
Elective	Approved	3
	total:	**15**

Semester VI

CH 3520	Crime Scene Investigation	3
ENG 2320	Professional Communication	3
PH 1000, BIO 1110, CH 1100, SCI 2000 or equivalent		3 or 4
SS 2810	Social Problems	3
Elective	Approved or CJ	3
	total:	**15 or 16**

Semester VII

CJ 3620	Forensic Science & Criminalistics	3
CJ 4120	Death Investigation	3
Elective	Approved or CJ	3
Elective	Humanities	3
Elective	Psychology	3
	total:	**15**

Semester VIII

CJ 4220	Criminal Profiling	3
CJ 4320	Fundamentals of Crime Analysis	3
Elective	Approved or CJ	3
Elective	Humanities (3 credits must be literature)	3
Elective	Psychology	3
	total:	**15**

total credits required: 124 or 125

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Rehabilitative Services Specialty

The rehabilitative services specialty is designed to meet the needs of individuals who wish to work in the field of juvenile and adult probation, parole and aftercare services. This is a growing field in which care is focused on assessing and rehabilitating individuals who have been convicted of a criminal offense or who are at risk.

The curriculum consists of classes that provide hands-on training in risk assessment, needs assessment, counseling, group therapy and applied probation and parole services. Theory and application in the areas of probation, parole and aftercare services are covered. Students have exposure to aftercare services such as restorative justice, forensic psychology and corrections counseling.

Graduates of the rehabilitative services program will be qualified to become employed in juvenile or adult rehabilitative services. They will have the skills to assess, monitor and treat individuals who need help and assistance with their rehabilitation. There are a number of public and private agencies that provide services to the legal community.

Required Courses

Criminal Justice

CJ 1100	Introduction to the Criminal Justice System	3
CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
CJ 3300	Victimology	3
CJ 3530	Restorative Justice	3
CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
CJ 4130	Probation and Parole Services	3
CJ 4230	Corrections Counseling	3

Business and Technology

BA 1200	Foundations of Business	3
MIS 1300	Software Tools	3

College Readiness

IIT 1000	University Experience	1
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-Internship Seminar	0

English and Humanities

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2010	Foundations of Statistics	3

Social Science

PSY 1700	Introduction to Psychology	3
PSY 2510	Theories of Counseling	3
PSY 2520	Abnormal Psychology	3
PSY 3770	Assessment in Psychology	3
SS 2800	Introduction to Sociology	3
SS 2810	Social Problems	3

Electives

Elective	Humanities (3 credits must be literature	6
Elective	Psychology	6
Elective	Science	3 or 4
Elective	Approved	18

total credits required: 124 or 125

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Rehabilitative Services Specialty

4-Year Plan

Semester I

BA 1200	Foundations of Business	3
CJ 1100	Introduction to the Criminal Justice System	3
ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3

total: 16

Semester II

CJ 1200	Criminology	3
CJ 1300	Police in America	3
CJ 1400	Corrections in America	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
*IIT 2000	Pre-internship Seminar	0

total: 15

Semester III

CJ 2000	Homeland Security	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
CJ 2500	Basics of Criminal Investigation	3
PSY 1700	Introduction to Psychology	3

total: 15

Semester IV

CJ 2600	Laws of Evidence	3
CJ 3100	A System of Juvenile Justice	3
CJ 3200	Understanding Criminal Behavior	3
MA 1025	Mathematical Problem Solving	3
PSY 2520	Abnormal Psychology	3
SS 2800	Introduction to Sociology	3

total: 15

Semester V

CJ 3700	Ethics and Cultural Diversity in Criminal Justice	3
CJ 3300	Victimology	3
HUM 2000	Introduction to Humanities	3
MA 2010	Foundations of Statistics	3
Elective	Approved	3

total 15

Semester VI

CJ 3530	Restorative Justice	3
ENG 2320	Professional Communication	3
PH 1000, BIO 1110, CH 1100, SCI 2000 or equivalent		3 or 4
PSY 2510	Theories of Counseling	3
SS 2810	Social Problems	3

total: 15 or 16

Semester VII

CJ 4130	Probation and Parole Services	3
Elective	Approved or CJ	3
Elective	Humanities	3
Elective	Psychology	3
Elective	Approved	3

total: 15

Semester VIII

CJ 4230	Corrections Counseling	3
PSY 3770	Assessment in Psychology	3
Elective	Humanities (3 credits must be literature)	6
Elective	Psychology	3

total: 15

total credits required: 124 or 125

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Paralegal Studies/Associate of Science

As described by the American Bar Association a legal assistant or paralegal is a person, qualified by education, training or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency or other entity and who performs specifically delegated substantive legal work for which a lawyer is responsible. The Bureau of Labor Statistics notes that paralegals are found in all types of organizations and work in many different areas of the law, including litigation, personal injury, corporate law, criminal law, employee benefits, intellectual property, labor law, bankruptcy, immigration, family law, and real estate. The Bureau of Labor Statistics note that the demand for paralegals will continue to grow at a rate much faster than the average for all occupations through the projected year of 2018.

Students will graduate from the paralegal program with the knowledge needed to work in the paralegal, legal services or legal secretary fields. The paralegal program at Indiana Tech covers all areas of the law and will prepare students for direct entry into the workplace. Students who do not choose to work in the above fields may opt to work in the criminal justice field or may choose to go to law school.

Required Courses

Paralegal

PARA 1200	Legal Office Procedures	3
PARA 1300	Introduction to Business Law	3
PARA 2100	Torts & Remedies	3
PARA 2200	Contracts & Uniform Commercial Code	3
Elective, PARA 4950 or advisor approved		3

Criminal Justice

CJ 1100	Introduction to Criminal Justice Systems	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Criminal Procedural Law	3

Pre-Law

PLAW 1100	Introduction to Law Studies	3
PLAW 1400	Constitutional Law	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3

Social Science

PSY 1700	Introduction to Psychology	3
SS 1110	American Government	3

Accounting, Business and Technology

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
MIS 1300	Software Tools	3

total credits required: 61

2-Year Plan

Semester I

CJ 1100	Introduction to Criminal Justice Systems	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3
PLAW 1100	Introduction to Law Studies	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
PARA 1300	Introduction to Business Law	3
PLAW 1400	Constitution Law	3
SS 1110	American Governments	3

total: 15

Semester III

CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
ENG 1270	English Composition II	3
MA 1025	Mathematical Problem-Solving	3
PARA 1200	Legal Office Procedures	3
*IIT 2000	Pre-Internship Seminar	0

total: 15

Semester IV

ACC 1010	Accounting Principles	3
ENG 2320	Professional Communication	3
PARA 2100	Torts and Remedies	3
PARA 2200	Contracts and Uniform Commercial Code	3
Elective	PARA 4950 or other PARA	3

total: 15

total credits required: 61

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Paralegal Studies/Bachelor of Science

Required Courses

Paralegal

PARA 1200	Legal Office Procedures	3
PARA 1300	Introduction to Business Law	3
PARA 2100	Torts & Remedies	3
PARA 2200	Contracts & Uniform Commercial Code	3
PARA 3100	Alternative Dispute Resolution	3
PARA 3200	Domestic Relations	3
PARA 3300	Employment Law	3
PARA 4200	Property Law	3
PARA 4300	Wills, Trusts & Estates	3
PARA 4400	Senior Capstone Project	3

Criminal Justice & Pre-Law

CJ 1100	Introduction to Criminal Justice Systems	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Criminal Procedural Law	3
CJ 3700	Criminal Justice Ethics and Diversity	3
PLAW 1100	Introduction to Law Studies	3
PLAW 1400	Constitutional Law	3
PLAW 2300	Legal Research and Writing	3
PLAW 2400	Civil Procedural Law	3
PLAW 4100	Legal Professional Responsibility	3

College Readiness

IIT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2025	Statistical Problem Solving	3

Social Science

PSY 1700	Introduction to Psychology	3
SS 1110	American Government	3
SS 2210	Macroeconomics	3
SS 2430	Early United States History	3
SS 2440	History of Modern America	3

Accounting, Business and Technology

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
MIS 1300	Software Tools	3
IS 1150	Principles of Information Systems	3

Electives

Elective	Humanities (3 credits must be literature)	9
Elective	Paralegal courses	9
Elective	Science approved	3 or 4

total credits required: 124 or 125

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Paralegal Studies/Bachelor of Science

4-Year Plan

Semester I

CJ 1100	Introduction to Criminal Justice Systems	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
MIS 1300	Software Tools	3
PLAW 1100	Introduction to Law Studies	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

BA 1200	Foundations of Business	3
ENG 1250	English Composition I	3
PARA 1300	Introduction to Business Law	3
PLAW 1400	Constitution Law	3
SS 1110	American Governments	3

total: 15

Semester III

CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
ENG 1270	English Composition II	3
MA 1025	Mathematical Problem-Solving	3
PARA 1200	Legal Office Procedures	3
*IIT 2000	Pre-Internship Seminar	0

total: 15

Semester IV

ACC 1010	Accounting Principles	3
ENG 2320	Professional Communication	3
PARA 2100	Torts and Remedies	3
PARA 2200	Contracts and Uniform Commercial Code	3
Elective	PARA 4950 or other PARA	3

total: 15

Semester V

IS 1150	Principles of Information Systems	3
CJ 3700	Criminal Justice Ethics and Diversity	3
PLAW 2300	Legal Research and Writing	3
PLAW 2400	Civil Procedural Law	3
SS 2430	Early United States History	3

total: 15

Semester VI

MA 2025	Statistical Problem Solving	3
PARA 3100	Alternative Dispute Resolution	3
PARA 3200	Domestic Relations	3
PARA 3300	Employment Law	3
SS 2210	Microeconomics	3
Elective	(Paralegal)	3

total: 18

Semester VII

PARA 4200	Property Law	3
PARA 4300	Wills, Trusts and Estates	3
SS 2440	History of Modern America	3
Elective	(Humanities-3 credits must be literature)	3
Elective	(Paralegal)	3

total: 15

Semester VIII

PARA 4400	Senior Capstone	3
PLAW 4100	Legal Professional Responsibility	3
Elective	Humanities	6
Elective	Science	3 or 4

total: 15 or 16

total credits required: 124 or 125

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Pre-Law/Bachelor of Science

The pre-law program at Indiana Tech is designed to prepare undergraduates to perform well on the Law School Admission Test and to prepare for the rigors of law school. Students will take a range of classes that encourage the same skills stressed in law school. These skills as identified by the American Bar Association include analytic and problem-solving skills, critical reading abilities, writing skills, oral communication and listening abilities, general research skills, task organization and management skills. Students will take classes in the areas of humanities, communications, paralegal studies, business, and the social sciences to give them the range of knowledge needed to successfully become a lawyer. In these classes students will engage in debate, expository writing, and critical thinking exercises as a necessary component of the coursework. Students will be required to successfully complete at least seven honors classes to graduate from the program. Pre-law students will graduate with a degree in pre-law and shall receive an honors diploma as a result of successfully passing the required honors courses. Students will not only have the skills to enter law school, they also will have the necessary credentials to separate them from other applicants.

Required Courses

Criminal Justice and Pre-Law

CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
PLAW 1100	Introduction to Law Studies	3
PLAW 1400	Constitutional Law	3
PLAW 2300	Legal Research and Writing	3
PLAW 2400	Civil Procedural Law	3
PLAW 4100	Legal Professional Responsibility	3
PLAW 4900	Senior Capstone	3

Accounting, Business and Technology

ACC 1010	Accounting Principles	3
BA 1200	Foundations of Business	3
BA 2010	Principles of Management	3
MIS 1300	Software Tools	3

College Readiness

IT 1000	University Experience	1
*IIT 2000	Pre-Internship Seminar	0

Communication

COMM 1250	Foundations of Communication	3
COMM 1500	Rhetoric and Argumentation	3
COMM 2000	Persuasion and Propaganda	3
COMM 2500	Public Communication	3

English

ENG 1250	English Composition I	3
ENG 1270	English Composition II	3
ENG 2320	Professional Communication	3

Humanities

HUM 2730	Introduction to Philosophy	3
HUM 3220	Philosophy of Law	3
HUM 3310	Interpretation of Fiction	3
HUM 3330	American Writers	3
HUM 3360	African-American Literature	3
HUM 3710	Ethics	3
HUM 3720	Advanced Critical Thinking	3

Mathematics

MA 1000	Foundations of College Mathematics	3
MA 1025	Mathematical Problem Solving	3
MA 2025	Statistical Problem Solving	3

Social Science

PSY 1700	Introduction to Psychology	3
PSY 2520	Abnormal Psychology	3
SS 1110	American Government	3
SS 2210	Microeconomics	3
SS 2800	Introduction to Sociology	3
SS 2810	Social Problems	3
SS 2850	Conflict Resolution	3

Electives

Elective	(SS 2430 or SS 2440)	3
Elective	(Science)	3 or 4
Elective	(Paralegal)	3
Elective	Approved	6

total credits required: 124 or 125

▶ See next page for 4-year plan

** Required for all students who plan to complete an internship.*

Center for Criminal Sciences

Pre-Law/Bachelor of Science

4-Year Plan

Semester I

COMM 1250	Foundations of Communication	3
ENG 1250	English Composition I-Honors**	3
IIT 1000	University Experience	1
MA 1000	Foundations of College Mathematics	3
PLAW 1100	Introduction to Law Studies	3
PSY 1700	Introduction to Psychology	3

total: 16

Semester II

BA 1200	Foundations of Business	3
COMM 1500	Rhetoric and Argumentation	3
ENG 1270	English Composition II-Honors**	3
*IIT 2000	Pre-Internship Seminar	0
MA 1025	Mathematical Problem Solving	3
SS 2800	Introduction to Sociology	3

total: 15

Semester III

BA 2010	Principles of Management	3
CJ 2300	Substantive Criminal Law	3
CJ 2400	Understanding Procedural Law	3
COMM 2500	Public Communication	3
ENG 2320	Professional Communication	3

total: 15

Semester IV

HUM 2730	Introduction to Philosophy	3
MA 2025	Statistical Problem Solving	3
SS 1110	American Government	3
PSY 1700	Introduction to Psychology	3
Elective	Approved	3

total: 15

Semester V

HUM 3720	Advanced Critical Thinking	3
PLAW 2400	Civil Procedural Law	3
SS 2810	Social Problems	3
Elective	(Science)	3 or 4
Choose one of the following:		3
	SS 2430 .... Early United States History	
	SS 2440 .... History of Modern America	

total: 15 or 16

Semester VI

ACC 1010	Accounting Principles	3
COMM 2000	Persuasion and Propaganda	3
HUM 3360	African-American Literature	3
PLAW 1400	Constitutional Law	3
SS 2210	Microeconomics	3

total: 15

Semester VII

PLAW 2300	Legal Research and Writing	3
HUM 3220	Philosophy of Law	3
HUM 3310	Interpretation of Fiction	3
HUM 3710	Ethics	3
SS 2850	Conflict Resolution	3
Elective	Approved	3

total: 18

Semester VIII

PLAW 4100	Legal Professional Responsibility	3
PLAW 4900	Senior Capstone	3
PSY 2520	Abnormal Psychology	3
Elective	(Paralegal)	3
Elective	Approved	3

total: 15

total credits required: 124 or 125

** Required for all students who plan to complete an internship.*

ADDITIONAL UNDERGRADUATE PROGRAMS

Contents

Additional Undergraduate Programs

Exploratory Track

This program is a stepping stone for students who are committed to a quality college education but unsure of their life-plan after graduation. The exploratory track allows students to complete general courses and to explore the variety of educational options open to them. Professors and advisors work with exploratory students to help them discover their strengths and areas of interest. When students declare a major their coursework is then transferred into a baccalaureate degree program. Students may remain in this track for two semesters or 30 credits (not including developmental courses).

Semester I

ENG 1250	English Composition I	3
IIT 1000	University Experience	1
MA	TBD by exam	3
PSY 1700	Introduction to Psychology	3
Electives	Approved	6
		total: 16

Semester II

ENG 1270	English Composition II	3
MIS 1300	Software Tools	3
SS 2800	Introduction to Sociology	3
Electives	Approved	6
		total: 15

Individually Designed Degree Program

The individually designed degree (IDD) provides students with the option of designing their own degree and naming it. This approach to degrees has two distinct advantages. The first is that because there are many flavors of a technology or a business degree, students' goals may not align with our defined offerings. This program is intended for students who have clear degree goals and desire to customize a program that will meet these goals. Their IDD may be inter-institutional as well as interdisciplinary.

The second advantage addresses the issue that many students do not know what degree they want to pursue in college. Having started in one direction, they often lose credit in switching to a new major. With an IDD it may be possible to change directions and lose little or no credit.

▸ **Implementation**

The student and his or her adviser, with input from the primary academic department(s) involved, will develop a degree proposal based on the following guidelines:

- The degree will be based on a carefully thought out rationale that results in a cohesive program of study
- A name will be chosen for the degree that does not duplicate an existing program at Indiana Tech nor is misleading in any manner
- The degree must contain a minimum of 120 credit hours for the bachelor's degree
- The degree must meet the current core requirements
- The proposal must designate two areas of depth by including a minimum 7-course sequence in each area. If an internship is to be part of the program, the student may request from the Curriculum Committee that a portion of the credit hours earned through the internship be applied to one of the 7-course sequences
- The proposal must contain, as a requirement, a 3- to 6-credit hour capstone project that integrates the two areas of depth
- To assure compliance with the guidelines and general academic integrity, the plan, its rationale, and its name will be submitted to the Curriculum Committee for approval.

Additional Undergraduate Programs

Honors Program

Mission Statement and objectives: Honors Program at Indiana Tech offers engaged students a variety of academically challenging and imaginative experiences, experiences uncommon for the traditional undergraduate. Our program examines ideas and contemporary controversies through an interdisciplinary or experiential approach. The faculty and students are committed to achieve the following objectives:

- To develop and enhance written and oral expression, critical thinking, and the imagination
- To engage in discussion based classes in personalized settings
- To participate in challenging research projects, study abroad, experiential learning, and community service
- To engage in advanced special topics in a seminar format
- To provide a competitive advantage for graduates entering the job market
- To perceive the relationships among the sciences, humanities, and technological studies
- To acquire the skills necessary for life-long learning
- To promote an interest in those issues and questions worthy of discussion in a free and democratic society

Admission: There are two methods for application.

1. Students who are entering the university from high school may apply to Indiana Tech's honors program by:
   - Completing an honors program application
   - Submitting a letter of recommendation from a teacher or someone familiar with the applicant's academic potential and intellectual curiosity
   - Submitting an essay of three to five pages that the applicant has written for a class
2. Students may petition for admission to the Honors Program with a written recommendation from their English instructor. Contact the coordinator of the program for details. The Honors Program coordinator is Steve Malloris, 260-422-5561 ext. 2221, smmalloris@indianatech.edu.

All honors courses must have an honors designation.

Required Courses

English

ENG 1250 ..... English Composition I 3
ENG 1270 ..... English Composition II 3

Humanities—Literature

Choose one of the following 3
- HUM 3140 ..... Children's Literature
- HUM 3310 ..... Interpretation of Fiction
- HUM 3320 ..... Major British Writers
- HUM 3330 ..... American Writers
- HUM 3350 ..... Great Books of the Western World
- HUM 3360 ..... African-American Literature
- HUM 3380 ..... Shakespeare
- HUM 2990 ..... Special Topics in Humanities

Humanities—Philosophy

Choose one of the following 3
- HUM 2730 ..... Introduction to Philosophy
- HUM 3100 ..... Topics in Philosophy: The Good Life
- HUM 3200 ..... Philosophy of Technology
- HUM 3220 ..... Philosophy of Law
- HUM 3710 ..... Ethics
- HUM 3720 ..... Advanced Critical Thinking
- HUM 2990 ..... Special Topics in Humanities

Electives

Choose one Humanities Literature or Philosophy not yet taken 3
Choose one SS, PSY, MA or Science with approval 3
One course with research component—need program coordinator approval 3

Total minimum credits: 21

Additional Undergraduate Programs

Minors

To encourage students to explore a focused program of study outside their major or general education, a number of college minors are available for students pursuing a bachelor's degree. These minors add breadth to a student's academic preparation, and may be beneficial in broadening career opportunities. Depending upon the major that a student is pursuing, he or she may be able to earn a minor without adding to the credits required for the bachelor's degree. All minors require a total of eight specified courses. Students who desire to earn both a major and a minor should plan their program of study carefully and consult regularly with their academic advisor in order to insure that all requirements are met.

Accounting*

ACC 1010	Principles of Accounting	3
ACC 2140	Managerial Accounting	3
ACC 2200	Intermediate Accounting I	3
ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
BA 2010	Principles of Management	3
BA 2850	Managing in a Legal Environment	3
MA 1025	Mathematical Problem-Solving	3

total: 24

Business Administration *

ACC 1010	Principles of Accounting	3
BA 2010	Principles of Management	3
BA 2410	Human Resources Management	3
BA 2500	Marketing	3
BA 2850	Managing in a Legal Environment	3
BA 4010	Quality Management	3
BA	Electives (above 3000 level)	6

total: 24

Coaching and Human Performance

BIO 1110	Anatomy & Physiology	3
PHED 2210	Principles of Fitness & Nutrition	3
PHED 2220	Philosophy of Coaching Sport	3
PHED 3710	Prevention & Care of Athletic Injuries	3
PHED 3730	Exercise Physiology	3
PHED 3810	Theory of Strength & Conditioning	3
PHED 4630	Coaching Practicum	3
Choose one of the following:		3
PSY 3530	Sport Psychology	
PSY 4530	Health Psychology	

total: 24

Computer Science

CS 1200	Introduction to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
CS 3700	Object Orientation	3
CS 3800	Data Structures & Algorithms	3
CS 4600	Organization of Programming Languages	3
CS 4800	System Software	3
CS 2500	Database Systems	3

total: 24

Cyber Security

IS 3100	Information Security	3
IS 4600	Disaster Recovery	3
NET 1200	Network Design	3
NET 1250	Network Design II	3
NET 3300	Network Security	3
Choose one of the following sequences:		
CS 1250	Problem Solving for Programmers	3
IS 1300	Programming I	3
IS 2300	Programming II	3
or		
CS 1200	Introduction to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
or		
CS 1250	Problem Solving	3
NET 2300	Script Programming	3

total: 21 or 24

Digital Graphics & Design

COMM 1700	Photography	3
IS 1200	Digital Imaging	3
IS 1400	Visual Communications	3
IS 1600	Drawing: Design Reasoning	3
IS 1800	Web Multimedia	3
IS 2400	Design Fundamentals	3
IS 2450	3D Animation	3
IS 2950	Graphics Portfolio	3

total: 24

E-Commerce

CS 1250	Problem Solving for Programmers	3
IS 1150	Principles of Information Systems	3
IS 1300	Programming I	4
IS 2100	Internet Fundamentals	3
IS 2200	Developing Business Solutions	3
IS 2300	Programming II	3
IS 4700	IS Senior Project	3

total: 25

▶ Minors continued on next page

** Also available to CPS students*

Additional Undergraduate Programs

Minors

Energy Engineering

Choose one of the following sequences: 9
- CH 1000 ..... Fundamentals of Chemistry
- PH 1100 ..... Fundamentals of Physics
- PH 2100 ..... Fundamentals of Physics II

or
- CH 1220 ..... General Chemistry & Lab I
- PH 1300 ..... General Physics I
- PH 2300 ..... General Physics II

ENE 2100 ..... Introduction to Energy Engineering Project 1
ENE 3010 ..... Energy Engineering Project I 3
ENE 3020 ..... Energy Engineering Project II 3
And any three of the following courses: 9
- ENE 3140 ..... Wind & Solar Power for Electric Grid
- ENE 3150 ..... Energy Storage in Fuel Cells and Batteries
- ENE 3160 ..... HVAC and Geothermal Systems
- ENE 3200 ..... Ethanol and Biofuels Production

total: 25

English *

COMM 1500 ... Rhetoric and Argumentation 3
ENG 1270 ..... English Composition II 3
HUM 2000 ..... Introduction to Humanities 3
HUM 3310 ..... Interpretation of Fiction 3
Choose 3 of the following: 9
- HUM 2990 ..... Special Topics (literature)
- HUM 3110 ..... Introduction to Cinema
- HUM 3320 ..... Major British Writers
- HUM 3330 ..... American Writers
- HUM 3360 ..... African-American Writers
- HUM 3350 ..... Great Books of the World
- HUM 3370 ..... Horror in Film and Literature
- HUM 3380 ..... Shakespeare

Choose one of the following: 3
- COMM 3100 ... Media Theory and Criticism
- COMM 3150 ... Intercultural Communications
- COMM 3250 .. Media Writing

total: 24

Finance*

ACC 2140 ..... Managerial Accounting 3
FIN 3600 ..... Corporate Finance I 3
FIN 3620 ..... Corporate Finance II 3
FIN 3680 ..... Financial Markets & Institutions 3
FIN 3700 ..... Financial Analysis & Valuation 3
FIN 3800 ..... Investments 3
SS 2200 ..... Macroeconomics 3
SS 2210 ..... Microeconomics 3

total: 24

Humanities *

HUM 2000 ..... Introduction to Humanities 3
At least one of the following philosophy courses: 3
- HUM 2730 ..... Introduction to Philosophy
- HUM 3100 ..... Topics in Philosophy: The Good Life
- HUM 3200 ..... Philosophy of Technology
- HUM 3710 ..... Ethics
- HUM 3720 ..... Advanced Critical Thinking

At least one of the following literature courses: 3
- HUM 3310 ..... Interpretation of Fiction
- HUM 3320 ..... Major British Writers
- HUM 3330 ..... American Writers
- HUM 3350 ..... Great Books of the Western World
- HUM 3360 ..... African-American Literature

Any 5 additional humanities courses (including 2990s) ... 15

total: 24

Industrial and Manufacturing Engineering *

EGR 2650 ..... Manufacturing Processes 3
IME 2010 ..... Safety Engineering 3
IME 2020 ..... Work Design 3
IME 2110 ..... Quality Control I 3
IME 3020 ..... Computer Simulated Manufacturing Process I 3
IME 3040 ..... Computer Integrated Manufacturing Systems 4
IME 4020 ..... Lean Manufacturing 3
IME 4200 ..... Environmental Engineering 3

total: 25

Information Systems

CS 1250 ..... Problem Solving for Programmers 3
CS 2500 ..... Database Systems 3
IS 1150 ..... Principles of Information Systems 3
IS 1300 ..... Programming I 4
IS 2100 ..... Internet Fundamentals 3
IS 2200 ..... Developing Business Solutions 3
IS 2300 ..... Programming II 3
IS 4100 ..... System Analysis & Design 3

total: 25

▶ Minors continued on next page

** Also available to CPS students*

Additional Undergraduate Programs

Minors

Mathematics

Choose one of the following sequences:		6 or 8
MA 1100	Applied Calculus I	
MA 1110	Applied Calculus II	
or		
MA1200	Calculus I	
MA 1210	Calculus II	
MA 2200	Calculus III	4
Choose one of the following:		3 or 4
MA 2100	Differential Equations & Linear Algebra	
MA 2300	Differential Equations	
MA 2150	Linear Algebra	3
Choose one of the following:		3
MA 2430	Probability & Statistics for Engineers	
EGR 3410	Statistical Quality Analysis I	
EGR 3430	Applied Probability and Statistics	
One of the following:		3
CS 2410	Discrete Structures	
MA 3200	Graph Theory	
One of the following:		3
MA 4100	Introduction to Complex Variables	
MA 4300	Modern Algebra	

total: 24 to 27

Networking

NET 1200	Network Design I	3
NET 1250	Network Design II	3
NET 2000	Windows Networking	3
NET 2500	Linux Networking	3
Choose one of the following:		3
IS 4100	System Analysis & Design	
NET 4100	Network Design & Administration	
Choose one of the following sequences:		9
CS 1250	Problem Solving for Programmers	
IS 1300	Programming I	
IS 2100	Internet Fundamentals	
or		
CS 1200	Introduction to Computer Science	
CS 1300	Computer Science I	
CS 1350	Computer Science I	

total: 24

Psychology *

PSY 1700	Introduction to Psychology	3
PSY 2000	Understanding Diversity	3
PSY 2510	Theories of Counseling	3
PSY 2520	Abnormal Psychology	3
PSY 2780	Social Psychology	3
PSY 3750	Interview Strategies for Helpers	3
PSY 3770	Assessment in Psychology	3
PSY 4520	Advanced Abnormal Psychology	3

total: 24

Web Design

CS 2500	Database Systems	3
IS 1200	Digital Imaging	3
IS 1300	Programming I	4
IS 1400	Visual Communication	3
IS 2100	Internet Fundamentals	3
IS 2600	Web Site Design	3
IS 2900	Web Applications	3
IS 3300	Developing Mobile Applications	3

total: 25

** Also available to CPS students*

COLLEGE OF PROFESSIONAL STUDIES

Graduate Degree Programs

About the College of Professional Studies

The College of Professional Studies offers professionally oriented degree programs for students who cannot attend college full time in a traditional format. Programs offered at the undergraduate level are fundamentally the same as those offered in the traditional program, and the curriculum requirements are detailed on previous pages within the university's other three colleges. The structure of the programs, however, requires motivated students to complete the work in the time allowed. In the Accelerated Degree Program, an entire semester of undergraduate material is covered in five weeks, with some quantitative courses requiring 10 weeks.

Indiana Tech's graduate programs are available through the accelerated degree program in the College of Professional Studies. A full semester of graduate level material is covered in six weeks, with some quantitative courses requiring 12 weeks.

Indiana Tech master's degree programs are designed for the working professional in need of advanced education in management. The university offers several concentrations within the Master of Business Administration (MBA) program, as well as a Master of Science in Management (MSM), a Master of Science in Engineering Management (MSE), and a Master of Science in Organizational Leadership (MSOL). All of the master's degree programs include a range of coursework designed to give a wide base of knowledge for success as an executive.

The Ph.D. in Global Leadership is designed to prepare scholar leaders for leadership roles in complex organizations in for-profit and not-for-profit sectors and higher education. The promgram includes three components: a research core, a global leadership core, and an area of specialization. Doctoral candidates may choose to specialize in either organizational management or academic administration.

Contents

College of Professional Studies

Master of Business Administration (MBA)

The MBA focuses on examining an organization from a functional strategic approach. This approach includes emphasis on management, marketing, finance, accounting, and economic principles in both the domestic and international marketplaces. MBA students can become immersed in a concentration that best fits their goals. Concentrations are offered in accounting, human resources, management, and marketing.
The following courses are required for students in the human resources, marketing, and management concentrations.

Core Courses
MBA 5000 ..... Executive Management (first course)..... 3
MBA 5130 ..... Managerial Accounting 3
MBA 5210 ..... Business Statistics..... 3
MBA 5220 ..... Marketing Management 3

Also Required
MBA 5110 ..... Management Information Systems..... 3
MBA 5120 ..... Managerial Economics..... 3
MBA 5200..... Financial Management 3
MBA 5310 ..... Business Ethics..... 3
MBA 5330 ..... Business Law..... 3
MBA 7000..... Business Policy & Strategy 3

Concentration Courses 6

Electives.....6

total credits required: 42

Accounting Concentration
Information on page 112.

Human Resources Concentration
MBA 5600..... Human Resource Management..... 3
MBA 6200..... Performance Management 3

Health Care Management Concentration
Information on page 112.

Management Concentration
MBA 5300..... Organizational Behavior 3
MBA 5340..... Operations Management..... 3

Marketing Concentration
MBA 6400 ..... International Marketing 3
MBA 6420..... Marketing Research 3

Elective courses are any graduate-level business courses offered by the university or accepted as transfer credit. Below are the courses required for the human resources, management, and marketing concentrations. Students may have dual concentrations; however, they must complete the required courses for each concentration.

College of Professional Studies

Master of Business Administration, Accounting (MBA)

Core Courses

MBA 5000	Executive Management (first course)	3
MBA 5210	Business Statistics	3
MBA 5220	Marketing Management	3

Also Required

MBA 5110	Management Information Systems	3
MBA 5120	Managerial Economics	3
MBA 5200	Financial Management	3
MBA 5310	Business Ethics	3
MBA 5330	Business Law	3
MBA 7000	Business Policy & Strategy	3

Accounting Concentration Courses

MBA 6800	Accounting Automation	3
MBA 6810	Communications for Accountants	3
MBA 6820	Fraud Examination	3
MBA 6860	Becker Review	6

total credits required: 42

Master of Business Administration, Health Care Management (MBA)

Core Courses

MBA 5000	Executive Management (first course)	3
MBA 5130	Managerial Accounting	3
MBA 5210	Business Statistics	3
MBA 5220	Marketing Management	3

Also Required

HCM 5300	Health Care Law	3
MBA 5110	Management Information Systems	3
MBA 5120	Managerial Economics	3
MBA 5200	Financial Management	3
MBA 5310	Business Ethics	3
MBA 7000	Business Policy & Strategy	3

Concentration Courses

HCM 5000	Introduction to Health Care Management	3
HCM 6200	Health Care Operations & Quality	3
HCM 6300	Health Care Policy & Ethics	3
HCM 6400	Health Care Finance	3

total credits required: 42

College of Professional Studies

Master of Science in Management (MSM)

The Master of Science in Management develops expertise in using qualitative tools in decision-making and problem-solving. Graduates of the program are equipped with knowledge of leadership processes; total quality and change management; work motivation, empowerment, and organizational culture; financial decision-making; and general management practices.

Core Courses
MBA 5000 ..... Executive Management 3
MSM 5100 ..... Qualitative Decision Making 3
MSM 5125 ..... Accounting & Finance for Managers 3

Also Required
MBA 5300 ..... Organizational Behavior 3
MBA 5310 ..... Business Ethics 3
MBA 5320 ..... Quality Management 3
MBA 5600 ..... Human Resource Management 3
MBA 6600 ..... Employment Law 3
MSM 5350 ..... Customer Relationship Management 3
MSM 5400 ..... Negotiation Skills 3
MSM 6400 ..... Managing Change 3
MSM 7200 ..... Applied Management Project 3

***Electives 6**

total credits required: 42

MBA/MSM Dual Degree

The dual MBA/MSM degree program is designed for the individual who wants competency in both the leadership skills obtained within the MSM curriculum along with the solid business analysis and quantitative skills offered within the MBA program.

Core Courses
MBA 5000 ..... Executive Management 3
MBA 5130 ..... Managerial Accounting 3
MBA 5210 ..... Business Statistics 3
MBA 5220 ..... Marketing Management 3

Also Required
MBA 5110 ..... Management Information Systems 3
MBA 5120 ..... Managerial Economics 3
MBA 5200 ..... Financial Management 3
MBA 5300 ..... Organizational Behavior 3
MBA 5310 ..... Business Ethics 3
MBA 5320 ..... Quality Management 3
MBA 5340 ..... Operations Management 3
MBA 5600 ..... Human Resource Management 3
Choose one of the following two courses: 3
  MBA 5330 ..... Business Law
  MBA 6600 ..... Employment Law
MBA 7000 ..... Business Policy & Strategy 3
MSM 5100 ..... Qualitative Decision Making 3
MSM 5350 ..... Customer Relationship Management 3
MSM 5400 ..... Negotiation Skills 3
MSM 6400 ..... Managing Change 3

Electives 6

total credits required: 60

College of Professional Studies

Master of Science in Engineering Management (MSE)

The Master of Science in Engineering Management is designed for professionals with a technical background who are preparing to assume more managerial responsibilities, or who are broadening their knowledge base. Topics such as quality assurance, lean manufacturing, and enterprise resource planning are complemented with the study of financial management, project management, managerial economics, and more. This integration creates an educational experience which can be thought of as an MBA with a technical focus.

MSE Courses

MSE 5000	Introduction to Engineering Management (first course)	3
MSE 6010	Environmental Health & Safety	3
MSE 6020	Designing for Lean Manufacturing	3
MSE 6030	Enterprise Resource Planning	3
MSE 6040	Computer Integrated Manufacturing	3
MSE 6050	Statistical Methods in Quality Assurance	3
MSE 6060	Legal Implications for the Engineering Manager	3
MSE 7000	Advanced Topics in Engineering Management (last course)	3

MBA Courses

MBA 5110	Management Information Systems	3
MBA 5120	Managerial Economics	3
MBA 5130	Managerial Accounting	3
MBA 5200	Financial Management	3
MBA 5220	Marketing Management	3
MBA 6310	Project Management	3

total credits required : 42

MBA/MSE Dual Degree

The dual MBA/MSE degree program is designed for the individual with a technical background who wants to gain an understanding of the core functional areas of business. A student may take the human resources, management, or marketing concentrations in the MBA. Courses marked with an asterisk (*) require TEAM enrollment.

MSE Courses

MSE 5000	Introduction to Engineering Management	3
MSE 6010	Environmental Health and Safety	3
MSE 6020	Designing for Lean Manufacturing	3
MSE 6030	Enterprise Resource Planning	3
MSE 6040	Computer Integrated Manufacturing	3
MSE 6050	Statistical Methods in Quality Assurance	3
MSE 6060	Legal Implications for the Engineering Manager	3
MSE 7000	Advanced Topics in Engineering	3

MBA Courses

MBA 5110	Management Information Systems	3
MBA 5120	Managerial Economics	3
MBA 5130	Managerial Accounting	3
MBA 5200	Financial Management	3
MBA 5220	Marketing Management	3
MBA 5210	Business Statistics	3
MBA 5310	Business Ethics	3
MBA 6310	Project Management	3
MBA 7000	Business Policy and Strategy	3

Concentration Classes 6

Electives 6

total credits required: 60

Human Resources Concentration

MBA 5600	Human Resource Management	3
MBA 6200	Performance Management	3

Management Concentration

MBA 5300	Organizational Behavior	3
MBA 5340	Operations Management	3

Marketing Concentration

MBA 6400	Marketing Research	3
MBA 7400	International Marketing	3

College of Professional Studies

Master of Science in Organizational Leadership (MSOL)

The Master of Science in Organizational Leadership gives you exposure to leadership theory and current best practices. After you complete the program, you will have working knowledge of visionary leadership skills to support global service.

Leadership Fundamentals

MSOL 5000	Leadership Styles & Leadership Development	3
MBA 5310	Business Ethics	3
MSOL 6600	Leadership Problem Analysis & Decision Making	3
MSOL 6700	Developing Human Capital	3

Leading the Organization

MSOL 5400	Building Organizational Excellence	3
MBA 5110	Management Information Systems	3
MSM 5500	Financial Concepts for Leaders	3
MSM 6400	Managing Change	3

Leadership Research and Strategy

MSOL 6800	Leading Strategy	3
MSOL 7400	Leadership Project I	3
MSOL 7500	Leadership Project II	3
MSOL 7600	Leadership Project III	3

total credits required: 36

College of Professional Studies

Ph.D. in Global Leadership

The purpose of the Ph.D. in Global Leadership is to prepare scholar leaders for leadership roles in complex organizations in for-profit and not-for-profit sectors and higher education. These scholar leaders will understand their responsibilities and their roles as leaders in conserving, expanding, and transforming these organizations and in advancing the discipline of leadership and practice in the global society.

For the Ph.D. program, global leadership encompasses understanding the global environment with its complexity; situational and environmental challenges and opportunities; the interaction between environment, culture, social, political and economic trends; the organizational environment in its totality; and leading with a global mindset in the 21st century.

▸ Professional Development Needs in the Public and Private Sectors

Students entering into this course of study do so to meet several different professional needs:

- Advanced training and skills in research, organizational leadership or academic leadership culminating in the terminal degree. The skills provide the foundation for discovering new knowledge in leadership fields and to apply that knowledge to the corporate, non-profit organizations or higher education.
- A terminal degree to gain advancement or change in careers.
- A terminal degree to further develop an executive leadership role in for-profit, non-profit, public, private, corporate or professional organizations.

▸ Program Outcomes

Students will demonstrate the ability to:

- Critically analyze theoretical and empirical literature and practices required by leaders in the 21st century global environment to advance organizational success and foster organizational growth.
- Search, interpret, and analyze information from internal and external sources to evaluate organizational effectiveness, and both recommend and employ leadership strategies to promote organizational change.
- Demonstrate responsibility, accountability, ethical consciousness, and adherence to legal, professional and educational standards of global leadership.
- Design research using appropriate methodology, conduct scholarly research that contributes to the body of knowledge in the discipline of global leadership studies, and apply research results from related fields to the discipline of global
  leadership studies and practice.
- Demonstrate understanding of the complexities associated with leadership in a global environment, the conditions under which it occurs, and approaches to leading in those in diverse settings.

▶ See next page for required courses

College of Professional Studies

I. Research Core (18 credits minimum)

RES 7000	Introduction to Research Methods	3
RES 7011	Research Critique	3
RES 7012	Research Design	3
RES 7013	Quantitative Methods of Research	3
RES 7014	Qualitative Methods of Research	3
RES 7015	Global Leadership Research	3

II. Global Leadership Core (18 credits)

Choose 6 of the following:

LDS 7001	Leadership Theory & Research	3
LDS 7002	Leading in a Time of Change	3
LDS 7003	Communications in Global & Diverse Contexts	3
LDS 7004	Ethics, Governance & Social Responsibility	3
LDS 7005	Global Leadership Development	3
LDS 7006	Developing Human Capital	3
LDS 7007	Global Strategic Leadership	3

III. Specialization: Select one (18 credits)

Organizational Management

OLM 7001	Organizational Behavior & Culture	3
OLM 7002	Marketing Theory & Research	3
OLM 7003	Service Science Management & Development	3
OLM 7004	Managing Innovation & the Learning Organization	3
OLM 7005	Managing for Financial Performance & Accountability	3
OLM 7006	Strategic Development of Multinational Organizations	3

Academic Administration

HEA 7001	Theories and Research in Academic Administration	3
HEA 7002	Higher Education Policy & Accountability	3
HEA 7003	Legal Issues and Responsibilities in Higher Education	3
HEA 7004	Managing Financial Performance & Accountability	3
HEA 7005	Comparative Higher Education	3
HEA 7006	The Contemporary College Student	3

IV. Dissertation (6 credits minimum)

RES 8001	Dissertation Research Seminar & Prospectus	3
RES 8002	Dissertation Proposal Development, Defense, & IRB Application	3
RES 8011	Continuous Development of the Qualifying Paper	1 to 6
RES 8022	Dissertation Completion	1 to 6 credits

GENERAL INFORMATION

Contents

Admissions

Procedure

Students who wish to apply for admission may submit formal applications after completion of the junior year of high school or its equivalent. When all admission materials are received by Indiana Tech, the applicant is notified concerning eligibility for admission. In addition to the application form, these materials include the high school transcript, ACT or SAT test scores, and an application fee of $50. The application fee is not refundable and cannot be applied to tuition, fees, or housing. Checks or money orders should be made payable to Indiana Tech.

A new student may enter at the beginning of any regularly scheduled term. The exact dates are indicated in the academic calendar. An application form may be obtained from the Office of Admissions, Indiana Tech, 1600 E. Washington Boulevard, Fort Wayne, IN 46803, or online at www.IndianaTech.edu

Advance Deposits

Each new student admitted to Indiana Tech must make an advance deposit of $100 (applies toward tuition) after notice by the Office of Admissions that the application has been accepted.

This is refundable if written notification of cancellation is postmarked by May 1 for students starting in the fall and by October 1 for students starting in the spring.

Upon receipt of the advance deposit, the student's name is officially recorded on the roster of students. This procedure assures a student of a place in the university. The advance deposit will be fully credited to the student's tuition and fees upon first registration. This deposit is not recurring. Students who will live in Indiana Tech residence halls are required to make a $350 deposit with their application for student housing. This deposit is refundable if written notification of cancellation is postmarked by May 1 for students starting in the fall and by December 1 for students starting in the spring. This deposit is held as security against damage and is refundable upon completion of the terms of the residence hall contract. Housing for both male and female students is available. A student is not considered fully accepted until the following are completed:

1. All required admission forms including the application fee have been submitted;
2. He/she has been notified of acceptance by the Office of Admissions;
3. He/she has confirmed intention to matriculate by forwarding the $100 tuition deposit plus a housing deposit, if applicable.

Campus Visits and Interviews

Candidates for admission and their families are encouraged to visit Indiana Tech so that they may tour the campus and talk with an admissions counselor. Prospective students are strongly encouraged to meet with faculty members about anticipated programs of study. An appointment may be made by writing the Office of Admissions, by calling toll free at 800.937.2448 ext. 3103, or online at www.IndianaTech.edu/visit. Office hours are weekdays 8:30 a.m. to 5 p.m. Although a personal interview is not required, Indiana Tech reserves the right to require an interview if the Office of Admissions considers an interview desirable.

Minimum Requirements for Admission

Freshman students: Admission as a freshman student is primarily based on the applicant's secondary school record. The student also is required to submit an SAT or ACT result. Extracurricular interests, activities, and recommendations from secondary school officials are also considered. A personal interview, though not required, is strongly recommended.

Advanced standing may be awarded to new students on the basis of CEEB Advanced Placement test scores, special examination by Indiana Tech, or by the College Level Examination Program (CLEP), both general and subject examinations.

Indiana Tech recognizes the General Education Development test for applicants who wish to establish high school equivalency.

Transfer Students: A student who is attending or has attended another college or university may apply for admission to Indiana Tech as a transfer student by submitting the regular application for admission, secondary school transcripts, and transcripts from all colleges previously attended. Transfer credit may be granted for courses completed with the grade of C or higher or their equivalents from accredited colleges or universities. Application of transfer credit to specific degree programs is determined by the appropriate college dean. Students wishing to transfer from colleges not regionally accredited may be required to submit catalogs and/or course syllabi in order that potential transfer credit may be analyzed.

Credit awarded through the College Level Examination Program (CLEP) or the DSST Program may also be submitted for approval for transfer credit.

Visiting Students: A person who wishes to enroll for a limited number of credits, but not as a candidate for a degree, may register as a visiting student upon presentation of evidence to an appropriate dean that he or she meets the requirements for admission. Visiting students seeking temporary admission, in order to accumulate credits toward completion of degree requirements at another institution, should have written approval to register for the specific courses from the degree-granting institution. This status is not available to a student dismissed from Indiana Tech for academic or other reasons. Contact the Office of the Registrar for more information.

Veterans: Indiana Tech aids veterans in academic and

financial counseling as well as in making available information regarding eligibility and procedures for applying for G.I. Bill educational benefits. Contact the Office of the Registrar for more information.

International Students

Indiana Tech welcomes student applications from foreign countries. Students from foreign countries will be admitted on the basis of certified credentials verifying completion of preparatory studies and an Internet-based TOEFL score of at least 70 for undergraduate and 213 for graduate students. Please note, these scores are subject to change as the revised TOEFL is implemented internationally.

We encourage all students to complete their application process and receive acceptance at least one month before the start of their first term. This helps avoid delays in processing, shipping and visa issuance. Please keep challenges such as paperwork delivery, currency exchange, and travel time in mind to ensure your timely start of studies.

A $1,000 tuition deposit is required for matriculation in all programs. This deposit is refundable only if the student is denied a visa. In order to recognize the additional expenses associated with handling, processing, and admitting students from foreign countries, Indiana Tech charges a one time processing fee of $250 upon initial enrollment. International students are also required to purchase Indiana Tech's medical insurance.

It is strongly recommended that international students forward a significant sum of money (a minimum of $5,000 USD is suggested) to be applied against tuition, room, board, and other fees in the freshman year. This credit will serve to offset initial delays which often occur in the transfer of funds between the students' country of origin and the United States. The assistant director of international admissions is available for students' assistance and advising.

International Student Regulations

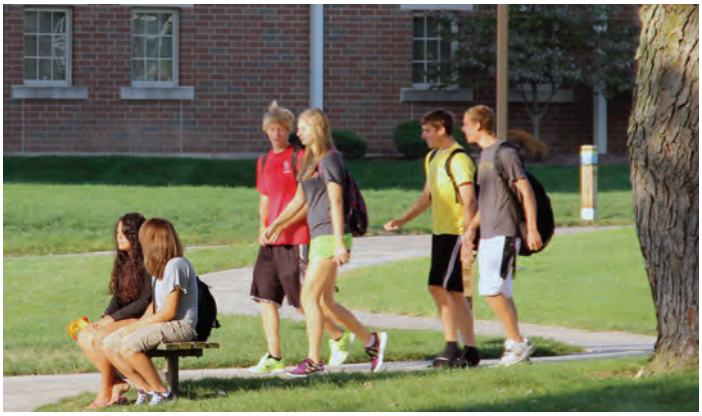
International students entering the United States on student visas must have ample funds to pay for their educational expenses without seeking an employment card to work outside of the university. The United States Immigration and Naturalization Service requires that all individuals with student visas be enrolled on a full-time basis (a minimum of 12 credits each semester) and keep their passports valid for no less than six months. All international students should report to the admissions office once they arrive on campus with their I-20 and passport. The university is required to track certain information including entry date, passport numbers, and major field of study. It is the responsibility of each individual student to maintain his or her immigration status and notify INS of any address change that occurs within 10 days.

The assistant director of international admissions assists students by providing travel documents and other forms needed to be in compliance with INS regulations. Forms to assist you in this process are available at the admissions office.

Non-discrimination Policy

All members of the Indiana Tech community (in employment and educational programs and activities) are provided equal opportunities regardless of race, color, national origin, religion, sex, physical or mental disability, medical condition, ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran. (Covered veterans are special disabled veterans, recently separated veterans, Vietnam era veterans, or any other veterans who served in active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.)

Indiana Tech is committed to achieving equal education opportunity and full participation for persons with disabilities. In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, the university does not exclude otherwise qualified persons with disabilities, solely by reason of the disability, from participating in university programs and activities, nor are persons with disabilities denied the benefits of these programs or subjected to discrimination.



Academic Regulations - Undergraduate Studies

Advising

Students have access to academic advisors; they are assigned academic advisors after the initial registration process. Unless there is a need for reassignment (as determined by the Registrar's office), or discussion between students and advisors occurs and they realize there is a need to make a change, students will continue to be assigned to the same advisors throughout their time at Indiana Tech.

Registration

All students are expected to register on the dates indicated in the academic calendar and the schedule of classes. Students must follow their degree curricula, as they provide the path toward graduation. Students are able to receive assistance from advisors with planning their schedules.

Students may make adjustments to their schedules based on class/section availability and/or dropping/adding classes during the first five (5) days of the semester. After the fifth day of the semester, students (with the permission of the class instructor, advisor, and as applies, coach) also are able to withdraw from individual classes prior to or on the last day of course withdrawal. In these cases students will have an assigned "W" on their transcripts.

Class enrollment records become official after the fifth class day. A class day is identified as a day (Monday through Friday) on which classes are held in accordance with the official term schedule.

Class Periods & Credit Hours

In the traditional day program, a lecture class period, associated with one hour of credit, is fifty (50) minutes in duration. In courses without laboratories the number of credit hours normally indicates the number of times during the week that the course is scheduled to meet. For example, a three credit-hour course in mathematics is scheduled to meet 150 minutes each week (such as Monday, Wednesday and Friday for fifty (50) minutes or Tuesday and Thursday for seventy-five (75) minutes). In some courses, a part of the scheduled time each week is spent in laboratory work.

Eighteen hours is the maximum allowable load. Students carrying more than seventeen (17) hours are considered to be in overload and typically this overload is not covered by financial assistance. In order to carry nineteen (19) hours or more, students must have a cumulative grade point average of at least a 3.30 and the approval of the corresponding dean of the college. Students enrolled in twelve (12) or more credit hours per term are classified as full-time students.

Attendance

Because attendance is a predictor of success in college, Indiana Tech has an attendance policy. Students must attend every meeting of all the classes for which they are registered. Certain absences are permissible with proper authorization, which is determined by the class professor.

Release of Student Information

The Family Educational Rights and Privacy Act of 1974, with which Indiana Tech complies fully, was enacted to protect the privacy of educational records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading statements. Indiana Tech has established the following student information as public or directory information, which may be disclosed by the institution at its discretion:

- Student Name
- Address
- Phone Numbers
- University E-mail
- Major Field of Study
- Current Course Load/Enrollment
- Dates and/or Verification of Attendance
- Degrees Received
- Graduation Date
- Academic Awards Received
- Sports Photograph
- Position, weight and height of athletes

Students may request that Indiana Tech withhold the release of directory information by notifying the registrar's office in writing. Students may also sign a form (obtained through the Registrar's office) to release academic information to identified individuals. Students have the right to file complaints with the Family Policy Compliance Office in Washington, D.C., concerning alleged failure by the university to comply with the Act. Questions concerning the Act should be directed to the Registrar's Office.

Statement of Academic Integrity

Indiana Tech is an academic community that values and promotes academic integrity. All members of our community have an obligation to themselves, their peers, and the institution to uphold the code of ethics by demonstrating honesty, accountability, respect, and professionalism. When academic integrity is compromised, learning is minimalized, and the goals of the academic community cannot be realized.

In order to maintain academic integrity, faculty are expected to adhere to the following guidelines:

- Maintain and role model personal academic integrity
- Clearly define for students the expected level of collaboration (as it applies) on assignments/projects/homework
- Confront academic dishonesty when it is believed to have occurred and adhere to the policy as stated on

their course syllabi
- Report incidences of academic dishonesty by completing infraction cards and submitting them to the academic dean of their college
- Act to prevent violations of academic integrity
- In order to maintain academic integrity, students are expected to adhere to the following guidelines:
- Maintain personal academic integrity
- Ask faculty to clarify any aspects of permissible or expected cooperation on any assignment
- Treat all graded academic exercises as work that is to be conducted individually, unless otherwise permitted
- Report any instance of academic dishonesty to the instructor or academic dean of their college

Types of Academic Dishonesty

Examples of academic dishonesty include, but are not limited to:
- Cheating, which includes submitting the work of another person as one's own work, or using unauthorized aids.
- Plagiarism, which is the misrepresentation of another person's work as one's own. Submitting any writing that does not properly acknowledge the quoting or paraphrasing of another person's words or that fails to give proper credit for another person's ideas is plagiarism. Acts of plagiarism can also include the unacknowledged use of other forms of media including, but not limited to music, video, audio, theater projects, compositions, website, and computer software.
- Self-Plagiarism (or Recycling Fraud), which is the resubmission of part or all of one's own work to fulfill academic requirements in the same course or in other courses without providing proper acknowledgment of the original work with accurate citations.
- Fabrication, which is the falsification or invention of information or data in any academic undertaking.
- Facilitating Academic Dishonesty, which involves assisting someone in an act of dishonesty.

Consequences

Academic dishonesty is regarded as a serious offense against the academic community. When a student is believed to have disregarded the principles of academic integrity, consequences will follow.

When academic integrity is believed to be compromised, faculty must adhere to the policy as stated on their course syllabi regarding academic dishonesty. In addition, faculty are required to follow the Infraction Card process as outlined in the student handbook Techniques under "Student Conduct Policy."

Undergraduate Grading System

Grades for most of the college credit courses are as follows; some professors also utilize the plus-minus system:

A	Excellent, highest possible grade
B	Good performance
C	Satisfactory performance (a "C-" is not considered to be a passing grade in some courses)
D	Unsatisfactory but passing (a "D" is not considered to be a passing grade in some courses)
F	Failure
W	Course withdrawal; Assigned within the first forty-five (45) days of a term, it has no effect on the student's grade point average. All withdrawals must be initiated by the student. To begin the withdrawal from one or more courses, students must contact their advisors. If students are considering withdrawing from one or more classes, they should be aware that financial aid may be affected. Students should contact the Financial Aid office for further information on how their aid may be affected.
I	Incomplete

A grade of "I"(Incomplete) is only to be assigned when a student, through no fault of his or her own, is unable to complete the requirements of a course by the end of the semester. An "I" will not be assigned for a course in which a student is definitely earning an "F." In order to receive credit for the course in which an "I" is assigned, the student must complete the course requirements by the date specified on the approval for incomplete form within the first eight weeks of the following semester of enrollment. After the eighth week of the following semester or after one calendar year for a student who interrupts his or her enrollment, the "I" will revert to the grade based on work completed to date.

Please note that the policy for assigning an incomplete ("I") grade excludes Independent Study courses. Any deviation from the above rules must receive special permission from the vice president for academic affairs.

A student's grade point average is calculated based upon a point system. At the end of each term, students receive official grade reports. Term and cumulative grade point averages are determined in the following manner:

A 4.00
A-...3.67
B+..3.33
B 3.00
B-...2.67
C+..2.33
C 2.00
C-...1.67
D 1.00
F.....0.00

Multiply course credit hour value by point value of grade earned in the course to get the total point value

See example:

Grade	Course Credit Hour Value	Point Value of Grade Earned	Total Point Value
A	3	4.00	12
A	3	4.00	12
C	3	2.00	6
B	3	3.00	9
A	1	4.00	4

- Add total course credit hour values
  Example from above: 13
- Add total point values
  Example from above: 43
- Divide summed total point value by summed course credit hour value
  Example from above: 43/13 = 3.3076923 (using the chart above, this is a "B" average)

Grade Reports

The registrar's office will not mail paper final grade reports unless a copy is requested in writing. Students may view and print their grades online via my.indianatech.edu. If a student requests a printed final grade report, a request may be submitted using a Printed Grade Report Request form available at the registrar's office (and online). Printed final grade reports will be processed five (5) to seven (7) days after the request has been submitted, after the end of the term. Individuals requesting printed final grade reports is an option as long as one is a current student at Indiana Tech.

Freshman Orientation

The freshman orientation begins with a two-day introduction to campus that occurs prior to the start of classes. A freshman seminar, University Experience, meets twice per week during the student's first semester.

Academic Honors

An undergraduate student who earns a grade point average of 3.5 or higher during any semester is placed on the Academic Honors List in recognition of high academic achievement. No monetary scholarships are awarded to academic honors recipients.

Graduation honors are conferred upon those students who maintain outstanding academic records while attending Indiana Tech. These honors, based on the cumulative grade point average in courses completed at Indiana Tech are as follows:

Summa cum laude..... 3.90 - 4.00
Magna cum laude..... 3.70 - 3.89
Cum laude..... 3.50 - 3.69

Grade Appeals

Indiana Tech expects all faculty to adhere to fair grading practices that are explained to students and clearly identified in course syllabi. The right to appeal a grade is provided to give students recourse when they feel a grading policy has resulted in arbitrary treatment that places them at a disadvantage compared to other students taking the class. A student must initiate the grade appeal within the first two weeks of the semester immediately following the term when the grade was issued. The appeal consists of the following process:

The student is to discuss the concern with the instructor of the course to address the specific grading issues.

If discussion with the instructor does not resolve the problem, the student is to contact the dean of the college in which the course was taught and present a written record of the appeal and the outcome of the initial meeting with the instructor. The dean will make a determination and inform the student.

Students may appeal the decision of the dean. Appeals must be made in writing and sent to the vice president for academic affairs with a copy sent to the dean. Such appeals must state the student's name, ID, and the specifics of the decision being appeal. Students should be aware that prior decisions can be overturned only in cases where substantially new information has come to light. All appeal decisions are final with the vice president for academic affairs.

Exchange of F, D, and C- Grades

A system of grade exchange is available which allows students to repeat courses in which a grade of "C-"or lower has been earned. The most recent grade earned is used to calculate the cumulative grade point average and degree major cumulative grade point average. The following detail regulations apply to the grade exchange:

- No grade exchange will be made unless the student completely repeats the course.
- All grades will remain on the student's transcript.

It is not intended that this system of grade exchange shall alter the probation procedures now in effect; specifically, the academic dismissal procedures shall not be postponed to take advantage of this provision.

The system of grade exchange became effective June 15, 1970, and does not apply to any course taken prior to this date.

Although a given course may be repeated more than once, by choice or necessity, the grade exchange provision above will apply only the first time the course is repeated.

Class Standing

Freshman ..... 0 - 29 credits
Sophomore..... 30 - 59 credits
Junior..... 60 - 89 credits
Senior ..... 90 or more credits

Proficiency Examinations

Proficiency examinations are available for selected courses at Indiana Tech. A proficiency examination is used to establish credit in a course for which credit has not been earned by either transfer credit or attendance in a class at Indiana Tech. A proficiency examination cannot be taken in any course for which a grade has been issued at Indiana Tech, or a course that has been audited at the university. Credit in the course is issued based on a pass/fail grade. If a student fails a proficiency exam, he or she may not retake the exam. A student who wishes to take a proficiency exam must see his or her advisor or dean for a list of available exams.

Students may elect to take standardized exams through the College-Level Examination Program (CLEP) or the DANTES Subject Standardized Tests (DSST) program to demonstrate knowledge in specific subject areas. Credit can be earned for what a student has learned through self-study, advanced high school courses and non-credit courses. For a list of available exams and the Indiana Tech equivalent course, students can visit the Registrar's webpage at www.IndianaTech.edu. For more information, students can contact the Registrar's office.

Transfer Credit

Transfer credit may be granted for courses completed with grades of "C" or higher at other regionally accredited colleges or universities. Courses completed at unaccredited institutions or programs will be reviewed on an individual basis by the Registrar's Office, and credit may be granted if evaluation of the institution and the courses indicates that such credit is appropriate.

Transfer credit from accredited colleges or universities will be considered for curriculum-related course work with grades of "C" or better. An official transcript is required. Students also may be required to submit college catalogs, course descriptions, or course syllabi to aid in the university's decision on whether to grant credit.

No more than 30 credit hours can be transferred from non-regionally accredited schools for an associate degree candidate. No more than 60 credit hours can be transferred from non-regionally accredited schools for a bachelor's degree candidate.

If students wish to have previous university-level course work from international studies evaluated for transfer credit, they must have a course-by-course evaluation report completed by one of the following services:

- Global Credential Evaluators, Inc.
  P.O. Box 36
  28 Westhampton Way
  Richmond, VA 23173
  (804) 639-3660
  www.gcevaluators.com
- Educational Credential Evaluators, Inc.
  P.O. Box 514070
  Milwaukee, WI 43203
  (414) 289-3400
  www.ece.org
- World Education Services, Inc.
  P.O. Box 745
  Old Chelsea Station
  New York, NY 10113-0745
  (212) 966-6311
  www.wes.org
- American Association of Collegiate Registrars and Admissions Officers (AACRAO)
  International Education Services
  One Dupont Circle, NW, Suite 520
  Washington, D.C. 20036-1135
  (202) 296-3359
  www.aacrao.org

Undergraduate Graduation Requirements

To be eligible to receive a degree, a student must have earned a cumulative grade point average of at least 2.00 in the courses completed at Indiana Tech. The student must also have a minimum of a 2.00 cumulative average in all courses taken in the major department.

Students must successfully complete a total of at least 30 credit hours at Indiana Tech in a bachelor's degree program. At least 21 of these 30 credits must be among the last credits completed by the student before graduation. Individual exceptions to the policy can only be made with written approval by the vice president for academic affairs. At least 15 credit hours must be earned at Indiana Tech as a matriculated student in an associate degree program. No student may receive a transcript or diploma until all financial obligations to the university have been met.

Each student shall be granted a period of five calendar years in which to complete the program requirements which were in effect at the time of first registration. Students requesting additional time must submit their courses and credits to the corresponding dean for re-evaluation under the requirements in effect at the time of their requests.

To prepare for graduation, students must file a Petition for Graduation with the Registrar's office. Petitions are accepted when students believe they are within one year of completing the degree requirements. To participate in commencement exercises, students must be within nine (9) hours of degree completion and have registered for those hours during the summer after commencement. Petition deadlines are February 1 for spring/summer graduation and October 1 for fall graduation.

Second Baccalaureate Degree

Students who have earned a degree from Indiana Tech or from another accredited college or university may earn a second degree at Indiana Tech. All specified requirements for the second degree must be met, and the program of studies completed for the second degree must include at least 15 credit hours in residence for an associate degree

and 30 credit hours for a bachelor's degree beyond those required for the first degree.

Academic Probation and Dismissal

It is expected that each student will strive to maintain the highest academic record. Once semester grades are issued, students who have completed their first semester must have earned at least a 1.5 cumulative grade point average or they will be placed on academic probation. Once on probation, these students must earn a cumulative grade point average of 1.5 or higher for the following semester, or they will be academically dismissed.

Once semester grades are issued, students who have completed their third semester and beyond must maintain at least a 2.0 cumulative grade point average or they will be placed on academic probation. Once on probation, these students must earn a cumulative grade point average of 2.0 or higher for the following semester, or they will be academically dismissed.

Once semester grades are issued, students who have completed any semester with a 0.00 semester grade point average will be academically dismissed.

Students placed on academic probation or who have been dismissed will be informed of their status through U.S. mail and email within two weeks of the end of the academic semester that determined the status.

Students placed on academic dismissal status for the first time may apply for readmission after a period of one semester, not including winter or summer semesters. The Registrar's office determines whether or not a student is readmitted and will notify these students through email and U.S. mail of the decision within two weeks of the student requesting readmission. Upon readmission, these students will be placed on academic probation and will need to earn a cumulative grade point average of 2.0 or higher, or they will be academically dismissed. Students academically dismissed for the second time may apply for readmission to the University but may not apply for readmission to the same academic major for at least one calendar year.

Students on academic probation or dismissal status may not hold office in any campus fraternity organization; may not participate in intercollegiate athletics; and may be required to live in campus housing unless married or living with close relatives.

Academic Dismissal Appeal

Students who are academically dismissed have an opportunity to appeal the dismissal if extenuating circumstances occurred during the semester that led to the academic dismissal. The letter notifying these students of their dismissal status also outlines the process for appealing the academic dismissal. Students must submit appeals no later than two weeks prior to the beginning of the following semester. Appeals are reviewed by the Financial Aid-Academic Dismissal Appeals Committee. Students will be notified of the outcome of the appeal review through email and U.S. mail.

Academic Intervention for Students on Probation

The academic intervention program provides services to current and entering students placed on academic probation and concentrates on the individual student. Once they have been notified of their probationary status, students are assigned to faculty and staff advisors who serve as Academic Intervention Specialists (AIS). AIS advisors are matched with students based on Indiana Tech's commitment to providing relationship-based education; consideration for the pairings is given to major area of study, academic and co-curricular involvement, and past and current advisor-advisee familiarity. Students and AIS advisors work together by creating personalized contracts. This includes identifying and setting realistic goals as well as the steps needed to achieve them, terms of mutual accountability, and resources that can assist students both in short- and long-term bases. AIS advisors and students work together toward a common goal of helping students improve and achieve academic and overall success in college.

Academic Bankruptcy Policy

The academic bankruptcy policy forgives grades and credits for students who have not been enrolled at Indiana Tech for more than five (5) calendar years. By petitioning and receiving approval from the vice president for academic affairs, all "D" and "F" grades would be ignored from GPA calculations but not removed from the transcript. Those courses (or ones of similar content as determined by the appropriate college dean in consultation with the Registrar's office) would need to be retaken and the student would be unable to graduate with honors. The student would then be conditionally admitted back into Indiana Tech, in which case a GPA of 3.0 or higher must be maintained for the first nine (9) credit hours.

Under this policy, the term "academic bankruptcy" would be reflected on the transcript. This policy will only be granted once during a student's academic career at Indiana Tech. Implementation of academic bankruptcy at Indiana Tech does not obligate any other institution to approve or recognize this distinction.

General Education Requirements

Although Indiana Tech has historically focused its academic programs in areas that lead directly to career opportunities, the university also recognizes the importance of providing students with a well-rounded education. The goal of the general education requirements is to provide students pursuing bachelor's degrees with the skills and flexibility they will need to be successful in a rapidly changing world. The University's core of general education courses ensures that our graduates have this solid foundation on which to build more specific professional training within the chosen major.

The general education component at Indiana Tech is organized around several desired outcomes. Many of these components are taught across the curriculum (such as critical thinking skills and creativity). However, there are also cases where specific courses can be identified which more directly aim toward fulfillment of the identified competencies. In some cases, the specific course required depends upon the degree program that the student is pursuing.

Communication Skills: Three courses required.
- ENG 1250 English Composition I
- ENG 1270 English Composition II
- EGR 2000 Engineering Communication (Engineering) or ENG 2320 Professional Communication

Cultural and Ethical Awareness: Three courses required.
HUM 2000 Introduction to Humanities, recommended

Technology: One course required.
- MIS 1300 or equivalent or proficiency exam for credit
- Self-study option followed by a repeat of proficiency exam.

Mathematical Reasoning: Two courses required
Note: MA 1000 or test out is a prerequisite for MA 1025; credits do not count toward requirement.
- MA 1025 or equivalent
- MA 2025 or equivalent

Critical Thinking
Critical thinking skills should be developed and honed throughout the student's coursework at Indiana Tech. IIT 1270, may be required by the student's major.

Understanding Ourselves and Society: Three courses required.
- PSY 1700 Introduction to Psychology
- Two additional psychology, social sciences or Personal Finance courses to be determined by major.

Science: One of the following courses:
- Physics or Physical Science: PH 1000 or equivalent
- Biology: BIO 1000 or equivalent
- Chemistry: CH 1000 or equivalent
- General Science: SCI 2000 or equivalent

General Learning Outcomes

The curricula at Indiana Tech are constructed to assure that students will master the following learning outcomes:

Composition and Communication
- Demonstrate flexible strategies for generating, revising and editing verbal texts.
- Practice appropriate means of documenting work and understanding the ethics and legalities of proper documentation.
- Limit errors in surface features as syntax grammar, punctuation, spelling and diction.
- Define and demonstrate conventions of format and structure, and adopt voice, tone, and level or formality to the rhetorical situation.

Critical Thinking/Problem Solving
- Given a problem or situation, identify possible resolutions (hypotheses).
- Assemble sufficient information/data to determine a resolution.
- Determine relevance and reliability of the information gathered.
- Analyze the information gathered so as to identify likely conclusion(s).

Quantitative Reasoning

Be able to solve problems that involve:
- Numeric or arithmetic contexts: estimation and approximation, percentages, ratio and proportion, simple and compound interest and simple formulas.
- Conceptual contexts: pattern recognition, symbolizing data, graphing analysis, algebraic expressions, equations and modeling.
- Algebraic contexts: manipulations of variable expressions, solving equations, exponents, slope and equation of a line, linear equations and simultaneous equations.
- Data representation and chance elements contexts: counting techniques, data distribution, basic statistical measures and elementary probability.

Apply Technology
- Collect and access credible information/data and present it to demonstrate a particular perspective/result.
- Prepare and present information using word processing, spreadsheet, presentation and e-mail software.
- Use specialized software or equipment appropriate to the field.

Assessment Program

Indiana Tech recognizes that it is our responsibility as an institution of higher education to evaluate systematically the academic progress of our students within the context of our University's mission statement. A comprehensive assessment plan has been instituted to ensure that this evaluation is carried out on a timely basis and that the results of this assessment can be used to continuously improve our educational programs and instruction.

The goal of the assessment plan at Indiana Tech is to enhance further the academic and personal development of our students and to provide a means for continually refining and improving the university.

Academic Regulations - Undergraduate Studies

Commencement

Formal Commencement exercises are held at the close of the spring semester. Students who complete degree requirements during the fall semester (prior to graduation) will receive earned degrees at that time. However, these graduates are encouraged to return for commencement exercises the following spring. To participate in commencement exercises, students must be at least within nine (9) hours of degree completion or have an internship to complete, and have registered for those hours during the summer after commencement.

Academic Regulations - Graduate Studies

Admission Requirements

The graduate program is designed to serve the working professional adult student. The assumption of the university is that by working for a period of time prior to the pursuit of a graduate degree, the student has attained considerable knowledge, maturity and discipline that is not common in traditional-age students. These characteristics are essential for successful completion of the degree program; hence, they are incorporated into the admissions requirements. The admissions guidelines for the graduate school are as follows:

- Baccalaureate degree from a regionally accredited institution
- Minimum undergraduate GPA of 2.5
- Two (2) years of significant work experience
- Completion of the Graduate Division Application Package (e.g., application form, recommendations, etc.)

If the applicant does not meet the minimum work experience, the following criteria can be substituted:

Minimum undergraduate GPA of 2.5 plus 200 times undergraduate GPA plus GMAT score must equal or exceed 1000 total points.

Additional MBA Admissions Requirements

Additionally, all MBA students must have completed the following courses with a grade of "C" or better:

- Principles of Management
- Principles of Marketing
- Accounting Principles
- Corporate or Managerial Finance

Students who do not meet these prerequisites should contact their admissions representative to discuss the available alternatives. The admissions committee makes all admissions decisions. If the committee finds any deficiencies for admission, the committee, along with the graduate dean, will determine how the student may correct the deficiencies.

MBA Accounting Admissions Requirements

The following are requirements for an individual to be accepted into the MBA accounting concentration:

- Student must have obtained a regionally accredited baccalaureate degree.
- Student must have completed at least 24 undergraduate credit hours in accounting.
- Student must have completed at least 24 credit hours in business and economics courses, other than accounting. These courses can be at the undergraduate and/or graduate level.

The business courses may include up to 6 hours of business and tax law courses and up to 6 hours of computer science.

- The accounting hours must include courses covering financial accounting, auditing, taxation, and managerial accounting.

The Indiana Board of Accountancy may change CPA requirements at any time. Contact your graduate advisor with any questions.

MSE Admissions Requirements

To be admitted to the Master of Science in Engineering Management program, students must meet the following admission requirements:

- The student must have obtained a regionally accredited bachelor of science in a technical field
- The student must have a minimum cumulative undergraduate GPA of 2.5
- The student must have completed at least one undergraduate accounting course and one finance course

MSM Admissions Requirements

All MSM students must have completed Principles of Management with a grade of C or better.

MSOL Admissions Requirements

To be admitted to the Master of Science in Organizational Leadership, students should meet the following requirements:

- Minimum of three years of work experience with an increasing level of supervisory responsibilities
- A bachelor's degree (in any field) from a regionally accredited institution, with a cumulative grade point average of 2.50 or better
- Three letters of recommendation
- A brief essay expressing your reasons for applying and expectations for the program
- A current résumé

Graduate Transfer Credit

Students who have attended graduate classes at another college or university may transfer credit under the following guidelines:

- Courses must be business-related with grades of "B" or better.
- The number of credits to be transferred cannot exceed nine (9) credit hours.
- An official transcript must be received by Indiana Tech.
- The institution at which the credit was earned must be regionally accredited.
- The prospective student must submit a course description and, if possible, a course syllabus.

Graduate Curriculum

Choice in Curriculum

At the time of admission, the curriculum chosen by the student is specified by the degree program as listed in the university catalog.

Change in Curriculum Year

A student may change to the curriculum of the current year with the approval of the dean or associate dean of the appropriate college. The official change must be made through the CPS Office. If a student changes curriculum, the student is required to follow all conditions of the new curriculum. A student may not change to a curriculum in force previous to that student's matriculation, nor may the student revert to previous curriculum requirements once having officially transferred to a current year curriculum.

Sufficient progress

Students are expected to maintain sufficient progress toward their degree completion. If a student has not finished a course for a period of three (3) years, the student must meet the requirements of the curriculum that is in force at the time of re-registration.

Graduation Requirements

To qualify for graduation from Indiana Tech, students must:

- Complete all necessary credit hours for the degree, with no more than nine (9) transfer credits.
- Achieve a minimum GPA of 3.0 with no more than nine (9) credit hours of "C" or better work counting toward the degree.
- Complete all course work within seven (7) years after completing the first class.
- Satisfy all financial obligations to the university.
- Completion of exit loan counseling at www.studentloans.gov.

Computer Requirement

Students will be required to have access to a personal computer outside of the classroom. It is recommended that this computer be a Windows-based platform with Microsoft Office software.

Release of Student Information

The Family Educational Rights and Privacy Act of 1974, with which Indiana Tech complies fully, was enacted to protect the privacy of educational records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading statements. Indiana Tech has established the following student information as public or directory information, which may be disclosed by the institution at its discretion:

- Student Name
- Address
- Phone Numbers
- University E-mail
- Major Field of Study
- Current Course Load/Enrollment
- Dates and/or Verification of Attendance
- Degrees Received
- Graduation DateAcademic Awards Received
- Sports Photograph
- Position, weight and height of athletes

Students may request that Indiana Tech withhold the release of directory information by notifying the registrar's office in writing. Students have the right to file complaints with the Family Educational Rights and Privacy Act Office in Washington, D.C., concerning alleged failure by the university to comply with the Act. Questions concerning the Act should be directed to the registrar's office.

Statement of Academic Integrity

Indiana Tech is an academic community that values and promotes academic integrity. All members of our com-

munity have an obligation to themselves, their peers, and the institution to uphold the code of ethics by demonstrating honesty, accountability, respect, and professionalism. When academic integrity is compromised, learning is minimalized, and the goals of the academic community cannot be realized.

In order to maintain academic integrity, faculty are expected to adhere to the following guidelines:
- Maintain and role model personal academic integrity
- Clearly define for students the expected level of collaboration (as it applies) on assignments/projects/homework
- Confront academic dishonesty when it is believed to have occurred and adhere to the policy as stated on their course syllabi
- Report incidences of academic dishonesty by completing infraction cards and submitting them to the academic dean of their college
- Act to prevent violations of academic integrity

In order to maintain academic integrity, students are expected to adhere to the following guidelines:
- Maintain personal academic integrity
- Ask faculty to clarify any aspects of permissible or expected cooperation on any assignment
- Treat all graded academic exercises as work that is to be conducted individually, unless otherwise permitted
- Report any instance of academic dishonesty to the instructor or academic dean of their college

Types of Academic Dishonesty

Examples of academic dishonesty include, but are not limited to:
- Cheating, which includes submitting the work of another person as one's own work, or using unauthorized aids.
- Plagiarism, which is the misrepresentation of another person's work as one's own. Submitting any writing that does not properly acknowledge the quoting or paraphrasing of another person's words or that fails to give proper credit for another person's ideas is plagiarism. Acts of plagiarism can also include the unacknowledged use of other forms of media including, but not limited to music, video, audio, theater projects, compositions, website, and computer software.
- Self-Plagiarism (or Recycling Fraud), which is the resubmission of part or all of one's own work to fulfill academic requirements in the same course or in other courses without providing proper acknowledgment of the original work with accurate citations.
- Fabrication, which is the falsification or invention of information or data in any academic undertaking.
- Facilitating Academic Dishonesty, which involves assisting someone in an act of dishonesty.

Consequences

Academic dishonesty is regarded as a serious offense against the academic community. When a student is believed to have disregarded the principles of academic integrity, consequences will follow.
When academic integrity is believed to be compromised, faculty must adhere to the policy as stated on their course syllabi regarding academic dishonesty. In addition, faculty are required to follow the Infraction Card process as outlined in the student handbook Techniques under "Student Conduct Policy."

Graduate Grading System

The university uses the letter grades "A," "B," "C" and "F" in the graduate program. The use of +/- grades is optional.

A = Excellent, highest possible grade
B = Good performance
C = Unsatisfactory but passing
F = Failure

Incompletes

The grade of "I" may be issued when students, through no fault of their own, are unable to complete the requirements of the course by the end of the session. The "I" grade must be approved by the appropriate dean. To receive credit for the course, students must complete the requirements within a designated time period of up to 40 days from the end of the session in which they are enrolled. Students who interrupt continuous enrollment must remove the "I" within one calendar year of filing of the "I."

Withdrawals

No grade will be recorded on transcripts for any approved voluntary course withdrawal during the first week of classes each semester. Withdrawals with record "W" will be allowed until the end of the third week of class. After the third week, students may not withdraw from a class.
A student's grade point average is calculated based upon a point system. At the end of each term, students receive official grade reports. Term and cumulative grade point averages are determined in the following manner:

A 4.00
A-...3.67
B+..3.33
B 3.00
B-...2.67
C+..2.33
C 2.00
F.....0.00

Multiply course credit hour value by point value of grade earned in the course to get the total point value

Academic Regulations - Graduate Studies

See example:

Grade	Course Credit Hour Value	Point Value of Grade Earned	Total Point Value
A	3	4.00	12
A	3	4.00	12
C	3	2.00	6
B	3	3.00	9
A	1	4.00	4

- Add total course credit hour values
  Example from above: 13
- Add total point values
  Example from above: 43
- Divide summed total point value by summed course credit hour value
  Example from above: 43/13 = 3.3076923 (using the chart above, this is a "B" average)

No credit points shall be allowed for the grades of "F," "W," or "I."

In computing the grade point average, all university level courses completed by the student and all university level courses with "F" marks shall be included in the total hours (excluding transfer credit). Grade point averages for a semester shall be computed by dividing the sum of the credit points earned by the total hours. (Credit for courses for which a mark of "W" or "I" has been issued is not included in the GPA calculation.)

Graduate Grade Exchanges

A system of grade exchange is available which allows students to repeat courses in which a grade below a "B-" has been earned. The last grade earned is used to calculate the cumulative grade point average. The following regulations apply to the grade exchange:

- No grade exchange will be made unless the student completely repeats the course.
- All grades shall remain on the student's transcripts.
- Although a given course may be repeated more than once, by choice or necessity, the grade exchange will apply only the first time the course is repeated.

Grade Appeals

All students have a right to appeal the grade of a professor. This process shall be initiated by the student before the end of the session following the one in which the disputed grade was given. The appeal process is administered by the dean or Associate Dean of the appropriate College or his or her designee through the following steps:

- The student must first discuss the grade with the instructor.
- Having failed to resolve the dispute, a review by the proper administrator is conducted of the instructor's grading practices and a ruling is issued.
- If the student desires to continue the appeal, a faculty review committee is formed to sit in judgment of the grade. The committee will review the material and make a recommendation to the administration.
- The administration will accept or reject the recommendations of the committee.

Proficiency Examinations

Proficiency Examinations are not allowed in the Graduate Division.

Academic Regulations - Graduate Studies

Ph.D. Program

Admissions Requirements

Admissions decisions for the Ph.D. in Global Leadership will be based on:

- Completion of the Indiana Tech doctoral division application.
- Official transcripts of all previous undergraduate and graduate work including evidence of completion of a master's degree at a regionally accredited institution.
- Scores on one of the following admissions tests: GMAT, LSAT, GRE, MAT (Others may be considered at the request of the student to the program director.)
- An original essay addressing the candidate's interest in the program and intended goals.
- A current resume including educational record, employment history and relevant accomplishments, publications, presentations, and professional contributions.
- A scheduled interview upon receipt of all the above materials.

Transfer Credits

Credit hours may be transferred into the Ph.D. program in accordance with the following criteria:

- A maximum of six graduate credit hours may be transferred from coursework applied to a completed master's degree.
- A maximum of 12 graduate credit hours from a fully accredited graduate school may be transferred into the Ph.D. program (maximum of six of which were applied to a completed master's degree). Transfer credit will be awarded only for courses evaluated and found to be comparable in content to those which are part of the course of study.

Procedure for Requesting Transfer Credit

Requests for transfer credit should be directed in writing to the Ph.D. program director no later than during the first term of doctoral study. The requests must include: official transcript showing the course(s) for which transfer credit is requested and course description from the catalog or syllabus of the course.

Degree Completion Requirements

Successful completion of the Ph.D. in Global Leadership includes:

- Meet the prerequisite for statistics competency (RES 6000 or equivalent).
- Complete a minimum of 60 doctoral credit hours of coursework including 15 credit hours of research core, 21 credit hours of global leadership core, 18 credit hours of specialization, and a minimum of 6 credits of dissertation.
- Maintain a cumulative GPA of 3.25 and a grade of C or higher in all coursework for the degree. Grades of C must be repeated. No more than two courses may be repeated and no course may be repeated more than once. Exceptions may be considered and must be requested by submitting a petition to the program director.
- Complete the residency requirement.
- Maintain continuous program enrollment of at least one course per semester. Students are eligible for up to one-year leave of absence from study in the degree program.
- Complete the degree within six calendar years from the date of the student's initial course start date. Students may request a one-year extension of this time requirement.
- Prepare an acceptable qualifying paper.
- Prepare and successfully defend (a) the dissertation proposal and (b) the dissertation.
- Meet all financial, academic and other related obligations of Indiana Tech and the Ph.D. program.

Student Services

Career Services

The Career Planning and Development Center at Indiana Tech prepares students and alumni for professional and personal success by providing advising, programs and activities related to self-assessment, career exploration and job search preparation. Services include personal skills/interest inventory assessment and counseling, career exploration, internships, professional development guidance, job fairs, etiquette training, networking events, and an on-campus interviewing program. Employment opportunities are posted for full-time, internship, part-time, and summer job openings.

The career center provides extensive guidance and assistance in job search strategies and resources, resume preparation, interviewing skills, mock interviews, and assessing job offers. Guiding students in appropriate professional business practices is an underlying theme for all Career Planning and Development Center services and is designed to provide a foundation for lifelong career strategy skills.

Library Services

The McMillen Library is located in Andorfer Commons. The library is named after Dale W. McMillen who donated the first library building on the Indiana Tech campus in 1962. The current 10,000-square-foot facility includes the main reading room, library offices, study areas for individuals and groups, a multimedia room, and an archive room. Senior engineering projects dating back to 1943 are also a part of the historical archives. The main reading area includes three computer clusters enabling immediate electronic access to the online catalog, the Internet, and electronic resources. A classroom is available to conduct group orientation and instruction sessions to foster information literacy standards. The open book stacks allow easy access to the 20,000-plus volumes of books, journals and media that make up the library's print collection. The Ray E. Broshar Career Resource Center is also housed in the library.

McMillen Library is open seven days a week with reference service available at all times. Other services include local, state and national interlibrary loan, course reserves and, subject liaisons to enhance the research needs of the students and faculty at Indiana Tech. Other services at McMillen Library consist of a photocopier/scanner, laser and color inkjet printers, scanner, and a TV-VCR/DVD. A café' area with a fireplace makes the library an inviting place to study and learn.

Information Technology Services

Indiana Tech is committed to providing students a level of technological competency that will meet or exceed the needs of employers who hire our graduates. By graduation, depending on the degree program, a student will have competency on various types of computers and software. Due to the changing nature of technology, our curriculum emphasizes becoming productive with common hardware and software concepts rather than a particular brand of computer or software package.

In order to support this integration and to encourage the use of technology, Indiana Tech provides a variety of computing facilities for its faculty and students. With more than 430 public computers at 15 locations, our primary facilities are well equipped for the utilization of technology both in and out of the classroom. Our continuing commitment to technology improvements is an important piece of our academic programs.

IndianaTech.net

IndianaTech.net is an ongoing initiative to provide technology to all students of Indiana Tech. Services provided through this initiative include (but are not limited to):

- E-mail, file storage, and MS Office web apps for all students provided via Outlook.com
- File storage available from on and off-campus
- Discounted software
- Secure, personal account for access to campus computers at all locations
- Classroom technology for instructional purposes
- Wireless access throughout all Indiana Tech classroom locations
- Residential Internet access

This list continues to increase as technology use becomes more pervasive in society and on our campuses. Indiana Tech looks forward to finding new and innovative uses of technology which enhance academic opportunities for our students.

Financial Aid

Tuition & Other Charges

A cost sheet is available at all times from either the admissions office, the business office, or the financial aid office. Tuition and fees are subject to change without notice; however, the administration and faculty will attempt to advise students if a change is likely to be made. Tuition and room and board charges are established by the Board of Trustees. Fees and special assessments are set at the discretion of the administration. The cost and fee schedule is also available on www.indianatech.edu

Payment Options

Indiana Tech offers two payment options for remitting your portion of the cost of the education.

Traditional: The traditional method of paying for the college experience is to have the bill paid prior to the beginning of the semester. This means that your payment is due before the first day of class in any given semester. Interterm and summer school charges are due prior to the session start date.

Payment Plan: Indiana Tech has a payment plan through TMS (Tuition Management Systems) and can be setup at afford.com. It allows you to split your charges for the year among nine payments. The first payment is due August 10 for the fall semester and payable each month thereafter. The cost for this payment plan is $75 per year. For students beginning in the spring semester, the payment plan is split among five payments with the first payment due December 10 and payable each month thereafter.

All accounts will be charged 1.5% interest per month on the unpaid balance after April 30. No student may receive a transcript or diploma until all financial obligations to the university have been met. The student will be responsible for all costs of collection if the account is turned over to an outside agency.

Withdrawal Policies

Should a student find it necessary to withdraw completely from the university, a prorated refund of tuition will be granted through the end of the 5th week of attendance. In order to qualify for such a tuition refund, the student must complete official withdrawal forms with the approval of his/her advisor. The registrar's office must be notified in order for the withdrawal to be official. The deadlines for withdrawal and prorated refunds allowed are listed below:

Through Week 2..... 75%
Through Week 4..... 50%
Through Week 5..... 25%
After Week 5..... No Refund

Tuition adjustments will not be made, nor will tuition be refunded for individual courses dropped after the fifth day of classes. Withdrawal forms must be filed with your advisor promptly; otherwise, the withdrawal will not be considered official. The refund policy does not apply to any student who is dismissed from the university because of misconduct.

Students who are participating in the Title IV programs who find it necessary to withdraw completely from all classes will have their federal aid assessed based on the total actual days of completion. The assistance is calculated based on the percentage of time as documented by the withdrawal date provided by the registrar's office. Charges owed to Indiana Tech are calculated based on the above Institutional Refund Policy.

The federal refund policy will be calculated and applied to students who:

1. Withdraw on or before the 60% point of the enrollment period for which the aid was intended.
2. Receive Title IV federal student financial assistance for the period indicated in #1.

The refund policy is calculated for all students receiving federal aid. The net refund to Title IV programs will be applied in the following order:

- Federal Direct Unsubsidized Stafford Loan
- Federal Direct Subsidized Loan
- Federal Perkins Loans
- Federal Direct Plus and Plus Graduate Loan
- Federal Pell Grants
- Federal SEOG Grant
- Other Title IV Assistance
- Dropping/Adding Courses

A student may drop, without fee, or add individual courses in the first five days of a fall or spring term or the first three days of a summer term. The last calendar date to drop or add an individual course is given by the official Schedule of Courses for a given term. No tuition adjustments will be made, nor will tuition be refunded for any individual course dropped after the expiration of the drop/add date.

In order to be officially withdrawn from any course, a student must complete withdrawal which will be approved by his/her advisor. Such withdrawals, however, will not be considered in effect until filed with the Office of the Registrar.

Books

Tuition includes textbook rental. The required textbooks will be distributed at the beginning of each semester. At the close of each semester, the textbooks must be returned to the university bookroom. Textbooks that are not returned will be considered purchased by the student; the student will be billed for the text(s). Limited Graduate courses require e-books which will be billed separately.

Financial Aid

Federal and State Aid

Federal Programs

Federal College Work-Study: The purpose of the Federal College Work-Study Program is to afford part-time employment to qualified students needing help to defray the costs of their education. It requires completion of the FAFSA and demonstrated financial need and is available to U.S. citizens and permanent residents only. Students must have and maintain a 2.0 GPA to participate in this program. Funds are limited in this program and are awarded accordingly.

Federal Pell Grant: A Federal Pell Grant is a program awarded to students who enter recognized post-secondary educational programs and demonstrate exceptional financial need. Award amounts vary according to an "eligibility index." It requires completion of a FAFSA and is available to U.S. citizens and permanent residents only.

Federal Perkins Loans: The U.S. Government makes low-interest need based loan funds available to needy students. No interest accrues on this type of loan as long as you are enrolled in an eligible degree seeking program at least half time. Repayment of the loan starts after the student ceases to carry at least six (6) credit hours. Loans are awarded on a first-come, first-served basis and require completion of the FAFSA.

Federal PLUS Loan: A Federal Parent Loan for Undergraduate Students is available to students' parents through the Direct Loan program of the U.S. Department of Education. Repayment begins within 60 days of disbursement of the full loan unless the parent chooses to defer loan payments. Simple interest is charged.

Federal Subsidized Stafford Student Loans: Need based loans are available to U.S. citizens and permanent residents through the Direct Loan program of the U.S. Department of Education. No interest accrues on this type of loan as long as you are enrolled in an eligible degree seeking program at least half time. Check with the financial aid office for annual limits. Repayment begins six months after graduation or withdrawal. The loans require completion of the FAFSA.

Federal Supplemental Educational Opportunity Grants: Federal Supplemental Educational Opportunity Grants (SEOG) are made available to qualified students who demonstrate exceptional financial need. They require completion of the FAFSA and are limited in funding.

Federal Unsubsidized Stafford Loan: This is a low interest rate loan, through the Direct Loan program of the U.S. Department of Education, where repayment by the student begins six (6) months after graduation or withdrawal. Interest can be paid on a monthly or quarterly basis or capitalized. It requires completion of a FAFSA and is available to U.S. citizens and permanent residents only.

State Programs

Grants-in-Aid: Under the provision of Public Law 565, the federal government and state jointly provide funds for scholarship grants-in-aid to students who have physical or mental impairments, which constitute vocational handicaps. The State Vocational Rehabilitation Division is responsible for the determination of the grants, which generally pay tuition and some fees.

Freedom of Choice Grants: Early in 1973, the Indiana State Legislature approved a new "Freedom of Choice" law to help make it possible for students with financial need to attend independent colleges rather than state institutions in Indiana, if they prefer. The program will help Indiana students who qualify under the Indiana Higher Education Grant Program to make up the difference between cost at preferred privately supported colleges and the cost of similar programs of study at state colleges or universities. Students must have their FAFSA at the Federal Processor by March 10.

Indiana Higher Education Awards: Residents of Indiana may apply for an Indiana Higher Education grant. The maximum grant is based on financial need and is set by the Indiana Commission for Higher Education. Students and parents must have their FAFSAs at the Federal Processor by March 10. Further information concerning the Indiana Higher Education Grant Program may be obtained at www.in.gov/ssaci.

Financial Aid Policies

Financial Aid Standards for Satisfactory Academic Progress

In order for a student to continue eligibility for financial assistance, he/she must maintain satisfactory progress. Academic records of financial aid recipients will be reviewed after the completion of each semester of the academic year. Failure to meet these standards after one semester will result in the student being placed on financial aid warning. Failing to meet the required standards after two semesters will result in termination of all financial aid.

The following procedure is followed with regard to financial aid cancellations: Before complete cancellation of assistance is implemented, the financial aid office will notify the student and, if applicable, the parent of that action in writing. At that time, the student will be given a two-week time limit to request reinstatement of financial aid eligibility. Documentation of unusual circumstances, which affected the student's progress, must be submitted before any further action is taken on the student's behalf. An Appeal for Financial Aid Reinstatement form is available on our financial aid website. Students receiving financial assistance have a maximum period of time in which to complete their educational objective. The standards of Satisfactory Academic Progress are measured both qualitatively and quantitatively. The quantitative measure

requires a minimum progressive accumulation of academic credits. Students must successfully earn 67 percent of the credits attempted at Indiana Tech. The qualitative measure requires maintenance of a specific minimum grade point average.

GPA Requirements

- First two semesters of undergraduate enrollment: 1.5 GPA
- After first two semesters of undergraduate enrollment: 2.0 GPA
- First two semesters of graduate enrollment: 2.5 GPA
- After first two semesters of graduate enrollment: 3.0 GPA

The following will have an effect on the student's progress. Therefore, before a decision is made to withdraw from a course, the student should be sure to review and meet the minimum hour and cumulative GPA requirements noted above. The following will effect a student's degree progression:

Assigned Grade of.....A, B, C, D
Grade Counts Toward Attempted Hours.....Yes
Grade Counts Toward Earned Hours.....Yes
GPA Affected.....Yes

Assigned Grade of.....Incomplete (I)
Grade Counts Toward Attempted Hours.....Yes
Grade Counts Toward Earned Hours.....No
GPA Affected.....No

Assigned Grade of.....Withdrawal (W)
Grade Counts Toward Attempted Hours.....Yes
Grade Counts Toward Earned Hours.....No
GPA Affected.....No

Assigned Grade of.....Repeated Courses
Grade Counts Toward Attempted Hours.....Yes
Grade Counts Toward Earned Hours.....No
GPA Affected.....Yes

Length of Financial Aid Eligibility

Students may not exceed 150 percent of the maximum published credit hours required for the degree program. The following information indicates the maximum amount of attempted credit hours the student may have to receive financial assistance. Students who transfer from another university will be measured based upon their previous degree and expected major of study while enrolled at Indiana Tech. Transcripts are reviewed individually to determine all available transfer credit in their new major at Indiana Tech.

Degree Attempted	Maximum Attempted Credits Allowed
Associate degree	95 credits
Bachelor's degree	185 credits
Master's degree	95 credits
Ph.D.	90 credits

Academic progress includes all semesters the student has been in attendance, not just the semester the student has received aid. A student must assure that he/she will meet the minimum enrollment requirements before withdrawal from any registered course.

Pre-professional & Pre-graduate Programs

Many graduates of Indiana Tech elect to enter a professional or graduate school upon completion of their undergraduate studies. The engineering, science, and business curricula provide not only valuable backgrounds for careers within the individual fields but in law and medicine, as well. A student planning to enter a professional or graduate school should obtain information as to the entrance requirements of such institutions and should arrange his/her program at Indiana Tech accordingly. The department head will direct the student to the persons most closely acquainted with the professional or technical field concerned. The curricula at Indiana Tech furnish a sound background for entrance into the professional and graduate schools. Financial assistance is available to those students continuing in master's programs and the Ph.D. program through Indiana Tech. Contact the financial aid office for available funding.

Institutional Aid & Scholarships

Indiana Tech is fully committed to providing an affordable private education. It is our goal to put within the student's reach the opportunities and advantages gained from the Indiana Tech experience. About 87% of Indiana Tech students receive some form of financial assistance. Through packages composed of various sources of aid such as scholarships, loans, grants, and work-study programs, it is our sincere hope that every qualified student is afforded the opportunity to attend Indiana Tech without regard to cost.

In order to apply for federal, state, and institutional grants or scholarships, students are required to complete and submit a Free Application for Federal
Student Aid (FAFSA). Students can complete the FAFSA online at www.fafsa.ed.gov. Paper FAFSAs are available. However, Indiana Tech highly recommends that students file the FAFSA online. Assistance is awarded on a first-come, first-served basis, and priority consideration is given to students whose FAFSAs are received at the Federal Processor by March 10. Applicants for freshman scholarships should arrange to take the SAT or ACT during the first scheduled testing date in the fall of their senior year of high school. Separate scholarship applications are not required unless one is requested under the scholarship description.

Following is a list of the university's endowed scholarships. Additionally, there may be annually funded scholarships available. Specific scholarships awarded may vary from year to year due to availability of funds.

Alumni Association Scholarship
Established by the Indiana Tech Alumni Association board of directors, this scholarship is awarded to a student in the junior or senior year at the university. The scholarship is awarded on the basis of academic standing (3.0 GPA or above); school, social, and professional activities; outstanding achievements; and financial need. A committee from the alumni board of directors selects candidates. The yearly award is equal to tuition for 12 credits.

Donald J. Andorfer Presidential Scholarship
This scholarship was established by Nelson and Peggy Wenrick to recognize the significance of presidential leadership to the further development of Indiana Tech. Mr. Wenrick is a 1960 BSCE graduate of Indiana Tech and a former member of the Board of Trustees. The scholarship is awarded to a full-time student who has financial need and shows academic excellence. It is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Lenore & Bob Armbrust Memorial Scholarship
This scholarship was established by the family of Mrs. Lenore Armbrust to honor her memory. Lenore Armbrust was the executive secretary to the president of the university and a strong supporter of Indiana Tech. One scholarship is awarded annually, with first preference to a female athlete and second preference to a student in financial need. The scholarship is renewable based upon satisfactory progress.

Armed Forces Communication & Electronics Association Scholarship (AFCEA)
The AFCEA's Indiana Chapter, located in Fort Wayne, established this scholarship. One award is made annually to a student majoring in engineering. The student must demonstrate academic excellence and financial need. The scholarship requires completion of a FAFSA and is available to U.S. citizens only.

Ralph L. Armstrong Scholarship
Mrs. Vivien Armstrong and her daughter Kimberly established this scholarship in memory of Ralph L. Armstrong, Mrs. Armstrong's husband and Kim's father. Mr. Armstrong was a 1965 BSEE graduate of Indiana Tech and retired after 30 years with Ford Motor Co.–Design Engines. Preference for the awarding of this scholarship will be given to eligible engineering students demonstrating financial need. It is renewable based upon satisfactory progress.

Athletic Scholarships
A number of scholarships in men's and women's sports are available to qualified athletes. Amounts vary, and interested individuals should make direct contact with the head coach of the sport.

Indiana Tech Athletic Hall of Fame Scholarship
Established in 2001, this scholarship's purpose is to provide financial assistance to student-athletes. The athletic committee with the approval of the senior management staff will choose the scholarship recipients. The scholarship is open to all majors and will be awarded using the criteria of financial need and academic excellence and is renewable based upon satisfactory progress.

James R. Bard Scholarship
James R. Bard, a 1959 BSME graduate of Indiana Tech, established this scholarship. Upon graduation from Indiana Tech, Mr. Bard joined the family-owned heating and air conditioning manufacturing company known as Bard Manufacturing Co., which was established in 1914. The recipients must be full-time students at Indiana Tech studying engineering or business in either the traditional or CPS programs and must maintain at least a 2.0 GPA. Students must show financial need and demonstrate a desire to succeed. Decisions on need and desire will be determined by the director of financial aid. This scholarship requires that the recipient be a U.S. citizen.

Albert E. Beckwith Memorial Scholarship
The scholarship was established in memory of Mr. Beckwith, a former member of Indiana Tech's Board of Trustees. One award is made annually to a four-year business administration student holding a cumulative GPA (at Indiana Tech) of 2.5 or better. Students must demonstrate academic excellence and financial need and must be U.S. citizens or permanent residents.

Institutional Aid & Scholarships

Corporal Jonathan F. Blair Memorial Scholarship
CPL. Jonathan F. Blair, 21, died November 19, 2005, near Bayji, Iraq, during combat operations on his second tour of duty in Iraq. He was awarded the Bronze Star, Purple Heart, Army Commendation Medal, Good Conduct Medal, National Defense Service Medal, Iraqi Campaign Medal, Global War on Terrorism Expeditionary Medal, Global War on Terrorism Service Medal, Army Service Ribbon, Expert Marksmanship for the M-16 Rifle, and the Combat Infantry Medal. This scholarship was established in his memory by his great aunt and uncle, Cathy S. and Ronald M. Kantorak. Mr. Kantorak is a 1970 BSME graduate of Indiana Tech. This scholarship will be used to support full-time Indiana Tech undergraduate students who are U.S. citizens and honorably discharged veterans of our armed forces and the children of those who died in service to our country.

William Briegel Scholarship
William E. Briegel established this scholarship for an adult student in the College of Professional Studies at Indiana Tech. The student must be either a junior or senior expressing financial need and unable to finish without financial assistance. Should no one fitting that criteria apply, any adult student showing need is eligible. First preference is for a Fort Wayne adult student. Should no one apply from the adult program, then any upper level student from the College of Business would be acceptable.

Steven & Carolyn Brody Scholarship
This scholarship was established by Mr. and Mrs. Brody, who recognize the financial and educational needs of today's student. Mr. Brody served as the chairman of the Board of Trustees from 1993 to 2008. Recipients of this scholarship must maintain a 2.0 GPA on a 4.0 scale. One semester of probation is permitted. The recipient must demonstrate financial need, as well as a desire to succeed. The award may be given to a student in any academic program who meets the full-time status requirements.

Business Education Fund Scholarship
This scholarship was established by the Community Foundation of Greater Fort Wayne. The primary goal of the BEF scholarship is to assist deserving students who do not receive sufficient assistance from grants or other scholarship programs. Eligible candidates must be working toward a bachelor of science in accounting, business administration, or computer information systems and live within a certain distance of Fort Wayne. Selection is made by the director of financial aid. It requires completion of a FAFSA and is available only to U.S. citizens and permanent residents. Funds are made available to Indiana Tech through the Community Foundation of Greater Fort Wayne.

Robert W. (Smiley) Cates Memorial Scholarship
Gordon and Paula Cates and Cates Control Systems, Houston, Texas, established this scholarship to honor the memory of Mr. and Mrs. Cates' son Robert, a former student at Indiana Tech. Eligible candidates for this scholarship must complete a FAFSA. Recipients must be U.S. citizens. First preference must be given to a student studying electrical engineering, second preference to a student studying in another engineering discipline, next would be a student in the College of Engineering and Computer Sciences, and should there still not be a recipient, then a student in another academic discipline within the confines of Indiana Tech would qualify. Prime consideration is given to need and a burning desire for the student to succeed. Student must maintain a passing grade (C average) to receive or maintain the scholarship. One semester of probation is permitted, but if grades are not brought back up, the scholarship would be removed until the student is back in good standing. Then it might be reinstated. Recommendation for the scholarship is given by the director of financial aid with the approval of the senior management group of the university.

Cole Foundation Scholarship
Established by the Olive B. Cole Foundation, Inc., this scholarship is awarded based on financial need and consideration of a student's desire to succeed in his or her degree. It is open to students in all majors offered by the university. Recipients of this scholarship must be from LaGrange, DeKalb, Noble, or Steuben counties in Indiana. It is a renewable award based on the student maintaining satisfactory progress and is available to U.S. citizens and permanent residents only.

Joseph W. Cranmer Memorial Scholarship
C. William Wright established this scholarship. Mr. Wright is a 1963 BSCHE graduate of Indiana Tech. This scholarship was established to honor the memory of Mr. Wright's favorite professor, Joseph W. Cranmer, who also graduated from Indiana Tech with a BSCHE, in 1952. Professor Cranmer served on the Indiana Tech faculty from 1952 to 1969. This scholarship is awarded to a student in the College of Engineering and Computer Sciences who demonstrates financial need. Scholarships are renewable based on continued academic progress and are available to U.S. citizens and permanent residents only.

Joseph P. Cunningham Scholarship
This scholarship was established in memory of Mr. Cunningham, a former member of Indiana Tech's Board of Trustees. Awards are given annually to upper-class accounting or business administration majors. Students must maintain a 2.0 cumulative GPA (at Indiana Tech).

Dr. Richard D. Dermer Scholarship
Professor Dermer developed the Research & Development Center at Indiana Tech in 1953 and was the prime inventor of most of the products that went to market. He was known as the "idea man" for Indiana Tech. Winton L. Chance, a 1948 BSEE graduate of Indiana Tech, and Frank A. Denbrock, P.E., a 1948 BSEE graduate of Indiana Tech, respected Dr. Dermer so much that they established this scholarship in honor of him. Friends since their college days, and both accomplished engineers, Mr. Chance and Mr. Denbrock are happy to contribute to this meaningful scholarship that may inspire the next Einstein or Edison. This scholarship was established to support Indiana Tech electrical engineering students.

Institutional Aid & Scholarships

Theron J. Dersham Scholarship
This scholarship was established by Theron J. Dersham, a 1972 BSEE graduate of Indiana Tech. The first preference for a candidate will be a student enrolled in the College of Engineering and Computer Sciences. Other disciplines within the university will be considered should an engineering student not be available. The scholarship initially will be awarded to a student during his or her freshman year and is renewable based upon maintaining a satisfactory grade point average.

Joseph D'Italia Engineering Scholarship
Mrs. Carrie Henry established this scholarship to honor her uncle, Joseph D'Italia, president of Harbor Investments. Mr. D'Italia is a 1965 BSCE graduate of Indiana Tech and a former member of the Board of Trustees. Selection is made with first preference given to a student majoring in engineering, then computer science, and then business. Geographic guidelines stipulate that the student be from Indiana, the Midwest, or other states within a reasonable distance of Indiana and that the student be a U.S. citizen. The student must be in good academic standing and demonstrate some financial need. Selection is made by the director of financial aid, and the scholarship is renewable based upon satisfactory progress.

Dickmann Brothers Engineering Scholarship
John and Norbert Dickmann (brothers) established this scholarship to provide assistance to a student who chooses to attend Indiana Tech. John and Norbert are both BSCHE graduates of Indiana Tech, John in 1945 and Norbert in 1951. Candidates for this scholarship must be enrolled on a full-time basis in the College of Engineering and Computer Sciences, and preference will be given to freshmen. The scholarship is renewable based upon maintaining a minimum of a B grade point average.

Dominique Family Scholarship
Mr. and Mrs. Gene Dominique established this scholarship to honor their daughter, Tamra Sue Dominique, a 1994 BSBA graduate and 2001 MBA graduate of Indiana Tech. Tamra earned her degrees from Indiana Tech while raising four children and is now a successful business owner. Gene Dominique is also a graduate of Indiana Tech, having earned a BSME in 1961. Selection for this award is open to all majors and made available to an individual with the desire to obtain a college degree. The scholarship is renewable based on satisfactory progress. It is open to U.S. citizens or permanent residents.

Sarah A. Douglas Memorial Scholarship
This scholarship was established by the Board of Trustees to honor the memory of Sarah Douglas, a 1999 BSACC graduate of Indiana Tech. Sarah was the assistant controller and assistant softball coach with Indiana Tech at the time of her death in May 2002. One annual scholarship is awarded based on financial need, with first preference to a student involved with the women's softball program and/or the accounting program. This scholarship honoring Sarah's memory recognizes the many contributions she made on the field, in the classroom, and in the office by being the ultimate student-athlete and valued employee.

Ben Dow Scholarship
This scholarship was established by Mr. Jack McCurley, a 1954 BSAEE graduate of Indiana Tech, to honor Professor Ben Dow. First scholarship preference will go to a student enrolled in the College of Engineering and Computer Sciences and second to other disciplines within the university. Prime consideration is given to those students in financial need requiring assistance to obtain their educational goals. To renew the scholarship, a recipient must maintain satisfactory progress and file a FAFSA. Candidates for this scholarship must be citizens of North America or hold U.S. resident status.

Simon & Donna Dragan Scholarship
Simon Dragan is a native of Vurpar, Transylvania, Romania. He came to the United States after escaping from Communist Romania in 1969 and held a variety of entry-level positions in the Baltimore area before finding work with Williams-Scotsman, a distributor of modular and mobile buildings. In 1993, Mr. Dragan bought the Williams factory located in South Whitley, Ind., and developed it into the nation's leading manufacturer of modular structures. This scholarship will be awarded with first preference to mechanical engineering majors who maintain a 2.5 GPA. Financial need will be considered in determining the recipient along with preference given to Romanian or Romanian-American students.

Lawrence & Leota Mae Dranchak Scholarship
Lawrence and Leota Mae Dranchak established this scholarship. Mr. Dranchak is a 1956 BSME graduate of Indiana Tech and is retired from Ford Motor Co., where he was employed as a product development engineer. This scholarship is awarded to a U.S. citizen or permanent resident who has junior status and is majoring in mechanical engineering (second preference goes to other engineering disciplines). Eligible candidates must be in good academic standing and demonstrate financial need. It is renewable based upon satisfactory progress.

Electrical Manufacturing & Coil Winding Association Scholarship
The Electrical Manufacturing and Coil Winding Association, Coronado, Calif., annually sponsors a number of renewable engineering scholarships. Applicants must view an association video that describes career options, become student members of the EMCWA, and submit technical papers at annual trade shows. Recipients are chosen by a panel of three engineering faculty and the director of financial aid. Awards are renewable based upon satisfactory progress.

Essex Scholarship
The Essex Group, Inc. of Fort Wayne, Ind., established this scholarship. It is awarded to engineering or computer science majors who are in the top 25% of their high school graduating class. The director of financial aid will make the selection. It is available to U.S. citizens or permanent residents only.

Franklin Electric SE Scholarship
Franklin Electric Co. has a long history of supporting In-

diana Tech students. Franklin Electric Co. established this scholarship
to help assist students with financial need in the software engineering program.

Robert R. & Celia Featheringham Scholarship
Robert Featheringham established this scholarship to honor his wife, Celia. Mr. Featheringham, a 1960 BSEE graduate of Indiana Tech, was director of business development with Telos Corp. The scholarship will be awarded to a student majoring in electrical engineering. Other engineering or science disciplines will be considered should an electrical engineering candidate not be available. It is renewable upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Charles W. Ferguson Scholarship
This scholarship was established by Charles Ferguson, a 1951 BSME graduate of Indiana Tech. Prior to retirement, Mr. Ferguson was employed as a project manager with Busch Entertainment Co./Anheuser-Busch. One scholarship will be awarded annually to an entering freshman majoring in engineering. Other disciplines will be considered should an engineering candidate not be available. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Gordon L. & Miriam Ferguson Scholarship
This scholarship was established by Gordon L. Ferguson, a 1958 BSME graduate of Indiana Tech. Scholarship funds will be used to support students enrolled in the College of Engineering and Computer Sciences. Candidates in other majors will be considered if engineering students are not available. Recipients must be in good academic standing.

Clarence L. Forrest Scholarship
Clarence (Casey) Forrest, a 1943 BSAEE graduate of Indiana Tech, established this scholarship. Retired from Textron in 1986, Mr. Forrest made numerous contributions in the aircraft and space fields and was inducted into the Niagara Frontier Aviation and Space Hall of Fame in 1997. This scholarship is open to all full-time freshmen who will pursue an undergraduate degree in a technical field. The scholarship is renewable for a maximum of four years and is based on the recipient maintaining a 3.0 cumulative GPA. Applicants wishing to be considered for this award need to submit a one-page letter stating why they chose to study in a technical field. The award is available only to U.S. citizens.

Joseph J. Foster Scholarship
Joseph Foster, a 1950 BSAE graduate of Indiana Tech, established this scholarship. The scholarship is awarded first to a student enrolled in the College of Engineering and Computer Sciences and second to other disciplines within the university. Academic achievement is not a major factor; however, recipients must maintain satisfactory progress in order for the scholarship to be renewed. It is available to U.S. citizens.

H. Robert & Lois Gill Scholarship
H. Robert and Lois Gill established this scholarship. Mr. Gill is a 1960 electronics engineering graduate of Indiana Tech. Recipients of this scholarship must be exceptional students in any field of study at Indiana Tech. While there is no requirement that a student receiving a scholarship out of this fund has demonstrated financial need, a student who has financial needs may be considered. Awards from this scholarship will generally follow the guidelines set forth in the Indiana Tech Scholars Leadership Program, as follows:

Summary
The purpose of the Indiana Tech Scholars Leadership Program is to assist students in pursuing undergraduate education at Indiana Tech. Scholarships will be awarded to first-year students entering Indiana Tech. The recipient may reapply in each of three additional years. Scholarship amounts will range from one-half to full tuition for the year.

Scholarship applicants must be entering their first year of full-time enrollment at Indiana Tech and must complete the Scholars Leadership Program application form and essays, provide letters of reference from persons familiar with the applicant's leadership abilities and experiences, and be available for an interview. Each applicant must have a minimum cumulative high school grade point average of 2.5 on a 4.0 scale; be in the top half of their class; and have a minimum SAT score of 1000 (critical reading and mathematics) or ACT composite of 22. Applicants to the program must be accepted to Indiana Tech in order to be considered for the Scholars Leadership Program.

Some of the criteria for selection are as follows:

- Leadership
- Scholastic achievement
- Initiative
- Ethics
- Citizenship
- Perseverance
- Loyalty to family, friends, and community
- Character
- Personality
- Work habits
- Ability to set realistic goals
- Responsibility
- Commitment

The recipient must annually sign a Leadership Code of Conduct as a demonstration of compliance to be reflective of the actions and values of the Indiana Tech Scholars Leadership Program. The recipient must complete an approved service or leadership project on campus or in the community each semester while enrolled in the program. If eligible, this may coincide with a work-study or intern position. The recipient must attend monthly meetings with a staff, faculty, or student mentor. Recipients may be asked to represent the Scholars Leadership Program at events or activities with university administrators, alumni, or corporate representatives. Recipients must be actively involved in at least two student organizations. The recipi-

ent must file the Free Application for Federal Student Aid (FAFSA) annually by the March 10 deadline as the Scholars Leadership Program scholarship is not intended to displace other state or federal aid, but it may displace loans.

Robert S. Graziano Engineering Scholarship
Robert S. Graziano, a 1967 BSEE graduate of Indiana Tech, established this scholarship to support Indiana Tech engineering students with financial need. It is dedicated to Bob Graziano's son, Paul; his good friend and engineer, Bill Jurek, a 1968 BSME graduate of Indiana Tech; Dean Don Steiner, who provided on-campus jobs and helped him receive a Chrysler Scholarship; his wife, Diana, who patiently waited for three years; and to those aspiring engineers who will design and build tomorrow's systems. The recipient must be a full-time student at Indiana Tech. The scholarship will initially be given to a freshman student. It will be renewable during the student's tenure at Tech, but will be limited to four years. The recipient must maintain a 3.0 GPA, and first preference will be given to an engineering student enrolled in the College of Engineering and Computer Sciences.

Amanda E. Gross Scholarship
This scholarship was established by Ronald and Cheryl Gross in honor of their daughter Amanda. Ron is a 1983 BSEE graduate of Indiana Tech. First preference for this scholarship will be given to students studying in the College of Engineering and Computer Sciences. Other disciplines within the university will be considered should an engineering major not be available. Recipients must be in good academic standing and demonstrate financial need. It is available to U.S. citizens only.

Philip G. Hammond Scholarship
Philip G. Hammond, a 1954 BSME graduate of Indiana Tech, established this scholarship. It will be given first to an entering freshman studying in the College of Engineering and Computer Sciences. Financial need is considered in selection of this award. The scholarship is renewable based on continued satisfactory progress and requires that the recipient be a U.S. citizen.

Mr. & Mrs. Henry Helberg Engineering Scholarship
Henry Helberg, former dean of engineering and former adjunct faculty member, established this scholarship. It is awarded to a student who has successfully completed two years of an engineering major at Indiana Tech. First preference is given to a team member of a sport that competes against other colleges, can be of international or domestic origin, and must possess a 2.5 or better cumulative GPA.

Donald G. Henderson Scholarship
Donald G. Henderson, a 1960 BSMA graduate of Indiana Tech and former mathematics instructor at the university, established this scholarship. It is available to students studying in any discipline at the university. Prime consideration should be given to need and a burning desire for the student to succeed. The student must maintain a passing GPA to receive or maintain the scholarship. One semester of probation is permitted, but if grades are not brought back up, the scholarship would be removed until the student is back in good standing. Then it might be reinstated. Recommendation for the scholarship is given by the financial aid director with the approval of the senior management group of the university.

William J. Hess Memorial Scholarship
The scholarship fund was established in memory of William J. Hess, one of the founders of Indiana Tech. Both financial need and academic records are taken into consideration. In order to be considered for the scholarship, students must complete a FAFSA. To continue eligibility over a four-year program, students must maintain a 3.0 cumulative GPA. The director of financial aid will select eligible applicants. It is available to U.S. citizens or permanent residents only.

Lou Holtz Persistence Scholarship
Famed football coach Lou Holtz established this scholarship in May 2010 after giving the Commencement address at Indiana Tech. The purpose of the scholarship is to assist working adults who are taking classes at Indiana Tech and are experiencing a temporary economic hardship. Each scholarship has a value of $500 to be used to either bring a student's existing balance current or to allow the student to continue with his or her next class. It is available to students approved and enrolled full-time at Indiana Tech in the College of Professional Studies.

Selection Criteria:

- Referral originates from retention specialists who work with stop-out/readmit students
- Evidence of student's sustained commitment toward degree completion
- Summary explanation of financial hardship showing a plan to pay for classes in the future
- Completed scholarship application
- Two reference letters
- Applicants reviewed and approved by Indiana Tech's vice president of finance and administration and vice president of CPS admissions

Conditions:

- Must have completed a minimum of one CPS course with a C or better.
- Stop out status must be due to financial hardship.
- There will be no cash posted to result in a refund situation. In that case, the scholarship can be awarded at less than $500.
- The scholarship will be forfeited if recipient cancels enrollment or fails course during the subsequent enrolled session following scholarship.
- Must earn a C or better in class that scholarship is applied toward.

Jasmin Hubbard Memorial Scholarship
This scholarship was established in memory of Indiana Tech student-athlete Jasmin L. "Jas" Hubbard so that students could be recognized for showing significant experience and interest in leadership roles, both on and off

the playing field. Recipients of the scholarship are leaders in their school or in their community; they are dedicated volunteers to worthy projects and organizations; and they have potential to be role models. Although the scholarship recipients must be strong academically, the emphasis is to be placed on their leadership skills. This scholarship is renewable each year, provided that the student shows a commitment to demonstrating leadership on the Indiana Tech campus and in the community.

Indiana Tech University Commitment Scholarship
The University Commitment Scholarship is an academic scholarship offered by Indiana Tech. Recipients need not complete a separate application. Selection of candidates is made by the admissions committee and is based on a combination of criteria, those being the high school cumulative GPA and test scores (SAT or ACT). Open to incoming freshmen of all majors who have not attended another college. The scholarship is available to U.S. citizens and permanent residents only. Transfer students are eligible for this scholarship based on the cumulative GPA from the previously attended college.

Indiana Tech Dollars for Scholars
Indiana Tech matches scholarships up to $1,000 per year for students who are awarded scholarships through Dollars for Scholars chapters. DFS is a volunteer-operated community scholarship foundation that is affiliated with the Scholarship of America.

Indiana Tech Engineering Scholarship
The Indiana Tech Engineering Scholarship awards are available to students seeking degrees through our engineering department. To qualify, students must meet stringent academic criteria which include both a minimum GPA and test score requirements. Transfer students are eligible for this scholarship program and must also meet certain eligibility criteria. Students should contact the admissions department for additional information. The Indiana Tech Engineering Scholarships are renewable and require that students maintain satisfactory academic progress.

Indiana Tech Family Grant
A 20% tuition discount will be awarded to a family when more than one member of the immediate family (for example: mother/father, brother/sister) is enrolled at Indiana Tech full time (12 credits or more). This discount will be awarded to the student taking the lower number of credits and will be in force only when both family members are enrolled on a full-time basis. If more than two family members are enrolled, each additional student will qualify for the grant.

Indiana Tech Grant Assistance
The purpose of Indiana Tech Grant Assistance is to provide institutional grant assistance to students who demonstrate financial need. Assistance is available to U.S. citizens and permanent residents and requires completion of a FAFSA.

Indiana Tech Working Grant
The purpose of the Indiana Tech Working Grant is to provide part-time employment on campus to students demonstrating financial need. In order to apply, a student must complete a FAFSA. The grant is available to U.S. citizens or permanent residents only.

John A. Kalbfleisch Scholarship
This scholarship was established by the Pierson family to honor the memory of Mr. John A. Kalbfleisch, founder and first president of Indiana Tech. An eligible candidate must be a citizen or permanent resident of the United States or Canada and must file a FAFSA to determine financial need. The first preference for a candidate will be to engineering majors; however, other disciplines within the university may be considered should an engineering major not qualify. Students must demonstrate need and the ability to pursue academic excellence. This scholarship is renewable based upon satisfactory academic progress.

Archie T. Keene Scholarship
The Archie T. Keene Scholarship was established in memory of Mr. Keene, who was the second president of Indiana Tech and was at the helm for 26 years before retiring in 1963. The scholarship will be awarded to a freshman student with first preference given to a student in the College of Engineering and Computer Sciences. Other fields of study may be considered. The scholarship recipient must be a U.S. citizen.

Donald H. & Sally King Scholarship
Donald King, a 1959 BSCE graduate of Indiana Tech, and his wife, Sally, are actively involved with the university. To assist the university in its commitment to education, they established this scholarship to assist students enrolled in the College of Engineering and Computer Sciences. Recipients of this scholarship must be in good academic standing and demonstrate financial need. Scholarships are renewable based upon the student maintaining satisfactory progress. They are available to U.S. citizens.

Kenneth L. King Scholarship
Kenneth King, a 1964 BSCE graduate of Indiana Tech, established this scholarship. Preference will be given first to a student in the College of Engineering and Computer Sciences, and then to students in other programs who meet the following criteria. The student must have some financial need. The extent of the need can be determined by the director of financial aid. The student must be a full-time student in good academic standing. Should the student drop down to a probationary status, he or she may retain the scholarship for one more semester. If grades are not brought back up, the scholarship will be put on hold until grades are raised. When this happens, the scholarship will be reinstated.

Dan & Nancy Kline Leadership Scholarship
This scholarship was established to support Indiana Tech students who stand out from their peers by showing skills in leadership and have potential as role models. Dan "Coach" Kline retired on August 1, 2008, after 28 years of service to Indiana Tech as coach, athletic direc-

tor, and eventually as the vice president of student life. With his dedicated wife, Nancy, by his side, Coach Kline touched many students' lives in a positive way. The Klines sacrificed a lot so that Indiana Tech's students could, as Dan often said, "graduate with good memories." The Dan and Nancy Kline Leadership Scholarship was established in their honor so that students could be recognized for showing significant experience and interest in leadership roles, both on and off the playing field. These students are leaders in their school or in their community; they are dedicated volunteers to worthy projects and organizations, and have potential to be role models. Although the scholarship recipients must be strong academically, the emphasis is to be placed on their leadership skills. This scholarship is renewable each year, provided that the student shows a commitment to demonstrating leadership on the Indiana Tech campus and in the community.

Edward J. Klodzen Scholarship
This scholarship was established by Mr. Klodzen, a 1956 BSEE graduate of Indiana Tech who retired from NIPSCO. The scholarship fund will be used to support students majoring in an engineering discipline. Candidates with other majors will be considered should engineering students not be available. Students must demonstrate financial need and be in good academic standing. It is available to U.S. citizens or permanent residents only.

John S. & James L. Knight Foundation Scholarship
This scholarship was established by the foundation that was created by John S. and James L. Knight. The foundation is located in Miami, Fla. The scholarship will be used to support minority students attending on a full-time basis. Residents from northeast Indiana receive priority consideration. It is available to U.S. citizens and permanent residents only.

Lois G. & Frank J. Krandell Scholarship
Lowell G. Krandell, a 1963 BSEE graduate of Indiana Tech, and his family established this scholarship in memory of his father to assist needy students. Lowell Krandell was employed by GTE as an electrical engineer. One annual scholarship will be awarded to a student majoring in electrical engineering. Other engineering or science fields will be considered should an electrical engineering candidate not be available. It is a renewable scholarship based upon satisfactory progress. It is available to U.S. citizens or permanent residents only.

Harvey A. & Denise C. Kriegsman Engineering Scholarship
Harvey A. and Denise C. Kriegsman established the scholarship in September 2010. Mr. Kriegsman is a 1966 BSCHE graduate of Indiana Tech. This scholarship will be used to provide scholarship and/or stipend support to any undergraduate, graduate, or post-graduate candidate(s) accepted into an Indiana Tech engineering program, providing the student is a U.S. citizen.

Tom J. Landis Scholarship
Tom Landis, a 1969 BSME graduate of Indiana Tech, established this scholarship. Selection is made with first preference to a student enrolled in the College of Engineering and Computer Sciences. Other disciplines within the university will be considered should an engineering major not be available. Students must demonstrate financial need and maintain satisfactory progress in order to have the scholarship renewed. It requires filing of a FAFSA and is open to U.S. citizens or permanent residents.

Harold E. & Laura F. Lee Scholarship
Established by Harold E. Lee, a 1955 BSEE graduate of Indiana Tech, this scholarship is available to all academic disciplines within the university. Preferred consideration will be given to transfer students who may not have had a previous successful college experience, have returned and can demonstrate potential and need to be given a "second chance." The scholarship is renewable based upon the student maintaining a permissible academic average.

Legacy 2001 Scholarship
The Legacy 2001 Scholarship was established by Indiana Tech's MBA Class of 2001. It will be awarded to a student enrolled in the College of Professional Studies. If this is not possible, then any student in the university may be eligible. The recipient will be an individual whose employer does not have a tuition reimbursement program or who is unemployed. More than one student may participate in the scholarship. The recipient must maintain a satisfactory GPA. There are no geographic stipulations on this scholarship.

Allan S. Leonard Scholarship
Allan Leonard, a 1963 BSME graduate of Indiana Tech and product design engineer with Ford Motor Co., established this scholarship. A scholarship in Mr. Leonard's name will be awarded to a student majoring in the field of mechanical engineering. Other engineering disciplines will be considered if a mechanical engineering candidate is not available. A candidate for this award must demonstrate financial need and good academic standing. It is a renewable scholarship based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

April Jane Loescher Memorial Engineering Scholarship
Edward M. Loescher, a 1964 BSCE graduate of Indiana Tech, and his son, Dr. Mitchell E. Loescher, established this scholarship in March 2011 as a memorial to April Jane Loescher, their beloved wife and mother. The scholarship is a testimony to their shared regard for the value of higher education and commitment to excellence in engineering. It will be used to provide scholarship and/or stipend support to undergraduate or graduate candidates pursuing any engineering degree at Indiana Tech.

Elizabeth A. Lykowski Memorial Scholarship
Elizabeth "Liz" Lykowski was Indiana Tech's first out-of-state recruit when the women's volleyball program was reinstated in 2005. She was one of four seniors who had been with the team since its beginning. Miss Lykowski, a defensive specialist for the Warrior volleyball team, died unexpectedly on Sunday, October 5, 2008. This senior business administration major had a congenital heart defect that could only have been detected through surgery. She was 21 years old. This scholarship celebrates the won-

derful life of Liz Lykowski. It is to be awarded to a female volleyball player that is three years into the program. It is not restricted to a specific degree, but the recipient should have a GPA of at least 2.7. First preference is to be given to a defensive specialist. Preference is also given to residents of Michigan. Other disciplines may be considered should a candidate not be available.

Mac II Engineering Scholarship
Jack McCurley, a 1954 BSAEE graduate of Indiana Tech who retired from QDT Limited where he was a systems engineer, established this scholarship to assist students in financial need. First scholarship preference will go to a student majoring in mechanical engineering. Other engineering or science majors will be considered should a candidate not meet the above criteria. Candidates for this scholarship must be citizens of North America or hold U.S. resident status. This scholarship is renewable based upon satisfactory academic progress.

Joan Maassen McCurley Scholarship
Jack McCurley, a 1954 BSAEE graduate of Indiana Tech, established this scholarship to honor his wife, Joan. Mr. McCurley also has established two other scholarships to benefit Indiana Tech students. First preference for this award is for a female student majoring in mechanical engineering. Other engineering or science majors will be considered should a candidate not meet the above criteria. Candidates for this scholarship must be citizens of North America or hold U.S. resident status. This scholarship is renewable based upon satisfactory academic progress.

Edwin C. Metcalfe Scholarship
Mr. Metcalfe has been a member of Indiana Tech's Board of Trustees since 1983 and served as board chair. In 1999, he was designated trustee emeritus. Mr. Metcalfe established this scholarship to help full-time students who are U.S. citizens. The applicant must demonstrate financial need and academic excellence. Scholarships are renewable based on continued academic excellence, with a minimum cumulative 2.5 GPA.

Rear Admiral David J. Nash Scholarship
This scholarship is funded by the Society of American Military Engineers (SAME) to honor Rear Adm. David J. Nash, a 1965 BSEE graduate of Indiana Tech. Retired from the U.S. Navy, Rear Adm. Nash was in command of the Naval Facilities Engineering Command (NAVFAC) and became chief of civil engineers in 1995. Rear Adm. Nash has a Distinguished Service Medal, two Legion of Merit Awards, a Defense Meritorious Service Medal, three Meritorious Service Medals, three Navy Commendation Medals including one with "V" for valor, and several other individual and unit awards. This scholarship is awarded to a student majoring in engineering, who must demonstrate need and the ability to pursue academic excellence. It is available only to U.S. citizens or individuals pursuing U.S. naturalization.

Gene L. & Darlene J. Neff Leadership Scholarship
This scholarship was established by Gene L. Neff in memory of his wife, Darlene J. Neff, to support Indiana Tech students who exhibit leadership skills and are potential role models. Gene is a 1958 BSCE graduate, and Darlene was an enthusiastic supporter of Indiana Tech. Their time at Tech left precious memories, and not only was educational, but also provided the foundation for a successful career and a loving marriage. This scholarship is to be awarded to a student who shows skills in leadership. It is open to all Indiana Tech full-time students.

The News-Sentinel Scholarship
The Fort Wayne News-Sentinel Scholarship was established to provide assistance to students attending Indiana Tech. Recipients of this scholarship must come from northeastern Indiana. Scholarships are need-based and renewable based upon satisfactory progress. The scholarship requires completion of a FAFSA and is available to U.S. citizens and permanent residents only.

NIPSCO (Northern Indiana Public Service Company) Scholarship
This scholarship was established by the Northern Indiana Public Service Company, whose service area includes Fort Wayne, Ind. It assists students who choose to attend a private institution. Based upon financial need and academic excellence, one award will be made annually. It is available to U.S. citizens and permanent residents only.

North American Van Lines Scholarship
North American Van Lines, whose corporate offices are located in Fort Wayne, Ind., established this scholarship fund. The scholarship provides funding to students who have financial need and show academic excellence. Awards are renewable based upon satisfactory progress and require completion of a FAFSA. They are available to U.S. citizens and permanent residents only.

Operating in Excellence Scholarship (NSBE)
This scholarship was established to support the financial need of a National Society of Black Engineers member. It will ensure the academic development of NSBE members by financially supporting their higher education goals. The mission to increase the number of culturally responsible black engineers who excel academically, succeed professionally and positively impact the community inspired the group to establish this scholarship. Students must be current NSBE members PCI, collegiate, or alumni. Members must be in good standing nationally. Recipients must also be active community members (not restricted to the Fort Wayne community). Recipients must maintain a 2.5 GPA and express financial need. The award is nonrenewable and is to be used toward tuition/housing costs.

Byron Parshall Leadership Scholarship
This scholarship was established by Byron Parshall, a 1962 BSEE graduate of Indiana Tech. Parshall is most noted for his work in the aerospace industry. He was an instrumental part of the team that worked on the space shuttle. His Indiana Tech education prepared him well for "rubbing elbows" with the other engineers he worked with during his career. This scholarship is to be awarded to students that want to get a degree but have a financial need. It is unrestricted to a particular college within Indiana Tech.

Institutional Aid & Scholarships

Part-Time Employment
The Career Planning and Development Center acts as a clearinghouse for any part-time employment off-campus. All part-time employment opportunities are made available through the career services office. Wide ranges of off-campus opportunities are listed. For instance, there are some opportunities in factories, restaurants, and other retail businesses and other opportunities in local engineering organizations, which require skills such as drafting. The rate of pay and the number of hours per week of part-time employment vary with the employer. On-campus employment opportunities exist in many departments and are posted on Indiana Tech's web pages under Student Job Postings by our human resource department.

Pepsi-Cola Scholarship
PepsiCo provides funding on an annual basis to an Indiana Tech student to be used toward tuition, books, or housing costs. The funds are awarded with first preference to a student employed in the food service department who indicates a commitment to service and performs that work in a responsible manner. While scholastic achievement is not a major consideration, the recipient must maintain satisfactory progress. The scholarship is open to all majors. In addition to funding an annual scholarship, PepsiCo assists the university in marketing and promotional activities.

Phelps Dodge Foundation Scholarship
The Phelps Dodge Magnet Wire Co., with corporate offices in Fort Wayne, Ind., established this scholarship to provide financial assistance to minority students attending Indiana Tech. Recipients of this scholarship must be enrolled in the College of Engineering and Computer Sciences and demonstrate academic excellence and financial need. It is renewable based upon satisfactory progress and requires completion of a FAFSA. The scholarship is available to U.S. citizens and permanent residents only.

Carl & Katherine Pierson Memorial Scholarship
This scholarship was established by the Pierson family to honor the late Carl Pierson, who was a longtime member of Indiana Tech's Board of Trustees. It also pays tribute to Mrs. Katherine Kalbfleisch Pierson, who was the wife of university founder John Kalbfleisch and of Carl Pierson. This scholarship is awarded to assist students in financial need. It is available to U.S. citizens and permanent residents. Applicants are required to complete a FAFSA.

Dr. Ivan & Mary Planck Scholarship
This scholarship was established to honor Dr. Planck and his wife, Mary. Dr. Planck, also known as "Papa Bear" to many of his students, came to Indiana Tech in 1939 and was named head of the mechanical engineering department until his retirement in 1971. A mechanical engineering major will receive this award; if a candidate is not available, then a student majoring in another engineering discipline will be selected. Financial need and academic records are reviewed and will help determine eligible candidates. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents.

Rebecca Shallenberger Pratt Scholarship
This scholarship was established in memory of Rebecca Shallenberger Pratt, first wife of Howard L. Pratt, a 1963 BSME graduate of Indiana Tech and project manager with Navistar. The recipient of this award must major in the field of mechanical engineering. Other engineering disciplines may be considered should an eligible mechanical engineering major not qualify. This scholarship will accumulate until such time that it can support a student in the College of Engineering and Computer Sciences should a recipient not qualify. Students must demonstrate financial need and be in good academic standing. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Stanley & Shirley Puskarz Scholarship
Stanley and Shirley Puskarz established this scholarship. Mr. Puskarz is a 1959 BSME graduate of Indiana Tech. Candidates for this scholarship are to be freshmen majoring in mechanical engineering. Other engineering disciplines will be considered if a mechanical engineering major is unavailable. The scholarship is renewable based upon the recipient maintaining at least a C grade point average. Candidates must be citizens of the United States.

J.S. Robertson Scholarship
James and Judy Robertson established this scholarship. Mr. Robertson is a 1959 BSME graduate of Indiana Tech and retired from the machinery manufacturing division at Dart Container Corp. Eligible recipients must be in either their junior or senior year of college, demonstrate financial need, and be in good academic standing. This scholarship can assist with tuition, books, or lab fees. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Ralph E. & Blanche A. Rolape Scholarship
This scholarship was established in April 2011 by Louis M. Iacona, Sr. and Rosemary R. Iacona. Mr. Iacona, is a 1955 BSCE graduate of Indiana Tech. This scholarship honors the memory of Mrs. Iacona's parents, Ralph E. and Blanche A. Rolape. Candidates must be U.S. citizens and must be enrolled full time, have junior or senior status, and be in need of financial assistance. First preference will be given to students enrolled in College of Engineering and Computer Sciences degree programs.

Bernard & Joan Rome Scholarship
This scholarship was established by Mr. and Mrs. Rome to assist engineering students in financial need. Bernard Rome, a 1956 BSME graduate of Indiana Tech, retired as president of AMF and also retired from his own consulting firm, BJR & Associates. Eligible candidates must be citizens or permanent residents of the United States and must file a FAFSA to determine financial need. The recipient of this award must major in engineering; however, other disciplines within the university may be considered should an engineering major not qualify. Students must demonstrate need and the ability to pursue academic excellence. This scholarship is renewable based upon satisfactory academic progress.

Institutional Aid & Scholarships

Professor Robert Ruhl Memorial Scholarship
Thomas and Granis Dowling established this scholarship. Tom Dowling, a 1951 BSCE graduate of Indiana Tech, retired as manager of technical services for the Institute of Makers of Explosives (IME) and received an honorary doctorate from Indiana Tech. This scholarship was established to recognize the memory of Robert Ruhl, a civil engineering instructor and longtime dean of engineering at Indiana Tech. Professor Ruhl served on the Indiana Tech faculty from 1932 to 1972. This scholarship is awarded to a student majoring in engineering. Other disciplines will be considered should an engineering candidate not be available. It is available to U.S. citizens or permanent residents only.

Donald C. Rush Scholarship
Donald C. Rush, a 1951 BSCE graduate of Indiana Tech, established this scholarship. In his early years, Mr. Rush was a reservist in the U.S. Army and was sent to France where he had the opportunity to build one of the first NATO air bases in Europe. Upon his discharge he was employed by the Michigan State Highway Department and held various assignments before retiring as a highway engineer in 1984. To honor his contributions, the rest area on northbound I-75 south of Grayling, Mich., was named for Donald C. Rush. The scholarship will be awarded to a student demonstrating financial need with first preference to a student enrolled in the College of Engineering and Computer Sciences. The student must maintain at least a 2.0 GPA and be a U.S. citizen.

Edward J. & Hildegarde Schaefer Memorial Scholarship
This scholarship was established by Edward Schaefer to honor his wife, Hildegarde. Mr. Schaefer was a longtime supporter of Indiana Tech and served on the university's Board of Trustees from 1963 to 1991. He was the co-founder of the Franklin Electric Co. Four to five scholarships are awarded annually to U.S. citizens who plan to earn degrees in the College of Engineering and Computer Sciences and who demonstrate financial need and academic excellence. Scholarships are renewable based on continued academic excellence. Selection is made by the director of financial aid.

Schalow–Huff–Landis Scholarship
The Schalow Foundation established this scholarship to honor Dr. Rudy Schalow, a 1964 BSEE graduate of Indiana Tech, and two Indiana Tech educators: Margaret Huff, a professor of English, and Hugh Landis, a professor of mathematics, both of whom strongly encouraged students to strive for excellence. Recipients of the Schalow–Huff–Landis Scholarship must be citizens of the United States. Applicants must be enrolled on a full-time basis and have completed 30 or more credits in the disciplines of electrical engineering or computer science. The applicant must have at least a 2.5 cumulative GPA. Veterans of the U.S. Armed Forces shall be given preference for awards. The scholarship requires completion of a separate application along with submission of a one-page essay. Applications are available from the Financial Aid Office.

Thomas F. Scully Memorial Scholarship
The scholarship was established in memory of Thomas F. Scully, a former president of Indiana Tech. It is awarded to freshman engineering majors possessing academic excellence plus financial need. Students must complete a FAFSA. To continue eligibility over a four-year period, students must maintain a 2.5 GPA. The number of scholarships will vary per year and are available to U.S. citizens or permanent residents only.

Orland & Marilyn Sheese & Catherine Boehm Scholarship
Orland Sheese graduated from Indiana Tech in 1945 with a Bachelor of Science degree in radio and television engineering. He worked 12 years in the electronics field for Magnavox. In 1956, he joined General Electric's heat processing equipment product department. He retired from GE in 1978, when the department was sold to Wellman Engineering of England; and he retired from Wellman in 1987 as field manager. This scholarship was established to assist the financial needs of engineering students who are U.S. citizens and have a C or better GPA. Preference is given to electrical, mechanical, or computer engineering students. Financial need will be considered. As added criteria, first selection will be to award this scholarship to students who are employed on a part-time basis and actively contributing to college expenses.

Nellie Shiflet Memorial Scholarship
Edwin L. Wedel, a 1952 BSRE graduate of Indiana Tech, established this scholarship in memory of Nellie Shiflet, who ran the Indiana Tech bookstore when he was a student and had a profound influence on Mr. Wedel's obtaining his degree. First preference will be given to students majoring in electrical engineering. If no students meet this qualification, other fields of study may be considered. The scholarship is awarded to a freshman, who must maintain a satisfactory grade point average and is renewable up to three times (four years total).

Herman A. & May E. Sinemus Scholarship
Herman and May Sinemus endowed this scholarship. Mr. Sinemus is a 1948 BSCE graduate of Indiana Tech and a retired traffic engineer. This scholarship was established to support the university in its commitment to education and to assist students enrolled in the College of Engineering and Computer Sciences. Other disciplines within the university would be considered, should an engineering major not be available. Financial need is not necessarily a deciding factor in selecting a candidate, but may be taken into consideration. Renewal of this scholarship is based upon maintaining a satisfactory grade point average.

Abraham & Ellen Smaardyk Scholarship
Abraham and Ellen Smaardyk established this scholarship after Abraham retired from Argonne National Laboratories. He was a 1943 BSME graduate of Indiana Tech. The scholarship will provide assistance to students who choose to attend Indiana Tech, with preferential consideration given to students enrolled in the College of Engineering and Computer Sciences. The scholarship will be awarded primarily to applicants with high scholastic records, and it also may be awarded to an applicant who

has achieved an average scholastic high school standing, who can meet the entrance requirements without deficiencies, and who shows evidence for hard work and perseverance. The scholarship shall be granted to a full-time freshman student and shall be renewable each year upon evaluation of scholastic performance. The scholarship shall be limited to four years. It is available to U.S. citizens and permanent residents only. Recommendations for the scholarship will be made by the director of financial aid and then approved by the administrative committee of the college.

Laird W. Smith Scholarship
Laird Smith, a 1957 BSCE graduate of Indiana Tech, established this scholarship. He is self-employed as a consultant. No specific major is required, but the award does require that the applicant have a FAFSA form on file, which will help determine financial need. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

The Philip & Sadie Sporn Memorial Scholarship
This scholarship was established by Philip and Sadie Sporn to assist students who choose to attend a private university. Mr. Sporn was a philanthropist and friend of Indiana Tech. Recipients must have completed a minimum of 30 credits and demonstrate financial need and academic excellence. Scholarship recipients are chosen by the financial aid office and awards are available to all majors. Awards are renewable based upon satisfactory progress, are available to U.S. citizens and permanent residents only, and require completion of a FAFSA.

Rudolf K. & Beverly A. Stegelmann Scholarship
This scholarship was established in April 2011 by Rudolf K. Stegelmann, a 1960 BSME graduate of Indiana Tech, and his beloved wife, Beverly A. Stegelmann as testimony to their regard for the value of higher education and commitment to excellence in educational disciplines, and to commemorate many wonderful years as student and alumnus of Indiana Tech. The Rudolf K. and Beverly A. Stegelmann Scholarship fund will be used to provide scholarship and/or stipend assistance to any undergraduate candidate(s) accepted into any of the institution's degree programs.

Thomas & Laurel Stockamp Scholarship
Thomas and Laurel Stockamp established this scholarship. Mr. Stockamp, a 1963 BSCE graduate of Indiana Tech, is president of TG Excavating, Inc. Selection for this scholarship will first be made to a student living in Whitley County, second to a student from the state of Indiana, and third to a U.S. citizen. This scholarship is open to all majors and will be awarded using the criteria of financial need and academic excellence. It is renewable based upon satisfactory progress. Maximum amounts will vary per year but will never exceed the limits set out by the donors of this scholarship.

Robert J. Swindell "Balanced Man" Scholarship
Robert J. Swindell, a retired chemistry professor at Indiana Tech, established this scholarship. It is awarded to an incoming freshman enrolled on a full-time basis. The recipient's high school record will demonstrate a balanced approach to life through evidence of scholarship, leadership, and athletic participation. The student does not have to be listed as a varsity athlete. The scholarship is open to both males and females and is a one-year award. The award is made in the name of the Sigma Phi Epsilon Fraternity and candidates will be offered by the scholarship administrator in the Financial Aid office and finalized by the Associate V.P. of Student Affairs or his/her designate.

Nicki & Zohrab Tazian Scholarship
Zohrab and Nicki Tazian established this scholarship. Mr. Tazian, a 1960 BSCE graduate of Indiana Tech, was also a member of the university's Board of Trustees. He is president of Z.K. Tazian Associates, Inc. The scholarship will be awarded on an annual basis. To be eligible, students must be working toward a bachelor of science in the College of Engineering and Computer Sciences. Engineering students will be given first preference. Review of academic credentials and counselor recommendations will be made by the office of financial aid. Students must be citizens of the United States or Armenia.

Ralph R. Teetor Scholarship
This scholarship was established by Dr. Ralph Teetor, who was a successful engineer, president of the automotive corporation Perfect Circle Co. and the Society of Automotive Engineers, and the inventor of cruise control. Dr. Teetor, who was blinded in an accident when a young child, specified that this scholarship be awarded to a full-time engineering student who is physically challenged. The disability must be such as to require the student to use special aids, facilities, and procedures or to require a form of assistance or instruction not normally required of non-handicapped students. Applicants must be enrolled on a full-time basis. Candidates must contact the director of financial aid. This scholarship is renewable and is available to U.S. citizens or permanent residents.

Ray & Rosie Tobin Memorial Scholarship
This scholarship was established in March 2011 by Raymond G. Tobin, a 1948 BSAEE graduate of Indiana Tech, and his family, as a memorial to their beloved wife and mother Rosie and as testimony to their regard for the value of higher education and commitment to excellence in educational disciplines. This is the first scholarship that makes special allowance for assistance which can be applied in their name to post-graduate education.

Henry J. & Elizabeth R. Toews Scholarship
This scholarship was endowed by Henry and Elizabeth Toews. Mr. Toews, a 1939 BSCE graduate of Indiana Tech, was a contractor. The first preference for a candidate for this scholarship will be a student enrolled in the College of Engineering and Computer Sciences. It is preferable that the student's interest be in wastewater treatment. If no student meets this qualification, other fields of study may be considered. A recipient must be enrolled on a full-time basis and must maintain a satisfactory grade point average.

Edward Moore & Walter E. Trask Scholarship
This scholarship was established to honor the late Walter E. Trask, a retired professor of accounting at Indiana Tech. The Moore/Trask scholarship also recognizes the late J. Edward Moore, an investor and close personal friend of the Trasks. Both of these gentlemen recognized the importance of a college education, and this scholarship will assist a student in obtaining that goal. The recipient must demonstrate financial need and academic excellence. Awarded to an upper-class student working toward an accounting or business administration degree, this scholarship requires completion of a FAFSA and a separate scholarship application.

W. Paul Troder Scholarship
Paul Troder is a 1951 BSCE graduate of Indiana Tech. He established this scholarship to assist full-time students attending Indiana Tech. It is open to all disciplines within the university as long as the candidate is enrolled on a full-time basis, maintains a satisfactory grade point average, and demonstrates financial need and a desire to succeed. This scholarship is renewable for a period of four years.

Verizon Minority Scholarship
This scholarship was established by Verizon, which has offices in Fort Wayne, Ind., and is awarded to students who come from regions served by Verizon. The scholarship provides assistance to minority students who choose to attend a private institution. Selection is based upon financial need and academic excellence. The scholarship is renewable based upon satisfactory progress and is open to U.S. citizens and permanent residents only.

Lloyd R. & Shirley Wadekamper Scholarship
Lloyd and Shirley Wadekamper established this scholarship. Mr. Wadekamper, a 1957 BSME and BSAEE graduate of Indiana Tech, retired from Douglas Aircraft where he was a test conductor/engineer. Preference for this scholarship will be given to a student who chooses the engineering curriculum. Second choice would go to a student in the College of Engineering and Computer Sciences and third choice to other disciplines within the university. Recipients must be full-time students who can apply themselves academically. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Donald E. & Mary Louise (Ulrey) Wainwright Scholarship
Donald E. Wainwright established this scholarship. Mr. Wainwright was a 1956 BSME graduate of Indiana Tech. The scholarship is available to all disciplines at the university. Selection is based on financial need. While scholastic achievement is not a major consideration, the recipient must maintain satisfactory progress for scholarship renewal. It is open to U.S. citizens or permanent residents only.

Ralph Warmack Memorial Scholarship
Ralph H. Warmack was a 1942 BSME graduate of Indiana Tech. Following his service to the United States during World War II, Ralph went to work in the aerospace industry, where he remained for 22 years. During his career he worked on several important projects such as the Mars probe and lunar landing missions. A scholarship was established in his memory to help and encourage exceptional students to attend Indiana Tech, and in particular students who, because of financial need, might not otherwise have the opportunity to attend college or devote themselves to being full-time students.

Patty Weddle Scholarship
Rick and Patty Weddle established this scholarship. Mrs. Weddle is a 1993 BSHSM graduate of Indiana Tech. First preference for a scholarship recipient will go to a female student enrolled in the College of Professional Studies, with second preference to a female student in the College of Business. Financial need will be taken into consideration when selecting the recipient. The scholarship requires completion of a FAFSA, which will determine financial need. The student must achieve and maintain a passing average at Indiana Tech. The scholarship will not require that the candidate be enrolled as a full-time student. It is open to U.S. citizens or permanent residents only.

Heinz & Nanalee Wegener Scholarship
Heinz and Nanalee Wegener established this scholarship. Mr. Wegener, a 1970 BSEE graduate of Indiana Tech, is owner/president of Cross Technologies, Inc. The purpose of the Wegener scholarship is to provide funds to eligible candidates who demonstrate academic excellence and financial need. The financial aid office will choose scholarship recipients. It is available to U.S. citizens and permanent residents only and requires completion of a FAFSA.

Wells Fargo Scholarship
Wells Fargo Bank, whose service area includes Fort Wayne, Ind., established this scholarship to assist a student who demonstrates academic excellence. The director of financial aid will select the student. No separate application is necessary. It is available to U.S. citizens and permanent residents only.

Mr. & Mrs. Nelson Wenrick Scholarship
This scholarship was established in 1990 by Nelson D. and Peggy J. Wenrick. Nelson Wenrick is a 1960 BSCE graduate of Indiana Tech and former member of the university's Board of Trustees. This scholarship initially will be given to a freshman student. The student does not have to have an outstanding high school academic record, but must meet the academic criteria to enter his or her chosen field. The scholarship is renewable during the student's stay at Indiana Tech, if the student maintains a 2.0 cumulative GPA. The award is limited to four years. There must be evidence the student is a hard worker and dedicated to working hard in college. Preference will be given first to a student majoring in engineering. The recipient must be a citizen of the United States.

R. A. Weymouth Scholarship
This scholarship was established by Richard Weymouth, a 1962 BSME graduate of Indiana Tech. Preference for this scholarship will be given to a student who is a veteran of the armed services of the United States of America. The

purpose of the Weymouth scholarship is to provide funds to eligible candidates who are hard-working and find their educational endeavor a challenging experience. The scholarship is open to all disciplines at the university, and financial need is considered. It requires completion of a FAFSA and is open to U.S. citizens or permanent residents.

Barbara Wigham Scholarship
This scholarship was established to recognize Barbara Wigham, president of Communication and Marketing Specialists. Mrs. Wigham received an honorary degree from Indiana Tech in 2000 and has been very instrumental in the Fort Wayne community. She serves on many community boards, and is a former Indiana Tech trustee. Recipients of this award are those students who may not rank in the top of their class but who show the desire to obtain a degree. The scholarship is open to all majors offered by the university, and financial need will be considered. The scholarship requires that the recipient file a FAFSA and is renewable based on satisfactory progress. It is available to U.S. citizens and permanent residents only.

Thomas & Millie Wong Scholarship
This scholarship was established by Tom and Millie Wong. Tom Wong, a 1966 BSCHE graduate of Indiana Tech, is president of Visual Check International located in Fresno, Calif. The scholarship will be awarded to a deserving minority female student who is enrolled at the university on a full-time basis. All majors will be considered eligible for this award, and it is also open to the College of Professional Studies. The award will be based upon academic excellence. Financial need will also be a determining factor in the selection. This is a renewable scholarship that is open to citizens or permanent residents of the United States.

Joseph D. Woodrich Scholarship
Joseph D. Woodrich, a 1966 BSCHE graduate of Indiana Tech, established this scholarship in 2003. Eligible students must demonstrate financial need. The scholarship is available to a student who has achieved approximately 50% of the credits needed to obtain an undergraduate degree and is renewable for up to three years. It is restricted to a student in the College of Engineering and Computer Sciences. The recipient must be a U.S. citizen. This scholarship is created to assist a “C-type” student with a 2.0 to 2.8 GPA. The last requirement is that the recipient work 15 to 25 hours a week while attending classes. The purpose for this scholarship is to financially help a student who has to work harder than the average student to obtain an education and has demonstrated an above average work ethic.

Jackie D. & Velma J. Wright Scholarship
Mr. and Mrs. Wright established this scholarship to assist students involved in the athletic programs at Indiana Tech. Mr. Wright is president/chairman of Wright-Moore Corp. of Fort Wayne, Ind. The recipient of this scholarship will be a student who is involved in the basketball program at Indiana Tech. Athletes in other sports may become eligible should a student in the basketball program not qualify. No specific major is required but the award does require that the applicant have a FAFSA form on file, which will help determine financial need. The scholarship is renewable based upon satisfactory progress and is available to U.S. citizens or permanent residents only.

Yergens Rogers Foundation Scholarship
The Yergens Rogers Foundation established this scholarship to recognize the contributions of Virginia Yergens Rogers. Mrs. Yergens Rogers served as president and treasurer of Huser-Paul Co., a company founded by her late husband, Paul Yergens. Students from Fort Wayne and the surrounding area will have first preference for assistance. All majors will qualify for consideration, and selection will be based upon financial need and academic excellence. To maintain the scholarship, the recipient must meet normal standards of progress. It is available to U.S. citizens or permanent residents only.

Fred Zollner Foundation Scholarship
This scholarship was established by the foundation that was created by Fred Zollner, who founded the Zollner Corp. in Fort Wayne, Ind. Students must major in either engineering or computer science and live within a 75-mile radius of Fort Wayne. Candidates are approved based on students’ high school academic records. Scholarships are renewable based upon a satisfactory GPA of 2.75 and are available to U.S. citizens or permanent residents only.

UNDERGRADUATE COURSE DESCRIPTIONS

Contents

Undergraduate Course Descriptions

The courses described below are listed in numerical order by discipline. All courses are 3 credits unless otherwise noted. If laboratory periods are required they are indicated after the description. For example, the notation "3 plus 1" indicates 3 class periods and 1 lab period per week.

ACCOUNTING

ACC 1010 Accounting Principles
Prerequisite: MA 1000 with grade C or better.
An introduction to the principles of accounting. The complete accounting cycle is studied for a sole proprietorship. Specifically included are preparation of journal entries, worksheets, financial statements, and a more detailed look at cash, receivables, and fixed assets. 3 credits. (3 plus 0)

ACC 2140 Managerial Accounting
Prerequisites: ACC 1010 with grade C or better.
Accounting as a decision-making tool with an emphasis on manufacturing enterprises. Decision-making in management is studied along with management reports and financial statement analysis. Specifically included are production costs, breakeven analysis, budgeting, variances, and differential analysis. 3 credits. (3 plus 0)

ACC 2200 Intermediate Accounting I
Prerequisites: ACC 1010 with grade C or better; MA 1025.
A review of the accounting cycle focusing on the analysis of accounts and transactions. In-depth coverage of the financial statements and the business operating cycle to include cash, receivables, and inventory. 3 credits. (3 plus 0)

ACC 2240 Intermediate Accounting II
Prerequisite: ACC 2200 with grade C or better.
A continuation of Intermediate Accounting I. A detailed study of the financing and investment activities of a business. Additional topics include leases, income taxes, pensions, stock options and contingencies. 3 credits. (3 plus 0)

ACC 2300 Intermediate Accounting I
Prerequisites: ACC 2140; MA 1025 with grade C or better; MIS 1300. CPS students only.
A detailed study of financial reporting concepts focusing on financial statements and related disclosures. Asset valuation and income measurement are studied extensively, concentrating on cash, receivables, inventories; property, plant and equipment; depreciation, depletion and intangibles. Additional topics include a review of accounting systems and financial statement reporting requirements. 3 credits. (3 plus 0)

ACC 2320 Intermediate Accounting II
Prerequisite: ACC 2300 with grade C or better. CPS students only.
A continuation of Intermediate Accounting I. The course is a detailed study of financial reporting concepts focusing on the valuation of liabilities and investments. The reporting of stockholders' equity is also studied, including such topics as contributed capital, earnings per share calculation, and retained earnings. 3 credits. (3 plus 0)

ACC 2340 Intermediate Accounting III
Prerequisite: ACC 2320 with grade C or better. CPS students only.
A continuation of Intermediate Accounting I and II. The course covers a variety of special topics including: income measurement, measurement of net assets, accounting for income taxes, post-employment benefits, leases, and Statement of Cash Flow. 3 credits. (3 plus 0)

ACC 2400 Cost Accounting
Prerequisites: ACC 2140 with grade C or better. Day division students only.
A study of cost accounting by the elements of cost: material, labor, and factory overhead. Job order cost accounting, process cost accounting and standard cost accounting variances for material, labor and factory overhead are developed in-depth. The use of cost information in inventory decisions is covered. 3 credits. (3 plus 0)

ACC 2430 Cost Accounting I
Prerequisites: ACC 2140 with grade C or better. CPS students only.
An introduction to cost management systems. Topics include job order, process, and activity based cost accounting. Cost allocation for joint products and by-products is also covered. 3 credits. (3 plus 0)

ACC 2440 Cost Accounting II
Prerequisite: ACC 2430 with C or better. CPS students only.
A continuation of Cost Accounting I. Topics include standard costing and variance analysis, relevance costing for outsourcing decisions, responsibility accounting, and capital budgeting. 3 credits. (3 plus 0)

ACC 2500 Individual Income Tax
Prerequisites: ACC 2140 with grade C or better; junior standing.
A study of the concepts of individual taxation and extensive practice in filling out individual Form 1040 and backup forms. Also included is an introductory study of Partnership Taxation and the filling out of Partnership Form 1065. The concept of tax planning is stressed in every area. 3 credits. (3 plus 0)

ACC 2990 Special Topics in Accounting
Prerequisite: Permission of the dean of the College of Business.
Directed study of a special body of subject matter in the field of accounting. This course may be repeated for additional credit. Variable credit.

ACC 3300 Auditing
Prerequisite: ACC 2240 or ACC 2340 with C or better.
A theory course in auditing which considers the necessary procedures in an audit, purposes for which audits are made, internal control standards, generally accepted auditing standards, fraud and its detection, independence of the CPA, and presentation of the audit report by the CPA.

3 credits. (3 plus 0)

ACC 3500 Corporate Income Tax
Prerequisite: ACC 2500 with C or better.
A study of the concepts of corporation income taxes. Dividend distribution as controlled by earnings and profits is stressed. A detailed study of tax-option (Sub Chapter S Corporations, LLCs and LLPs) is included. 3 credits. (3 plus 0)

ACC 4700 Advanced Accounting I
Prerequisite: ACC 2240 or ACC 2340 with grade C or better.
A study of selected accounting subjects and theory at the advanced level. Topics include business combinations and consolidations, EPS, multinational accounting, and partnership accounting. 3 credits. (3 plus 0)

ACC 4740 Advanced Accounting II
Prerequisite: ACC 4700 with grade C or better.
The capstone accounting course integrating intermediate, advanced, and taxation topics into a comprehensive learning experience via case analysis. Governmental, not-for-profit, and fiduciary accounting will also be introduced. 3 credits. (3 plus 0)

ACC 4990 Special Topics in Accounting
Prerequisite: Permission of the dean of the College of Business.
Directed study of a special body of subject matter in the field of accounting. This course may be repeated for additional credit. Variable credit.

BIOLOGY

BIO 1000 Introductory Biology
A course focused on the basic ideas to enable students to appreciate the living world and their relationship to it. Course includes discussion of cellular and organism biology, genetics, evolution, ecology, and interaction among all living organisms. Lab required. 3 credits. (2 plus 1)

BIO 1110 Anatomy & Physiology
Introduction to concepts and processes in human anatomy and physiology. This course will focus on the structure and function of various cells, tissues, and organs of the human body. Special emphasis will be given to the skeletal, muscular, circulatory and respiratory systems. 3 credits. (3 plus 0)

BIO 1110 Anatomy & Physiology
Introduction to concepts and processes in human anatomy and physiology. This course will focus on the structure and function of various cells, tissues, and organs of the human body. Special emphasis will be given to the skeletal, muscular, circulatory and respiratory systems. 3 credits. (3 plus 0)

BIO 1210 Human Disease & Basic Pharmacology
Prerequisite: BIO 1110.
This course covers the basics of general pharmacology and human disease for health information technology professionals; general principles of drug actions/reactions, major drug classes, specific agents within each class of drug, and routine mathematical calculation needed to determine desired dosages. For human disease the course will study common diseases of each body system, including disease etiology, symptoms, diagnostic tests, therapeutic methods, and disease prognoses. 3 credits. (3 plus 0)

BIO 2700 Pathophysiology
Prerequisite: BIO 3500.
This course covers various topics in pathophysiology and examines the biological basis of common clinical disease states. It also looks at how pathophysiological changes in a primary system can impact other body systems. 3 credits. (3 plus 0)

BIO 2710 Human Anatomy & Physiology I
Designed to provide advanced study of mammalian anatomy and physiology. Systems covered include: integument, skeletal, muscular, and nervous. Lab required. 3 credits. (3 plus 0)

BIO 2720 Human Anatomy & Physiology I - Lab
Prerequisite or co-requisite: BIO 2710.
This lab is designed to accompany the advanced study of mammalian anatomy and physiology lecture. 1 credit. (0 plus 3)

BIO 2730 Human Anatomy & Physiology II
Prerequisites: BIO 2710; BIO 2720.
Designed to provide advanced study of mammalian anatomy and physiology. Systems covered include integument, skeletal, muscular, and nervous. Lab required. 3 credits. (3 plus 0)

BIO 2740 Human Anatomy & Physiology II - Lab
Prerequisite or co-requisite: BIO 2730.
This lab is designed to accompany the advanced study of mammalian anatomy and physiology lecture. 1 credit. (0 plus 3)

BIO 2950 Genetics
Prerequisites: BIO 3500.
An introduction to the concepts of genetics. Topics covered include transmission genetics, molecular genetics and population genetics. 3 credits. (3 plus 0)

BIO 3500 Cell Biology
Prerequisite: BIO 2710.
This course covers various topics in cell biology including: membrane transport, cell-cell communication, intracellular trafficking of biological molecules, the cell cycle, intracellular signaling cascades and their receptors, the cytoskeleton, extra-cellular matrix, cell motility and cancer. 3 credits. (3 plus 0)

BIO 4710 Immunology
Prerequisite: BIO 3500.
An introduction to the concepts of normal and abnormal immune processes relating to humans. Topics covered in-

clude antibody-antigen reactions, immunodeficiency and auto-immune processes, antibody-mediated and cell-mediated hypersensitivity, immune response to pathogens. 3 credits. (3 plus 0)

BIOMEDICAL ENGINEERING

BME 3100 Bio-Materials
Prerequisites: CH 1230; PH 1300.
The basic mechanical, electrical, optical, thermal, and magnetic properties of engineering materials; structure of matter; crystalline structure and imperfections; environmental effects; selection and application of materials for biomedical prosthetics. 3 credits. (3 plus 0)

BME 3200 Thermodynamics & Fluids
Prerequisites: EM 2020 or concurrent registration; MA 2100.
Energy, entropy, and equilibrium. Introduction to fluid statics and dynamics. Laminar and turbulent flows. The use of equations of motion in the study of fluid flows. Introduction to conduction, convection, and radiation heat transfer. 3 credits. (3 plus 0)

BME 3250 Thermodynamics & Fluids Lab
Prerequisite or co-requisite: BME 3200.
Experimental studies of fluids at rest and in motion. Experimental studies in the analysis of heat transfer equipment. 1 credit (0 plus 3)

BME 3500 Biomechanics
Prerequisite: EM 2020.
Kinematic and dynamic analysis of mechanisms. Computer-aided kinematic design. Experimental studies of mechanical properties of structural elements and prosthetics. 3 credits. (3 plus 0)

BME 3800 Medical Device Design Project I
Prerequisite: EGR 3600.
First course in problem-based learning series that demonstrates steps necessary to take medical device projects from conception to market from an engineering perspective. Focus on Phase 1: medical device design requirements, including problem identification, patent searches, literature reviews, FDA requirements, premarket approval applications, investigational device exemptions, and premarket notification. Project management taught in relevant context from developing PM software skills to evaluating "what if" scenarios for possible future outcomes. 3 credits. (3 plus 0)

BME 3810 Medical Device Design Project II
Prerequisite: BME 3800.
Second course in problem-based learning series that demonstrates steps necessary to take medical device projects from conception to market from an engineering perspective. Focus on Phase II: medical device design outputs and verification, including design outputs, product description, product design, design risk, material specifications, drafting prints, quality inspection, and design verification. Project management is of main focus as well. 3 credits. (3 plus 0)

BME 4973 BME Senior Project I
Prerequisites: EGR 2000; senior standing.
The presentation of a creative engineering design solution to a real-world physical problem. The design solution will involve the formal and creative application of mathematics, science, and biomechanical engineering theory. Students will manage project activities in order to produce systems that will be safe, cost-effective, and are technically sound solutions to the problem. Coursework will include: establishing specifications, conceptual system design, subsystem analysis and characterization, equipment sourcing, and the production of technical documentation for the design. Periodic progress reports to the technical advisor are required. 2 credits. (2 plus 0)

BME 4974 BME Senior Project II
Prerequisite: BME 4973.
The implementation of the design solution prepared in Biomedical Engineering Senior Project I. The course will involve construction and test of the project hardware and software. The project concludes with a hardware demonstration and an oral presentation to faculty and students in the department. Project students also will produce a formal written report. 3 credits. (3 plus 0)

BME 4990 Special Topics in Biomedical Engineering
Prerequisite: Permission of the dean of the College of Engineering and Computer Sciences or dean's designate.
Directed study of a special body of subject matter in the field of biomedical engineering. This course may be repeated for additional credit. Variable credit.

BUSINESS ADMINISTRATION

BA 1200 Foundations of Business
This course provides an introduction to the core disciplines of the business program. Students will explore the internal business functions of marketing, management, human resource management, accounting, finance, and operations management. It is the first course in the business administration program. 3 credits. (3 plus 0)

BA 2010 Principles of Management
Prerequisites: BA 1200, ENG 1250 or concurrent enrollment.
The student is introduced to the concepts of management theory and practice in this course. A how-to approach for the student of such management functions as planning, organizing, directing, and controlling is presented. 3 credits. (3 plus 0)

BA 2020 Operations Management
Prerequisites: BA 2010; MA 1025.
Design of production systems. Topics include product and service design, location planning, capacity planning, design of facilities and work systems and lean manufacturing concepts. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

BA 2200 Personal Finance
Prerequisites: MA 1000
A practical understanding of a personal financial plan and the decisions everyone is faced with throughout their lives. Establishing a financial plan, using credit and long-term loans, lease vs. buy decisions for autos and homes, insurance, and investment fundamentals. 3 credits. (3 plus 0)

BA 2410 Human Resource Management
Prerequisite: BA 2010.
Principles and policies followed by management in recruitment, development, direction, and control of personnel. Directed study in current legislation, trends and practices in personnel management. The course presents corporations as integrated units whose differences depend upon the people who work in them and the product efficiency of each unit. 3 credits. (3 plus 0)

BA 2430 International Management
Prerequisite: BA 2010.
The course is an in-depth study of the cultural, economic, political, sociological, and technological differences that exist between various global regions and countries of the world which have an influence on the growth and success of the multinational company. The course covers the planning, organizing, staffing, and managerial control process of the multinational corporation. 3 credits. (3 plus 0)

BA 2500 Marketing
Prerequisites: BA 1200, ENG 1250 or concurrent enrollment.
A general survey of the field of marketing, including its scope and significance, the market for consumer goods, the market for agricultural and industrial goods, marketing policies and practices, and government regulations in competition. 3 credits. (3 plus 0)

BA 2550 Personal Selling
Prerequisite: BA 2500.
The history and current status of personal selling, the various types of salesmanship and their requirements, sales personality development, product analysis, psychology of selling, and sales strategy. Emphasis will be placed on practical demonstration. 3 credits. (3 plus 0)

BA 2600 Occupational Safety & Health
Prerequisite: BA 2010.
The analysis, design, and implementation of safety programs in work settings. Emphasis is placed on developing an understanding of the economic, legal and social factors related to providing a safe and healthful working environment for various occupations. 3 credits. (3 plus 0)

BA 2700 Organizational Behavior
Prerequisite: BA 2010.
Human behavior in organizational settings. Directed study in business organization, and behavior and motivation in groups. Theoretical and experiential study in productivity tasks, communication, and environmental variables, power, leadership and development. 3 credits. (3 plus 0)

BA 2800 E-Commerce
Prerequisites: BA 2010; BA 2500.
This course will provide information about the transactions of goods and services using the World Wide Web. Topics will include product marketing, electronic orders and payments, order fulfillment, and customer service. Legal, privacy, and security issues and e-commerce trends also will be examined. 3 credits. (3 plus 0)

BA 2850 Managing in the Legal Environment
Prerequisite: BA 2010.
This course will present an overview of the legal environment from the perspective of the professional (non-legal) manager. The concentration for this course will be on the main sources of law, the major areas of common law that apply to managers, the major regulatory agencies that influence the management process, and the components of employment law. 3 credits. (3 plus 0)

BA 2990 Special Topics in Business
Prerequisite: Permission of the dean of the College of Business.
Directed study of a special body of subject matter in the field of business. This course may be repeated for additional credit. Variable credit.

BA 3110 Project Management I
Prerequisites: BA 2010; MA 2025.
A study of the models and practice of successful project completion including the management of financials, material resources, communications, and scheduling and tracking systems. Project planning techniques and systems are reviewed. 3 credits. (3 plus 0)

BA 3200 Business Ethics
Prerequisite: BA 2850.
A study of ethical theories and their implications in contemporary corporate philosophy and organizational decision making. Topics include establishing ethical codes of conduct, moral reasoning, and social responsibility. 3 credits. (3 plus 0)

BA 3300 Marketing Research & Decision Making
Prerequisites: BA 2500; MA 2025.
This course will focus on the development and functioning of marketing systems and the formal tools of decision making. Collection techniques and the analysis of data, as viewed in management information systems, will be reviewed with actual applications and case studies. 3 credits. (3 plus 0)

BA 3500 Advertising
Prerequisite: BA 2500.
Consideration is given to the history of advertising, ethics of advertising, consumer makeup, social and psychological influences, the impact of advertising on demand for product and services, pricing, consumer choice, procedures of building actual ads, and media selection and campaigns. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

BA 3550 International Marketing
Prerequisite: BA 2500.
An analysis of the legal, economic, cultural and political factors affecting multinational marketing provides the focus for this course. A specific examination of identifying opportunities in foreign markets and the problems of pricing, promoting, and distributing products in those markets. 3 credits. (3 plus 0)

BA 3560 Entrepreneurship
Prerequisites: ACC 2140; BA 2010; BA 2500.
A comprehensive review of business opportunities in a free enterprise system with emphasis on small business development. Includes research into the requirements to initiate a small business. 3 credits. (3 plus 0)

BA 3650 Compensation Management
Prerequisite: BA 2410.
This course will focus upon the planning and implementing of a total compensation system, including practical experience in job analysis, salary survey, and the development of a structured pay policy. An environmental study of the effects of compensation on behavior and legal implications of salary grades also will be included. 3 credits. (3 plus 0)

BA 3710 Leadership
Prerequisites: BA 2010; BA 2700 or SS 2720.
A study of the theory and practice of leadership. The history of leadership studies is reviewed along with current research trends and models. Leadership is compared and contrasted with management. Students assess, develop, and present a leadership model that best succeeds in their work/life environment. 3 credits. (3 plus 0)

BA 3800 Labor Relations
Prerequisite: BA 2410.
A study of union-management relations. It focuses on negotiations and administration of labor agreements with emphasis on the development and application of the more significant bargaining issues. It describes the transaction between two organizations: management and the labor union. 3 credits. (3 plus 0)

BA 4010 Quality Management
Prerequisites: BA 2010; MA 2025; junior standing.
A study of various quality control and assurance concepts and their integration into a comprehensive quality management system. Topics emphasized are total employee involvement and teamwork, continuous process analysis and improvement, and the importance of a company-wide focus on customer needs. 3 credits. (3 plus 0)

BA 4500 Purchasing
Prerequisite: BA 2500.
How materials, supplies, and equipment are evaluated for business consumption provides the basis of the course. A step-by-step analysis of the purchasing function from the purchase request to the decision to buy. Included are the principles of vendor evaluation, material management, and procurement. 3 credits. (3 plus 0)

BA 4510 Retailing
Prerequisite: BA 2500.
Designed for those who hope to become managers, owners of retail firms, or representatives of businesses that sell to retailers. It considers the long-range problems of retailers. Cases and text material are used to develop an understanding of problems related to establishing retail stores such as location, layout, buying, pricing, fashion, and retail research. 3 credits. (3 plus 0)

BA 4700 Training & Development
Prerequisite: BA 2410.
Processes, methods, theories, and practices of training and development activities in business settings. Human resources development practices which facilitate learning and change to enhance organizational objectives. 3 credits. (3 plus 0)

BA 4800 Public Relations
Prerequisite: Junior standing.
Study of principles, cases, and problems to facilitate understanding of the philosophies, objectives, and techniques of public relations in companies, corporations, and institutions. An examination of relations with employees, stockholders, consumers, community, educational institutions, suppliers, dealers, and government. The tools of public relations are examined and applied to case problems. 3 credits. (3 plus 0)

BA 4820 Seminar in Human Resource Management
Prerequisites: BA 2410.
Capstone course offered only in summer sessions. Students will attend the National Convention for the Society of Human Resource Management. Globally related conference issues include sexual harassment, compensation planning, disabilities, flexible workplaces, global education, and legal perspectives. Provides opportunities for networking and to become professionally certified. Requires membership in SHRM. 3 credits. (3 plus 0)

BA 4910 Business Policy & Strategic Planning
Prerequisites: Senior standing; all business core courses; FIN 3600.
This course will focus on strategic planning, environmental analysis, internal analysis, policy formulation, and control methods. Case studies will be used to examine short-term and long-range plans and their consequences. 3 credits. (3 plus 0)

BA 4950 Internship
Prerequisites: Senior standing or permission of the dean of the College of Business.
Capstone course in which the student will participate in an actual industry setting as a trainee member of the management team. In addition to work experience, the student also will participate in a seminar program discussing the relationship of principles and theories to actual operations in the industry. 1 to 6 credits.

BA 4960 Senior Project
Prerequisites: Senior standing and permission of the dean

of the College of Business.
Application of business principles to an extended project. 3 credits. (1 plus 6)

BA 4990 Special Topics in Business
Prerequisite: Permission of the College of Business. Directed study of a special body of subject matter in the field of business. This course may be repeated for additional credit. Variable credit.

CHEMISTRY

CH 1000 Fundamentals of Chemistry
Co-requisite: MA 1035.
Measurement and units; significant figures; matter and energy; atomic and molecular structure; formulas and equations; chemical bonding; stoichiometry; balancing equations; states of matter; solutions; acids; bases and salts. 3 credits. (3 plus 0)

CH 1100 Chemistry for Changing Times
This is an introductory course in chemistry that presents basic concepts and relates them to current issues in society such as those concerning the environment, foods, fuels, and drugs. This course is intended to help provide the understanding necessary to make informed choices. Not open to engineering majors. 3 credits. (3 plus 0)

CH 1220 General Chemistry & Lab I
Prerequisites: CH 1000 or equivalent; MA 1035 with grade C or better.
A quantitative approach to general chemistry; atomic and molecular structures; reactions and stoichiometry; gas laws; thermochemistry; chemical bonding; properties of solutions. Classroom, laboratory and computer activities are integrated. 3 credits. (2 plus 3)

CH 1230 General Chemistry II
Prerequisite: CH 1220 with a grade C or better.
Chemical kinetics; gaseous and solution equilibria; thermodynamics; metals and their properties, organic chemistry and nuclear chemistry; electrochemistry. 3 credits. (3 plus 0)

CH 2400 Organic Chemistry
Prerequisite: CH 1220 with grade C or better.
Topics include bonding principles, intermolecular forces, nomenclature, isomerism, stereochemistry; synthesis and reactions of alkanes, alkenes, alkynes, alcohols, alkyl halides, and functional groups. Addition, elimination, rearrangement and substitution mechanisms. Also an introduction to aromatic compounds, polymers, lipids, carbohydrates, proteins, and nucleic acids. 3 credits. (3 plus 0)

CH 2410 Organic Chemistry Lab
Prerequisite: CH 2400 with grade C or better.
Topics include laboratory safety, use of ground glass equipment, melting points, boiling points, simple distillation, fractional distillation, extraction, recrystallization, and synthesis of various types of organic compounds. 1 credit. (0 plus 3)

COMPUTER ENGINEERING

CPE 3500 Computer Engineering I
Prerequisites: EE 2100 or CS 2100; EGR 1500 or equivalent.
An introductory course in the analysis and design of digital systems. The study of Boolean Algebra as a tool to analyze and synthesize switching networks consisting of logic gates implementing combinational and sequential logic circuits. Use of the LogicAid program for Boolean logic simplification. Karnaugh mapping, and state reduction. 3 credits. (3 plus 0)

CPE 3550 Computer Engineering Lab I
Prerequisite: CPE 3500.
Design and implementation of combinational and sequential logic systems. Logic circuits are implemented in prototype using electronic integrated circuits to realize the logic functions. Use of the LogicAid program as a design tool for the digital logic circuits implemented in the laboratory. 2 credits. (1 plus 3)

CPE 3600 Computer Architecture
Prerequisite: CS 2100.
A study of computer architecture from classical to advanced perspectives; characteristics of modern systems such as performance, instruction set design, data paths, pipelining, caching, memory management, I/O, and multiprocessing. Scheduled and unscheduled lab. 3 credits. (3 plus 0)

CPE 3610 Computer Architecture Lab
Co-requisite: CPE 3600.
Construction of a simple processor. Experiments with different computer and memory architectures, I/O and bus systems, and parallel or distributed systems. 1 credit. (0 plus 2)

CPE 4150 Digital Signal Processing
Prerequisites: CPE 3550; EE 3150.
Development of both mathematical and intuitive understanding of digital signal processing. LTI systems, analog Fourier transforms, discrete Fourier transforms, and z-transforms are reviewed. Fourier and z-transforms are extended to 2-d. Signal flow graphs help develop an intuitive understanding of digital signal processing. Both IIR and FIR digital filters are studied. 3 credits. (3 plus 0)

CPE 4500 Computer Engineering II
Prerequisite: CPE 3500.
Switching networks and sequential systems, design of synchronous systems, state reduction in incompletely specified systems, synthesis of asynchronous systems, clocked sequential systems. 3 credits. (3 plus 0)

CPE 4550 Computer Engineering II Lab
Prerequisite: CPE 4500.
Introduces finite state machine design and implementation methods such as programmable logic devices, TTL medium scale integrated circuits, and microprogramming. Small digital processors and controllers are implemented as design projects. 2 credits. (0 plus 6)

Undergraduate Course Descriptions

CPE 4600 Embedded Systems
Prerequisite: CPE 3600.
Implementation of microprocessors and/or microcontrollers in embedded digital systems. Study of their architecture, operations, and software; and hardware/software design. Scheduled and unscheduled lab. 3 credits. (1 plus 3)

CPE 4710 Senior Project Proposal
Prerequisite: Senior standing.
Development of a proposal for CPE 4720 Senior Project. A complete proposal is properly documented and presented. 2 credits. (2 plus 0)

CPE 4720 Senior Project
Prerequisite: CPE 4710.
The proposal created in CPE 4710 Senior Project Proposal is implemented, tested, and demonstrated. 2 credits.

CPE 4990 Special Topics in Computer Engineering
Prerequisite: Permission of the department chair.
Directed study of a special body of subject matter in the field of computer engineering. This course may be repeated for additional credit. Variable credit.

COMPUTER SCIENCE

CS 1200 Introduction to Computer Science
Prerequisite or co-requisite: MA 1035
A broad based introduction to the field of computer science including topics from both hardware and software history and design. Development of an extensive vocabulary in computer science. Other topics introduced include: binary numbering systems, logic circuits, programming, operating systems, file systems. 3 credits. (3 plus 0)

CS 1250 Problem Solving for Programmers
Course introduces methods and tools used to solve problems using computers. Types and sources of problems computer programmers encounter are explored. Logical algorithm development, pseudocoding, selection, and iterative logic are emphasized. Lab work is performed using Microsoft productivity tools. 3 credits. (3 plus 0)

CS 1300 Computer Science I
Prerequisites: CS 1200 or CS 1250; co-requisite: MA 1035.
An introduction to the art and science of software development. Topics include: top-down design, writing requirements and specifications, developing algorithms, coding algorithms in a high level programming language, debugging algorithms and code, basic control structures, and basic data structures. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 1350 Computer Science II
Prerequisite: CS 1300 with grade C or better.
A continuation of CS 1300. More detailed object-oriented design; more data structures such as linked lists, stacks, queues, binary trees, and heaps; recursion; well-known algorithms for searching and sorting; manipulating linked lists and binary trees; hashing. Students will learn to look at data from the perspectives of abstraction, implementation and application. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 1500 Introduction to Server Systems
Prerequisite: MA 1035.
An introduction to server and operating systems focusing on the use of Linux. Students will learn how to perform basic administration of a Linux based system in the areas of command line usage, process control, user management, software installation and software removal. Additionally, the student will gain a basic fluency in the structure of the operating system, including items such as bootup process and kernel structure. Scheduled and unscheduled laboratory projects. 3 credit hours. (3 plus 0)

CS 1600 Project Management Seminar
Prerequisite: CS 1200 or SE 1100.
This course presents the fundamentals of project management for application in subsequent project oriented courses throughout the curriculum. 1 credit. (1 plus 0)

CS 2100 Introduction to Computer Systems
Prerequisite: CS 1350.
Computer structure, machine language, data representation, the instruction set, input-output. Symbolic coding and assembly language, addressing techniques, program segmentation and linkage, macros, the assembler, and system organization. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 2410 Discrete Structures
Prerequisites: MA 1060; CS 1300 or IS 1300.
Induction, Big-Oh analysis and recurrence relations, mathematical aspects of trees, mathematical aspects of sets, relations, graph theory, automata and regular expressions, context-free grammars, propositional and predicate logic. 3 credits. (3 plus 0)

CS 2500 Database Systems
Prerequisite: IS 1300 or CS 1300.
Database management systems. Sequential storage devices. Physical characteristics of and data representation on random access storage devices. Inverted lists, multilist, indexed sequential, and hierarchical file structures. File I/O. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 2990 Special Topics in Computer Science
Prerequisite: Administrative approval.
Directed study of a special body of subject matter in the field of computer science. This course may be repeated for additional credit. Variable credit.

CS 3200 Operating Systems
Prerequisite: CS 2100.
Operating system concepts, problems, and solutions demonstrated by the use of the UNIX operating system. Included: user interface, process control, multiprogramming, deadlock, memory management, virtual memory. Unscheduled laboratory.3 credits. (3 plus 0)

CS 3500 Numerical Methods
Prerequisites: MA 1210; CS 1350; junior standing.
Development of numerical algorithms to provide solutions common to science and engineering; applicability and limits of their appropriate use; emphasis will be on the guaranteed accuracy that various methods provide, the efficiency and scalability for large scale systems, and issues of stability. 3 credits. (3 plus 0)

CS 3700 Object Orientation
Prerequisite: CS 1350.
Object oriented methods of design, documentation and implementation. Implementation of examples in a high-level programming language. Polymorphism, inheritance, software reuse are studied and practiced. Students will learn to develop and implement software systems using object oriented techniques. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 3800 Data Structures & Algorithms
Prerequisites: CS 2410; CS 1350.
A study of methods for implementing data structures such as: lists, linked lists, nary trees, AVL-trees, b-trees, tries, and graphs. Study and analysis of well-known algorithms. Unscheduled laboratory.3 credits. (3 plus 0)

CS 4000 Computer Science Seminar
Prerequisite: Senior standing or administrative approval.
Study of the current ethical and professional issues in computer science. Student research and seminar presentations are required. 1 credit. (1 plus 0)

CS 4500 Software Engineering
Prerequisite: CS 3700.
The theory and practice of software engineering. Software development methodologies, object oriented design, data abstraction, the software life cycles. Term project required. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 4600 Organization of Programming Languages
Prerequisite: CS 3700.
Formal language concepts and examples. Data types, structures, and features affecting static and dynamic storage allocation. Language features for program control, procedures, data transfer, block structures, and recursion. Run-time considerations. Interpretive languages. Lexical analysis and parsing. Programming assignments in available languages. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 4800 Systems Software
Prerequisite: CS 4600.
Software design techniques. Organization and management of software development. Design of assemblers and macroprocessors. Review of lexical analysis and parsing, general compiler design, techniques of machine-independent code generation and optimization. Loader schemes and design. At least one large software project. Unscheduled laboratory. 3 credits. (3 plus 0)

CS 4990 Special Topics in Computer Science
Prerequisite: Administrative approval.
Directed study of a special body of subject matter in the field of computer science. This course may be repeated for additional credit. Variable credit.

CRIMINAL JUSTICE

CJ 1100 Introduction to the Criminal Justice System
A survey of the criminal justice system of the United States. The course will examine broad concepts that guide and direct the system of justice in contemporary society and explore the components of the system: the police, the courts and corrections. 3 credits. (3 plus 0)

CJ 1200 Criminology
Prerequisite: CJ 1100.
Introduction to theory and research on the nature, causes and prediction of criminality and crime. The first section of the course will address spatial and temporal patterns of crime and victimization while focusing on crime rates across communities and demographic groups. The second section of the course will address theoretical explanations of criminality and crime. The primary goals of this course include 1) to provide an understanding of current theoretical developments in the explanation of crime and 2) to describe the distribution of both crime and victimization and changes in the rates of crime and victimization. 3 credits. (3 plus 0)

CJ 1300 The Police in America
Prerequisite: CJ 1100.
An examination of the police as a component of the American criminal justice system. Beginning with an exploration of the historical evolution of the police, learners will explore contemporary issues and emerging challenges that face this important unit of social control in our nation. 3 credits. (3 plus 0)

CJ 1400 Corrections in America
Prerequisite: CJ 1100.
Beginning with a historical overview of the American criminal justice system, this class covers the rationale for punishment and the administration and operational aspects of prison and jail functions at the local, state and federal levels. Issues related to probation, parole, community corrections. 3 credits. (3 plus 0)

CJ 2000 Homeland Security
Prerequisite: CJ 1100.
This is a course with a specific focus on issues relevant to homeland security. Topics will include: the evolution of homeland security, understanding terrorism, and current homeland security methods and procedures. Students will be responsible for topics covered both in and out of the text. 3 credits. (3 plus 0)

CJ 2300 Substantive Criminal Law
Prerequisite: CJ 1100.
The evolution of substantive law in America from its British and common-law traditions. The learner's examination

of this topic will include the limitations and ambiguity of the substantive law. This course may utilize the Indiana Criminal Code as one model of substantive law and may be taught using the case study method. 3 credits. (3 plus 0)

CJ 2400 Understanding Procedural Law
Prerequisite: CJ 1100.
The development of an understanding of the application of the substantive law from a procedural perspective. There will be a course focus on significant U.S. Supreme Court cases that have described the boundaries of practice for the police, courts and corrections. This course may be taught using the case study method. 3 credits. (3 plus 0)

CJ 2500 Basics of Criminal Investigation
Prerequisite: CJ 1100.
A general theoretical framework for the practice of investigating criminal acts. The components of all investigations; crime scene protocol, collection and preservation of physical evidence, sources of information, and interview and interrogation will be among the topics explored. Investigative features of particular crimes (homicide, robbery, rape, larceny, motor vehicle theft, etc.) will also be a focus. 3 credits. (3 plus 0)

CJ 2600 Laws of Evidence
Prerequisite: CJ 1100.
The law of evidence is the system of rules and standards by which the admission of proof at the trial of a criminal action is regulated. This course includes topics related to the investigation and adjudication process in criminal cases, including collection of evidence and presentation of evidence at arraignments, preliminary hearings, suppression hearings, and trials, with emphasis on types of evidence admissible in a criminal action. This course may be taught using the case study method, with an emphasis on class participation. 3 credits. (3 plus 0)

CJ 3100 A System of Juvenile Justice
Prerequisite: CJ 1100 or HS 1200 for human services majors.
The juvenile justice system in the United States operates in a manner that is slightly different from the adult components of the system. This course will provide an overview of a system that structures the way children are dealt with in regard to delinquency, abuse, neglect and dependency. Methods of addressing the prevention of delinquency and trends in delinquency will also be examined. 3 credits. (3 plus 0)

CJ 3200 Understanding Criminal Behavior
Prerequisite: CJ 1100.
This is a psychology and criminal justice course with a specific focus on criminal behavior using a psychosocial approach. More specifically we will be utilizing psychological, psychiatric and sociological approaches to examine why individuals commit criminal and delinquent acts. 3 credits. (3 plus 0)

CJ 3300 Victimology
Prerequisite: CJ 1100
Focus on emerging areas in the field, such as the consequences of victimization and empowering victims. The concentration will be on both traditional and modern approaches to victims' issues and concentrates on issues affecting both victims and victim service providers. The course will follow the general guideline of the text, however, and quite frequently, we will move outside of the text for material. Students will be responsible for topics covered both in and out of the text. 3 credits. (3 plus 0)

CJ 3510 Community-Oriented Policing
Prerequisite: CJ 1300.
Focus on community-oriented policing and problem solving using criminal justice theoretical based approaches. The course will follow the general guideline of the text, however, and quite frequently, we will move outside of the text for material. Students will be responsible for topics covered both in and out of the text. 3 credits. (3 plus 0)

CJ 3520 Crime Scene Investigation
Prerequisite: CJ 1100.
Focus on techniques and methods of crime scene investigation. Topics include: fundamentals of preliminary investigation, identification, protection, and collection of evidence, sketching and photographing the crime scene, interpreting blood stain evidence, fingerprinting techniques. Students will be responsible for topics covered both in and out of the text and the lab portion of the course. 3 credits. (3 plus 0)

CJ 3530 Restorative Justice
Prerequisite: CJ 3100.
This is a course with a specific focus on restorative justice. A specific focus will be on theoretical roots of the restorative justice movement and methods and practices in the field. Case studies will be used to facilitate student learning. 3 credits. (3 plus 0)

CJ 3620 Forensic Science & Criminalistics
Prerequisite: CJ 2500.
This is a course with a specific focus on the nature and laboratory analysis of physical evidence. Topics include: collection of physical evidence, examination of evidence and the nature of different types of physical evidence. 3 credits. (3 plus 0)

CJ 3700 Ethics & Cultural Diversity in Criminal Justice
Prerequisite: CJ 1100.
This is a course with a focus on ethical theories and their consideration in the field of criminal justice. Specific attention will be paid to the application of these theories and the ethical development of criminal justice practitioners. Topics will also include current ethical issues and their relationship to ethical theories and decisions. Students will be responsible for topics covered both in and out of the text and the lab portion of the course. 3 credits. (3 plus 0)

CJ 4110 Law Enforcement Planning Process
Prerequisite: CJ 1300
A focus on policy and planning issues in the law enforce-

ment environment. The learner will be exposed to the need for planned change and planned change models. Learners will then be required to identify a problem or law enforcement policy issue and develop a plan to impact that issue. 3 credits. (3 plus 0)

CJ 4120 Death Investigation
Prerequisite: CJ 2500.
This course is designed to briefly cover how to recognize and investigate violent, suspicious or unexpected deaths. The student will learn to develop the essential facts regarding the death scene, medical history and other information that assists in the determination of a person's cause and manner of death. The course will cover the 29 national guidelines set forth by the National Institutes of Justice as essential for a coordinated, efficient and complete death investigation. Basic crime scene investigation techniques will be stressed, along with the importance of crime scene and body evidence, however, this course emphasizes the medical aspects of death investigation and is not designed to be a "homicide seminar." 3 credits. (3 plus 0)

CJ 4130 Probation & Parole Services & Care
Prerequisite: CJ 1400.
The criminal justice system is comprised of three major components: police, courts, and corrections. This course will take an in-depth examination of the community-based strategies of probation and parole from both a historical perspective and what is currently being utilized today. This examination will explore the duties and objectives of contemporary probation and parole agencies and tracks the progress of an individual through each phase of the community-based systems. 3 credits. (3 plus 0)

CJ 4210 Police Organization & Management
Prerequisite: CJ 1300.
An in-depth examination of the administrative and leadership practices necessary in the operation of a contemporary police organization. In part, this course will demonstrate and discuss the application of modern management theory in the police environment. The focus here is on the operation of an urban police department (100+ officers) and the functional components of such an agency. 3 credits. (3 plus 0)

CJ 4220 Criminal Profiling
Prerequisites: CJ 2500; CJ 3200.
This is a course with a specific focus on criminal profiling utilizing psychological and criminal justice based approaches. The class will concentrate on the processes of identifying personality traits, behavioral tendencies, geographical location and demographic variables of an offender based on characteristics of a crime. 3 credits. (3 plus 0)

CJ 4230 Corrections Counseling
Prerequisites: CJ 1400; PSY 1700.
This is a course with a specific focus on treatment and counseling approaches to offender rehabilitation. The emphasis is on different types of treatment for juvenile and adult offenders. 3 credits. (3 plus 0)

CJ 4320 Fundamentals of Crime Analysis
Prerequisite: CJ 2500.
An overview of the variety of analytical techniques utilized in law enforcement to describe and understand crime patterns and trends as they occur in contemporary society. Exposure to the basic stages of crime analysis: collection of data, the collation of that data, analysis of data, dissemination of data, and feedback and evaluation of the end users of crime analysis data. 3 credits. (3 plus 0)

CJ 4950 Criminal Justice Internship
Prerequisites: Junior standing in the criminal justice program.
This internship requires that the student be placed in an active working unit within the criminal justice agencies of greater Allen County or other jurisdictions by agreement of such agencies and the instructional staff of Indiana Tech. The student will be expected to observe and work in this setting and record observations. 40 hours in the work setting will equal 1 credit of academic credit. To receive 3 credits of academic credit the student must work a total of 120 hours.

COMMUNICATION

COMM 1250 Foundations of Communication
Co-requisite: ENG 1250.
Theoretical foundations of the communication discipline, as well as a survey of the communications field. 3 credits. (3 plus 0)

COMM 1500 Rhetoric & Argumentation
Prerequisite: ENG 1250; ENG 1270 (co-requisite).
Theories and principles of argument, reasoning and debate. Creation and presentation of arguments and the analysis and evaluation of critical thinking. 3 credits. (3 plus 0)

COMM 1600 Introduction to Journalism
Prerequisite: ENG 1270.
Survey of the journalism field; topics include basic aspects of periodical development and publishing, as well as introduction to the journalistic process. 3 credits. (3 plus 0)

COMM 1700 Photography
An introduction to photography and photographic history. Photography basics of camera, film, composition, lighting, digital photography, darkroom and creative photography. 3 credits. (3 plus 0)

COMM 2000 Persuasion & Propaganda
Prerequisite: COMM 1250.
Persuasion theories and their application with emphasis on rhetorical and psychological principles. Propaganda as a means of persuasion will be explored by examining various definitions of propaganda, the concept of horizontal and vertical propaganda, the political, social and commercial applications of propaganda, along with the relationship between truth and propaganda. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

COMM 2500 Public Communication
Prerequisite: ENG 1270
Principles and practice of effective oral communication. Analysis and evaluation of the speaking-listening process. Preparation in selecting, organizing and delivering messages for various structured public communication settings. 3 credits. (3 plus 0)

COMM 3100 Media Theory & Criticism
Prerequisite: COMM 2000.
Film and television theory; topics include a critical analysis of how film and video construct meaning and how viewers interpret its meaning. A study of Marshall McLuhan's seminal text, Understanding Media: The Extensions of Man. 3 credits. (3 plus 0)

COMM 3150 Intercultural Communications
Prerequisite: COMM 1250.
Students will identify and explore the relationship between communication and culture. An emphasis will be placed on factors that affect the quality and processes of communication between persons of different cultures and co-cultures. Students will consider various theories and practices regarding issues of intercultural communication. 3 credits. (3 plus 0)

COMM 3200 Writing for Print Media
Prerequisite: COMM 1600.
Basic journalistic formats and strategies used in print media such as the summary lead, the delayed lead, and the conventional news-story format. Emphasizes economy, clarity, and the development of voice for a given medium. 3 credits. (3 plus 0)

COMM 3250 Media Writing
Prerequisite: COMM 1600
This course covers the history and development of mass media and their effects on our culture and society including new technologies and how these media interact and/or reinforce each other. Students will develop a critical perspective of cultural values, attitudes, and ethics in mass media industries. 3 credits. 3 credits. (3 plus 0)

COMM 4250 Crisis Communication
Co-requisite: COMM 1250
Development of strategic plans and execution of communications related to events that have the potential to generate negative media coverage or unfavorable public opinion. 3 credits. (3 plus 0)

COMM 4750 Applied Communication
Prerequisite: COMM 1250 and permission of instructor
Practical experience in communication, such as applied communication research, internship or alternate communications related projects. 3 credits. (3 plus 0)

COMM 4910 Senior Capstone
Prerequisite: Senior standing.
This course provides an opportunity for a comprehensive review of theoretical concepts with practical application of communication knowledge and skills in a culminating project. 3 credits. (3 plus 0)

EDUCATION

EDU 1000 Introduction to Education
Provides beginning education students with a look into the profession of teaching. Areas covered include teaching as a profession, understanding the organization and structure of the American education system, and current reform movements. Students will be introduced to the School of Education's Conceptual Framework addressing expectations, dispositions, and teaching characteristics. Multiple instructional strategies help students understand relevant topics in the teaching world. Other topics to be discussed are diversity, learning styles, and multiple roles of teaching. Students will engage in a field experience facilitated by university supervisors for approximately 30 hours. 3 credits. (3 plus 0)

EDU 2010 Educational Psychology
Prerequisites: EDU 1000; PSY 1700.
This course applies the principles of psychology to an understanding of the dynamics of teaching behavior and learning behavior. Topics include current psychological theories and research that guides inquiry and decision-making in education. Topics surveyed include behavior, development, cognitive and language development, sociocultural diversity learning, and instruction, including differentiation for learning and assessment. Emphasis is on early and middle childhood developmental needs. 3 credits. (3 plus 0)

EDU 2050 Technology Tools for Teaching
Developing classroom strategies for integrating computers and their peripherals, instructional software, and tool software into integrated, differentiated lessons. Methods, strategies, concepts, and skills focused on in lab and authentic educational settings. Emphasis is on lesson plan construction, differentiated instruction and assessment, and creative applications accomplished with off-the-shelf software commonly found in schools. Students will explore the primary methods of technology-supported instruction and the major components of instructional design. Covers teaching with technology as knowledge-driven, learner-centered, and relevant to multiple contexts, including professional portfolio development.. Field experience in local schools required. 3 credits. (3 plus 0)

EDU 3000 Teaching Methods for Language Arts
Prerequisites: EDU 1000; EDU 2010; EDU 2050; ENG 1270; admission to Teacher Education Program Benchmark I
Study of instructional strategies and design, implementation, and evaluation of language arts curriculum for elementary students. Topics include subject-specific pedagogical methods and integrated instructional models. Diversity within the classroom setting is emphasized. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 3120 Teaching Methods for Math
Prerequisites: EDU 1000; EDU 2010; EDU 2050; admission to Teacher Education Program Benchmark I
Prepares future teachers to understand and adapt to the

rapid pace of mathematic and technological change. Students will be provided blueprints for teaching math. The content of this course is aligned with national math curriculum standards, and includes grade-appropriate sample lessons and strategies for inquiry-based, problem-based, and cooperative learning; guidelines for creating performance tasks that have real-world applications; methods for using data-based assessment before, during, and after learning; collection of templates, planners, checklists, and graphic organizers; and materials that can be reproduced for classroom instruction. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 3150 Teaching Methods of Reading
Prerequisites: EDU 1000; EDU 2010; EDU 2050; admission to Teacher Education Program Benchmark I
Focuses on enhancing students' metalinguistic awareness and their intuitive use of words, fostering the development of higher mental functions. Covers fundamentals of literacy in stimulating and engaging ways to help teachers stir students' imaginations and emotions. This class also focuses on teaching core literacy skills. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 3160 Teaching Methods for Science and Social Studies
Prerequisites: EDU 1000; EDU 2010; EDU 2050; admission to Teacher Education Program Benchmark I
Teaching Methods for Science and Social Studies will prepare future teachers to understand and adapt to the rapid pace of integrated teaching and learning within the science and social studies curricula. Experiments, hands-on tasks, case studies, vignettes, and project-based learning will provide a framework in which to engage in relevant content topics. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 3200 Teaching Methods for Special Needs Students
Prerequisite: Admission to the Teacher Education Program Benchmark I
Provides education students a deeper look into the profession of teaching. Areas covered include an overview of special education, the referral process, and collaboration among those involved in the program. Students will be held accountable for working within the School of Education's expectations, dispositions, and teaching characteristics. Case studies, vignettes, and projects will help students understand these areas of study as they relate to real-world issues in teaching. Other topics to be studied include an introduction to high-prevalence, low-incidence and other forms of exceptionality. Students will be given assignments that apply to their placements in school settings, for a semester minimum of approximately 50 hours of field work. 3 credits. (3 plus 0)

EDU 3250 Testing/Assessment for Teaching
Prerequisites: EDU 1000; EDU 2010; EDU 2050; admission to Teacher Education Program Benchmark I
Offers students tools for planning and delivering differentiated instruction. Use of data for pre-assessment, formative, and summative assessment to increase student learning will be studied. Other topics include instructional strategies to increase student achievement, and using data to create a positive classroom climate. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 4000 Classroom Management and Discipline
Prerequisite: Admission to the Teacher Education Program Benchmark I
Focuses on the fundamental skill of classroom management and discipline to minimize wasted teaching time and lessen stress for teachers. Students will learn how to build and sustain effective classroom management routines and discipline plans so as to build classroom structure, promote a sense of community, and establish effective teaching environments. Instructional practices focus on helping students to become independent and successful through interactive learning opportunities. Students will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 4030 Integrated Methods of Art, Music, and PE/ Health
Prerequisite: Admission to the Teacher Education Program Benchmark I
Designed to teach future educators how to develop an integrated elementary arts program. This course provides opportunity for integration of the arts into elementary classroom curriculum along with creative ways to provide for purposeful movement that encourages students to invest in skills and habits for life-long benefits. 3 credits. (3 plus 0)

EDU 4040 Curriculum Theory and Research
Prerequisites: Junior standing and admission into the Teacher Education Program Benchmark I.
Curriculum Theory and Research provides step-by-step instruction in the development of skills and resources to create quality, standards-based curriculum. A wide variety of strategies, materials, research, and resources will be introduced to ensure that diversity and differentiation are addressed. Students will learn how to effectively prepare and use rubrics, tests, authentic assessments, and grading systems. Student will engage in a field experience facilitated by university supervisors for approximately 50 hours. 3 credits. (3 plus 0)

EDU 4100 Education Law and Ethics
Prerequisite: Junior standing and admission to the Teacher Education Program Benchmark I
Provides practical knowledge of state and federal school law so that future educators can navigate in educational settings with confidence and competence. This course provides an overview of the legal areas in a manner meant to stimulate discussion, promote student interest, and assure a thorough grasp of the essential legalities of public school law. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

EDU 4600 Teaching Methods for Diagnostic & Corrective Reading
Focuses on acquiring skills in diagnostic and corrective procedures for the teaching of reading. 3 credits (3 plus 0)

EDU 4850 Student Teaching Seminar
Prerequisite: Admission to the Professional Semester. Benchmark II
Student Teaching Seminar is taken during the student teaching semester and includes work on final assessments and the Teacher Work Sample. 1 credit. (1 plus 0)

EDU 4900 Student Teaching (Early)
Prerequisite: Admission to the Professional Semester. Benchmark II
All-day early elementary classroom experience in an urban elementary school for 7 weeks. The student teacher is supervised by a mentor master teacher and university instructor. Summative assessments will be completed during the placement and completion of the Teacher Work Sample is required. 6 credits. (6 plus 0).

EDU 4950 Student Teaching (Upper)
Prerequisite: Admission to the Professional Semester. Benchmark II
All-day upper elementary classroom experience in an elementary school for 7 weeks. The student teacher is supervised by a mentor master teacher and university instructor. Summative assessments will be completed during the placement and completion of the Teacher Work Sample is required. 6 credits. (6 plus 0)

ELECTRICAL ENGINEERING

EE 2050 Overview of Electricity & Electronics
Prerequisite: MA 1060.
An introductory course in electrical science for non-electrical engineering students and computer science majors. The course extends the student's knowledge of electrical components and circuits, network analysis methods, and simple dynamic circuits in DC Transient and AC steady state. This background is then used in the study of transformers, simple semiconductors, op-amps power supplies, oscillators and optoelectronics. RF theory and antennas are introduced; examples of these applications are reviewed and discussed. 3 credits. (3 plus 0)

EE 2100 Circuit Analysis I
Prerequisites: MA 1200 or concurrent registration; PH 2300.
Resistive linear circuits are studied in depth, including dependent and independent sources. The principal topics of study are: node and mesh techniques, source transformations, Thevenin and Norton theorems, the maximum power transfer theorem, and superposition. Inductors and capacitors are introduced as circuit elements, and the time response of first and second-order circuits is developed using ordinary, linear, differential equations. SPICE based circuit simulators, such as NI Multisim Electronics Workbench, are used for DC and transient circuit analysis. 3 credits. (3 plus 0)

EE 3100 Circuit Analysis II
Prerequisites: EE 2100; MA 2100.
Circuits containing resistors, capacitors, self-inductance, mutual inductance, ideal transformers, independent and dependent sources are studied using Laplace transform and phasor-domain methods. The course material includes transient and steady-state solutions, network functions, poles and zeros, stability, reciprocity, resonance, complex power, maximum power transfer, frequency response, and simple filters. SPICE based circuit simulators, such as NI Multisim Electronics Workbench, are used for transient and AC steady-state circuit analysis. 3 credits. (3 plus 0)

EE 3150 Signals & Systems
Prerequisite: EE 3100.
Mathematical descriptions of signals with emphasis on communication systems. Representation of signals in terms of basis functions, Fourier series expansions, Fourier Transforms. Fourier (frequency domain) analysis of linear systems in block diagram form with presentation of such concepts as transmission, distortion, spectral density and ideal versus practical filter. Application of the Fourier concepts in analog communications systems such as AM, FM, followed by an introduction to sampling, analog to digital conversion and digital data transmission. 3 credits. (3 plus 0)

EE 3200 Electronic Circuits I
Prerequisite or co-requisite: EE 3100.
Introduction to two- and three-terminal semiconductor devices including: junction diodes, bipolar junction transistors, and field-effect transistors. DC analysis of transistor circuits to establish quiescent conditions using analytical and graphical methods. Lumped element models of transistors for small-signal amplifier analysis. Small signal and power amplifier design, temperature and tolerance effects. SPICE based circuit simulators, such as NI Multisim Electronics Workbench, are used to obtain the DC bias, steady-state behavior, and frequency response of transistor amplifiers. 3 credits. (3 plus 0)

EE 3220 Electronic Circuits II
Prerequisite: EE 3200.
Low and high frequency response of single stage and feedback amplifiers. Feedback and stability criteria in amplifiers, regenerative transistor oscillator circuits. Ideal and practical operational amplifiers, analysis, and design of operational amplifier circuits including: computational, signal conditioning, and oscillator applications. SPICE based circuit simulators, such as NI Multisim Electronics Workbench, are used to simulate transistor and operational amplifier circuits including tolerance and temperature effects on the designed circuits. 3 credits. (3 plus 0)

EE 3500 EM Fields & Waves
Prerequisites: MA 2200; EE 3100 or concurrent registration.
The study of electromagnetic fields emphasizing forms of Maxwell's equations of particular interest in engineer-

ing applications. The physical sources of electromagnetic fields and vector mathematics are reviewed. A review of static fields precedes the introduction of the concept of quasi-static fields. A brief review of phasor notation from AC circuit analysis is used to introduce time-harmonic electromagnetic fields. Wave solutions are developed for time-harmonic fields. Energy storage, power flow, and impedance are emphasized to provide a foundation for use of these concepts in various electrical engineering areas. 3 credits. (3 plus 0)

EE 3510 Electromagnetics I
Prerequisites: MA 2200; EE 3100 or concurrent registration.
Examination of transmission lines as a bridge from lumped circuit analysis to distributed circuits and field concepts. Partial differential equations and complex parameters are applied to the behavior of voltage and current waves on a transmission line. Transmission lines are analyzed in the steady-state using phasor concepts. Transient analysis of pulse propagation is analyzed using reflection diagrams and time-domain reflectometry. The Smith Chart graphical method for line problems is developed and applied to transmission line problems. Review of vector mathematics. Other subjects covered include electrostatics and magnetostatics. The fundamentals of conductance, capacitance, and inductance are developed and energy storage in reactive elements is explored. Dielectric and magnetic materials are introduced. 3 credits. (3 plus 0)

EE 3550 Transmission Lines
Prerequisite: EE 3500.
Partial differential equations and complex parameter methods are applied in the study of distributed circuits. Lossless, lossy, and high frequency transmission lines are analyzed in the steady state. The Smith-Chart graphical method for line problems is developed and applied to line matching problems. Pulse propagation is examined on a single line and two couple lines. 3 credits. (3 plus 0)

EE 3560 Electromagnetics II
Prerequisite: EE 3510.
Study of electromagnetics continues with the introduction of Faraday's law, linking a time varying magnetic field to a current (electromotive force) in a circuit placed in the field. Maxwell's inclusion of displacement current into Amperes Law unifies the theories of electricity and magnetism into one set of concise equations that led Maxwell to postulate the existence of electromagnetic waves. Wave propagation in conductors, free space, and dielectrics is studied. wave power transmission as described and quantified by the Poynting Vector is analyzed. Reflection and transmission of waves at boundaries of various dielectric materials is explored. This leads to the introduction of several areas of study in electromagnetic engineering, including wave-guides (emphasis on optical fiber), antennas, electromagnetic interference and microwave engineering. 3 credits. (3 plus 0)

EE 3650 Circuits Laboratory
Prerequisite: EE 3100 or concurrent registration.
Experimental investigations of linear, passive, electric circuits are carried out in this course. Emphasis is placed on the observation of circuit phenomena and the use of experimental instrumentation for circuit characterization. Experiments include: network laws and theorems, driving-point functions, zero-state and zero-input transient response, tuned circuits, frequency response of filter networks, maximum power transfer, matching networks, resistance attenuators, and circuit harmonic response to general periodic excitation functions. 2 credits. (1 plus 3)

EE 3750 Electronics Laboratory
Prerequisites: EE 3200; EE 3650.
The design and experimental evaluation of electronic waveshaping, amplification, and switching circuits. Emphasis is placed on the characterization and application of two and three-terminal electronic devices in standard electronic sub-systems. Experiments include: junction diodes, zener diodes, voltage regulators and power supplies, bipolar and field-effect transistor characterization, single and multiple-stage amplifiers, operational amplifiers, and oscillators. 2 credits. (1 plus 3)

EE 4100 Circuit Synthesis
Prerequisite: EE 3100.
This course is an intermediate level treatment of passive and active circuit synthesis. Subjects include scaling and response normalization, methods of approximation, filter network functions and realizability, first criteria and PR functions, driving-point synthesis of LC networks, realizability and second synthesis of undetermined and doubly-terminated ladder networks, and the active simulation of passive filters with generalized impedance converters. Experimental work includes the design and implementation of high-order filters, methods of approximation, design of filters using Butterworth, Chebyshev, and elliptic transfer functions, implementation of passive and active filters and their time and frequency domain characterizations. 3 credits. (3 plus 0)

EE 4150 Digital Signal Processing
Prerequisites: CPE 3550; EE 3150.
Development of both mathematical and intuitive understanding of digital signal processing. LTI systems, analog Fourier transforms, discrete Fourier transforms, and z-transforms are reviewed. Fourier and z-transforms are extended to 2-d. Signal flow graphs help develop an intuitive understanding of digital signal processing. Both IIR and FIR digital filters are studied. 3 credits. (3 plus 0)

EE 4200 Electronic Power Circuits
Prerequisites: EE 3220; EE 3750.
The application of solid state electronics for control and conversion of electric power. The course concentrates on the analysis and application of semiconductor devices to power and control systems. Areas of study include: power semiconductor-diode rectifiers, thyristors, bi-polar-junction transistors, and metal-oxide-semiconductor field-effect transistors. Single and three-phase converters and AC voltage controllers, buck and boost switch-mode regulators, switch-mode AC and DC power supplies and motor speed control. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

EE 4300 Principles of Communication
Prerequisites: EE 3150.
The basic principles of the design and analysis of modern communication systems are introduced. Topics covered include brief review of probability theory, performance analysis of modulated communication systems, digital modulation and demodulation, performance of digital modulation schemes, overview of information theory, and key aspects of error control coding. 3 credits. (3 plus 0)

EE 4350 Communications Laboratory
Co-requisite: EE 4300.
This laboratory provides experimental support for the material covered in the senior year communications class. The laboratory includes experiments in the areas of amplitude and frequency modulation, digital signaling, pulse-code modulation, and digital carrier systems. 1 credit. (0 plus 3)

EE 4400 Electrical Machines
Prerequisites: EM 2020; EE 3500.
The application of electromagnetic theory to electric machine design and operation. Magnetic fields, magnetic circuits, and magnetic energy storage are reviewed. Three-phase power systems are introduced. The principles and operating characteristics of transformers and rotating electrical machines are emphasized. Energy formulations are used to provide a common approach to the study of a variety of AC and DC machines. Laboratory experiments with rotating electrical machines are performed in the concurrent Machines and Controls Laboratory. 3 credits. (3 plus 0)

EE 4450 Machines & Controls Laboratory
Co-requisites: EE 4400; EE 4800.
This laboratory provides experimental support for the material covered in the senior year controls and machines classes. The laboratory covers the measurement and analysis of performance of electric motors and closed loop controls for a servomotor. In each experiment emphasizing motor characterization, the steady state rotation speed, output torque, and electrical-to-mechanical conversion efficiency are measured for a particular type of motor. In each experiment emphasizing servomotor control, a gain in the closed loop (e.g. speed gain of the servoamp-motor-tachogenerator) and a system performance measure (e.g. steady state error) are determined for a particular type of control loop, such as position control or speed control. 1 credit. (0 plus 3)

EE 4800 Linear Controls
Prerequisites: EM 2020; EE 3150.
The application of signals-system concepts and mathematical techniques to the analysis of linear control systems. Mathematical modeling of electrical, mechanical, and electromechanical systems is reviewed. Interpretation and manipulation of block diagrams for closed loop control systems are introduced. The concepts of Laplace domain transfer functions and root locus diagrams are used as a unifying foundation to which to relate other approaches, such as state space descriptions and Bode analysis. Derivations, calculations, and approximations used to obtain system performance measures, such as stability and steady state error, are emphasized. Laboratory experiments with servo-control mechanisms are performed in the subsequent Machine and Controls Laboratory. 3 credits. (3 plus 0)

EE 4973 EE Senior Project I
Prerequisites: EGR 2000; senior standing.
The presentation of a design solution to an engineering problem. The design solution will involve the formal and creative application of mathematics, science, and electrical engineering theory. Students will aim to produce systems that will be safe, robust, cost-effective, technically sound solutions to the problem. Coursework will include: setting specifications, conceptual system design, subsystem analysis and characterization, consideration of environmental impact, equipment sourcing, and the production of technical documentation for the design. 2 credits. (2 plus 0)

EE 4974 EE Senior Project II
Prerequisite: EE 4973.
The implementation of the design solution prepared in Senior Project I. The course will involve construction and test of the project hardware and software. The project concludes with a hardware demonstration and an oral presentation to engineering faculty. 2 credits. (2 plus 0)

EE 4990 Special Topics in Electrical Engineering
Prerequisite: Permission of the instructor and the dean of the College of Engineering and Computer Sciences.
Directed study of a special body of subject matter in the field of electrical engineering. This course may be repeated for additional credit. Variable credit.

ENERGY ENGINEERING

ENE 2100, 3010, 3020 Energy Engineering Project Sequence
Prerequisite: IME 2010; EGR 1710; EGR 2000 (concurrent permitted).
A project-based sequence in which the student becomes involved in an "alternative" energy project. The project is to be multi-student, multi-level, with students joining and leaving as they progress through the sequence. A full-time faculty member or an industry representative/adjunct professor will provide the necessary continuity. Examples of projects include a windmill or stationary solar panel on campus, a multi-fuel engine, an electric vehicle, or a geothermal system. Students will contribute hands-on work, literature research, and written documentation. 1 to 3 credits.

ENE 3150 Energy Storage in Fuel Cells & Batteries
Prerequisites: CH 1000; EE 2050.
An introduction to electrochemistry of various primary and secondary electrochemical cells and the chemistry of various fuel cell types. Identification of electrical behavior, environmental impact, and total life cost of each. 3 credits. (3 plus 0)

ENE 3140 Wind & Solar Power for the Electrical Grid
Prerequisites: ME 2050; EE 2050.
An introduction to the operation of the electrical power grid with the dominant generator types in operation. Identification of energy storage and power electronics apparatus required to connect other types of power sources to the grid. Case studies of existing wind and solar power installations feeding the grid, with an explanation of the operational advantages and concerns of each. 3 credits. (3 plus 0)

ENE 3160 HVAC & Geothermal Systems
Prerequisite: ME 2050.
An introduction to a) heating, ventilating, and air conditioning (HVAC) systems, b) heat pumps, and c) geothermal systems. Theory of operation and high-efficiency equipment designs are discussed. Course includes lecture and lab applications. 3 credits. (2 plus 3)

ENE 3200 Ethanol & Biofuels Production
Prerequisites: CH 1000; IME 2010.
An introduction to the chemistry and production of ethanol and biofuels. An overview of the biochemistry for ethanol and several biofuels is presented. Ethanol and biodiesel production is emphasized. The design, equipment, operation, and process flows for ethanol and biodiesel plants are examined. Engineering, safety, maintenance, economic, and environmental issues are discussed. 3 credits. (3 plus 0)

ENE 4973, 4974 Senior Thesis I & II
Prerequisites: Senior standing; ACC 2140; EGR 2000; EE 2050; ME 2050.
Capstone courses integrating engineering, economic, societal, and environmental issues. In ENE 4973, a suitable subject is proposed and the issues to be examined are identified. This effort results in a detailed proposal. In ENE 4974, information is gathered and calculations performed to complete the examination of the subject. This effort results in final thesis. While some parts of a thesis might be supported by laboratory work or Energy Engineering Project work, the intent is that a thesis should focus on the national/global energy implications of a particular technical choice. Cross-program project/thesis activities are encouraged. 3 credits each.

ENGINEERING

EGR 1500 Computer Programming for Engineers
Prerequisite: MA 1035 or equivalent.
Engineering problem solving. Fundamentals of C programming. Control structures and data files. Modular programming with functions. Arrays. Advanced topics. Review of some basic numerical problem-solving techniques, such as interpolation, solution of non-linear equations in one variable and solution of systems of linear equations. 3 credits. (3 plus 0)

EGR 1710 Engineering Graphics & Design
Prerequisite: MA 1010 or concurrent registration.
Introduction to the engineering profession and design. Development of the design process and communication skills. Principles of engineering graphics and computer-aided-design. Group projects. 3 credits. (3 plus 0)

EGR 2000 Engineering Communication
This course develops two significant engineering communication skill sets: effective technical writing and effective oral presentations. Each student will create technical documents (such as work instructions and user manuals) and a technical paper suitable for publication in an engineering journal. Throughout the course, students will make oral presentations concluding with software-based capstone presentations of their technical papers. 3 credits. (3 plus 0)

EGR 2600 Materials Science
Prerequisites: CH 1000 or CH 1220; PH 1100 or PH 1300.
The mechanical, electrical, optical, thermal and magnetic properties of engineering materials; structure of matter; crystalline structure and imperfections; environmental effects; selection of materials in design. 3 credits. (3 plus 0)

EGR 2650 Manufacturing Processes
Prerequisite: EGR 2600 or advisor approval.
An introduction to the many processes used in manufacturing. 3 credits. (3 plus 0)

EGR 3110 Introduction to Quality Control
Prerequisites: MA 1025 or MA 1035; sophomore standing.
An introduction to the quality concepts, procedures, and documentation needed to establish an effective quality system. Primary learning outcomes focus on statistical process control and Six Sigma topics. Projects and computer applications. 3 credits. (3 plus 0)

EGR 3410 Statistical Quality Analysis I
Prerequisites: MA 1035; sophomore standing.
Cost of quality, problem solving tools, descriptive statistics, normal distributions, and variable control charts. 3 credits. (3 plus 0)

EGR 3420 Statistical Quality Analysis II
Prerequisites: MA 1035; sophomore standing.
Probability theory, discrete distributions, attribute control charts, sampling, statistical tests, regression analysis, analysis of variance, factorial experiments, reliability, TQM, FMEAs, and control plans. 3 credits. (3 plus 0)

EGR 3430 Applied Probability & Statistics
Prerequisite: MA 1100 or MA 1200.
Probability theory, distribution functions, acceptance sampling, normal distribution, chi square distribution, statistical tests, analysis of variance, regression analysis. 3 credits. (3 plus 0)

EGR 3600 CAD I – Parametric Model
Prerequisites: EGR 1710; MA 1035.
This course is based on 3D CAD modeling procedures including: layers, curves, entities, design features, surface features, and assemblies. Design projects will focus on practical applications. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

EGR 4400 Professional Practice I
Prerequisite: Junior/senior standing.
A study of the concepts and methods required to make design and planning decisions, including capital investment decision making, time-value of money, equivalence, multiple alternatives, replacement criteria, and cost of capital depreciation. Professional engineering ethics and interaction with government, industry, and related agencies. Computer applications. 3 credits. (3 plus 0)

EGR 4450 Professional Practice II
Prerequisite: Junior/senior standing.
The writing and interpretation of engineering specifications. The legal aspects of engineering contracts and the legal and ethical functions of an engineer as a professional in a complex society. 3 credits. (3 plus 0)

EGR 4820 Computer Integrated Manufacturing
Prerequisite: Junior/senior standing.
Integrates multi-disciplinary technologies through analysis, design and use of computer integrated manufacturing (CIM). Provides an understanding of automation technology including computer numerical control (CNC), robotics, and programmable logic controllers (PLCs). Introduction to manufacturing management systems, manpower, and materials. Scheduled laboratory. 2 credits. (1 plus 3)

ENGINEERING MECHANICS

EM 2010 Statics
Prerequisites: MA 1210 or concurrent registration; PH 1300.
Forces and moments of a force; resultants; couples; equivalent force systems; two-and-three-dimensional equilibrium of particles and rigid bodies; centroids; concentrated and distributed loading; trusses; friction; moments of inertia. Computer applications. 3 credits. (3 plus 0)

EM 2020 Dynamics
Prerequisites: MA 1210; EM 2010 with grade C or better.
This course is intended to give students an understanding of both the theory and applications of engineering mechanics. The topics include: kinematics of particles; kinetics of particles; Newton's laws of motion, energy, momentum; systems of particles; kinematics of rigid bodies; plane motion of rigid bodies; forces and accelerations; energy; momentum. 3 credits. (3 plus 0)

EM 2030 Statics & Dynamics
Prerequisites: MA 1100 or concurrent registration; PH 1100. Open to industrial and manufacturing engineering students only.
Study of forces on bodies at rest and on moving bodies. Vector of algebra, forces in two and three dimensions, free-body diagrams, equilibrium, centroids and centers of gravity, friction, and moment of inertia. Kinematics of particles and rigid bodies, plane motion. 3 credits. (3 plus 0)

EM 3100 Mechanics of Materials
Prerequisites: MA 1210; EM 2010 with grade C or better.
Stress and strain concepts on various planes of a loaded member, principal stresses and Mohr's circle, thin-walled pressure vessels; shear, moments and torsion and resulting stresses; deflections in beams and buckling of columns. 3 credits. (3 plus 0)

EM 3150 Mechanics of Materials Laboratory
Prerequisite: EM 3100 or concurrent registration.
Experimental studies of the mechanical properties of materials and structural elements. 1 credit. (0 plus 3)

EM 3500 Fluid Mechanics
Prerequisites: EM 2020 or concurrent registration; MA 2100.
Fluid statics and dynamics. Laminar and turbulent flows. Use of the equations of motion in the study of fluid flows. Dimensional analysis. Design of pipe networks. Introduction to Boundary Layer Theory. Compressible flow. 3 credits. (3 plus 0)

EM 3550 Fluid Mechanics Lab
Prerequisite: EM 3500 or concurrent registration.
Experimental studies of fluids at rest and in motion. Pressurized and open channel flow. 1 credit. (0 plus 3)

EM 3700 Mechanical Vibrations
Prerequisites: MA 2100; EM 2020.
Undamped and damped, free and forced vibrations, design applications, equivalent damping, transient vibrations, systems with more than one degree of freedom, natural frequencies, principle modes, methods of finding natural frequencies, vibration isolation design. Computer applications. 3 credits. (3 plus 0)

EM 4500 Finite Element Analysis
Prerequisite: EM 3100.
Overview of finite element methodology. Linear 1-D and 2-D elements. Description of finite element software, modeling requirements and techniques, and analysis using general-purpose software. 3 credits. (3 plus 0)

ENGLISH

ENG 1000 Introduction to College Reading
This course is designed to increase accuracy and speed of comprehension in all types of college-level reading, including textbooks, scholarly articles and literary works. In addition, this course emphasizes the elements of standard written English, including grammar, punctuation, and sentence and paragraph building. The course culminates in an essay of at least 500 words. College credit awarded, but will not be applied toward degree requirements 3 credits. (3 plus 0)

ENG 1100 Introduction to College Writing
Prerequisite: Placement into ENG 1100 or ENG 1000 with grade C or better.
This course requires students to engage in sustained reading and writing practices. Students will read a variety of texts and write a number of short essays. This course culminates with a paper of at least 1000 words. College credit awarded, but will not be applied toward degree requirements. 3 credits. (3 plus 0)

ENG 1250 English Composition I
Prerequisite: Placement in ENG 1250 or completion of ENG 1000 and/or ENG 1100 (if required by placement) with grade C or better.
This course is an introduction to expository writing for a variety of aims and audiences. Students learn to write as a process and are briefly introduced to research and proper documentation. 3 credits. (3 plus 0)

ENG 1270 English Composition II
Prerequisite: ENG 1250 with grade C or better.
This course is an introduction to the writing of researched essays for a variety of aims and audiences. Students analyze rhetorical style, structure, and argumentation, with an emphasis on building critical thinking skills. 3 credits. (3 plus 0)

ENG 2320 Professional Communication
Prerequisite: ENG 1270 with grade C or better.
The refinement of verbal and written communication skills for the professional world, with emphasis on applications that develop and synthesize these skills. 3 credits. (3 plus 0)

ENG 2400 Grantwriting
Prerequisite: ENG 1270 with grade C or better.
Includes information and practice in finding potential sources of grant support, interpreting grant program guidelines, understanding how funding agencies operate charitable giving programs, and properly arranging the components of a typical grant proposal. How to research corporations, private foundations and other funding organizations. Students are required to develop an actual grant proposal. 3 credits. (3 plus 0)

ENG 2990 Special Topics in English
Prerequisite: Permission of instructor
Directed study of a special body of subject matter in the field of English. This course may be repeated for additional credit. Variable credit.

FASHION MARKETING AND MANAGEMENT

FMM 1200 Fashion Innovation and Marketing
An overview of the global fashion industry. An introduction to fashion history, principles and theories; and fashion marketing practices at all levels of the supply chain. This course reviews careers in fashion marketing and management. 3 credits. (3 plus 0)

FMM 2000 Textiles and Apparel Evaluation
This course incorporates an industry approach to studying the relationship between textiles and ready-to-wear apparel, and the business of fashion. It includes an evaluation of textile fibers, yarns, fabrication methods, textile finishes, quality standards, production procedures, and social responsibility. 3 credits. (3 plus 0)

FMM 2010 Visual Merchandising and Promotions
Study and application of principles and practices in merchandise and promotions for commercial purposes. Emphasis is placed on display fixtures, equipment, and techniques through supervised experiences. 3 credits. (3 plus 0)

FMM 2020 Software Applications & CAD for Merchandisers
An introductory course in the fundamentals of software programs useful to fashion marketers and managers. Adobe Creative Suite (Illustrator & Photoshop) will be applied to fashion media and product development. AutoCAD emphasizes retail space planning as floor plans and wall elevations. 3 credits. (3 plus 0)

FMM 2025 Fashion Event Planning
Investigates the process of planning and managing a fashion event, from the initial customer contact through the final evaluation. Students plan and assess a special event and identify appropriate promotional activities to ensure success. 3 credits. (3 plus 0)

FMM 3000 Fashion Accessories
An in-depth study of the accessories industry from sourcing and manufacturing to consumer end use. Includes product assessment of furs, leather, jewelry, millinery, shoes, handbags, legwear, neckwear, eyewear, and other fashion accessories. Field trips, engaging assignments, and accessory displays are included. 3 credits. (3 plus 0)

FMM 3005 Profitable Merchandising (Retail Math)
Prerequisite: ACC 1010.
Essential concepts, practices, procedures, calculations, and interpretation of figures related to the many factors that produce profit. Includes analysis of data to predict future performance. 3 credits. (3 plus 0)

FMM 3010 Chicago Study Tour
Tours to various businesses which may include retail stores, manufacturing facilities, distribution centers, museums, company headquarters, and other sites related to fashion marketing and management. Requires participation in the Chicago Fashion Group International Career Day. 1 credit.

FMM 3020 Fashion Marketing and Management Internship
Prerequisites: 2.5 GPA; IIT 2000; 12 credits of FMM courses including FMM 3005.
Completion of 360 hours of directed, practical experience in an approved business in the fashion industry. 4 credits.

FMM 4000 New York Study Tour
Examine the NYC fashion industry through visits to the fashion district, showrooms, museum exhibits, and flagship retailers. 1 credit.

FMM 4010 Product Development
Prerequisites: FMM 1200; FMM 2000.
Study of the product development process for fashion goods. It includes company strategic planning, design and inspiration, communication, materials selection, merchandising, and finalizing the product line. Students engage in a group product development activity. 3 credits. (3 plus 0)

FMM 4020 Trend Forecasting
Prerequisites: FMM 1200; FMM 2000; FMM 3005.
Capstone class that examines the forecasting and futuring process for fashion goods including anticipating trends, identifying consumer preferences, and creating a competitive advantage. Exploration of computer-integrated forecasting methods to search, capture, and analyze trends. Emphasis on professional presentation of forecasting information. 3 credits. (3 plus 0)

FINANCE

FIN 3600 Corporate Finance I
Prerequisite: ACC 2140.
Financial statement analysis, the concepts of leverage, working-capital practices, cash management, management of marketable securities, inventory financing, stock and bond valuation, cost-of-capital concept, and mergers and acquisitions. International risks, foreign-exchange market, stock dividends, and stock splits. 3 credits. (3 plus 0)

FIN 3620 Corporate Finance II
Prerequisite: FIN 3600 with grade C or better.
A continuation of Corporate Finance covering critical areas of financial management such as cash flow estimation and risk analysis, capital structure, dividend policy, working capital management, financial forecasting, multinational finance and mergers & acquisitions. 3 credits. (3 plus 0)

FIN 3680 Financial Markets & Institutions
Prerequisite: FIN 3600.
This course applies principles of finance to understand modern financial markets. The course examines why financial markets exist, the pricing function markets perform and how financial institutions serve those markets. It covers the securities traded in each market and how financial institutions participate in the financial intermediation as they connect individuals and organizations to capital markets. Course also examines the functions, practices and regulatory requirements of various types of financial institutions. 3 credits. (3 plus 0)

FIN 3700 Financial Analysis & Valuation
Prerequisite: FIN 3600.
A course in the use of financial analysis as a tool to value a firm's debt and equity. Emphasis is placed on the use of key financial statements as the basis for valuation in order to make sound business investment decisions. Fundamental analysis, forecasting and methods of valuation will be examined in detail within the context of financial decision making. 3 credits. (3 plus 0)

FIN 3800 Investments
Prerequisite: FIN 3600.
A course in investments, portfolio theory, and security analysis. The course includes coverage of traditional fundamental analysis, Capital Market Theory, Efficient Markets Hypotheses, and the Capital Asset Pricing Model. The course is intended for those who may manage personal funds, the funds of a corporation, or who may need to raise funds in capital markets. 3 credits. (3 plus 0)

FOREIGN LANGUAGES

SPA 1100 Conversational Spanish I
Fundamentals of pronunciation, conversation, grammar, and composition. Cannot be taken for credit by native Spanish speakers or students with three or more secondary class units of Spanish. 3 credits. (3 plus 0)

SPA 1200 Conversational Spanish II
Prerequisite: SPA 1100.
Continuation of Spanish I. Fundamentals of pronunciation, conversation, grammar, and composition of Spanish. SPA 1200 cannot be taken for credit by native Spanish speakers. 3 credits. (3 plus 0)

SPA 1300 Spanish for Business
Prerequisite: SPA 1100.
Introduction to the Spanish business world and commercial language. Development of business vocabulary and business conversation skills. 3 credits. (3 plus 0)

HEALTH CARE ADMINISTRATION

HCA 1100 Introduction to Health Care Administration
Study of the U.S. health care system, its history, organization and functions. Study of the interaction of providers, administrators, and consumers interact in the system. 3 credits. (3 plus 0)

HCA 2100 Legal Aspects of Health Care Administration
Prerequisite: HCA 1100.
Basic knowledge of law as it applies to the health care field. Provides a working knowledge of health law enabling students to deal with common legal, ethical and practical problems facing the industry. 3 credits. (3 plus 0)

HCA 2990 Special Topics in Health Care Administration
Prerequisite: Permission of the dean of the College of Business.
Directed study of a special body of subject matter in the field of health care administration. This course may be repeated for additional credit. Variable credit.

HCA 3100 Finance of Health Care Organizations
Prerequisites: ACC 1010; HCA 1100.
Factors and economics of health care organizations. Information concerning insurance, Medicare, Medicaid, government regulations, reimbursement systems, accessibility, budgeting, and human resources. National health insurance and state/local initiatives will be discussed. 3 credits. (3 plus 0)

HCA 3200 Health Care Policy
Prerequisites: HCA 1100; HCA 2100.
Comprehensive overview of major health policy issues. Through examination of governmental and political involvement in the organizations and financing of health

care services, the course emphasizes factors influencing policy formation. 3 credits. (3 plus 0)

HCA 4100 Managed Care & Medical Group Practice
Prerequisite: HCA 1100
Focus on managed health care strategies and their relationship to medical group practice management in the constantly changing environment of health care services. 3 credits. (3 plus 0)

HCA 4200 Long-term Care Administration
Prerequisite: HCA 1100.
Study of long-term care centers. Analysis of the various settings such as nursing homes, assisted living, retirement communities, home health care, and adult day care. Issues of finance, access, legality, ethics, human resources, and current topics are addressed. 3 credits. (3 plus 0)

HCA 4950 Health Care Administration Internship
Experiential learning through placement with health care facilities or related organizations. Students are assigned duties and activities involving application of theory, knowledge and skills acquired in related coursework. May enroll more than once and for variable credit.

HEALTH INFORMATION TECHNOLOGY

HIT 1100 Medical Terminology
(Formerly BIO 1140) Prefixes, suffixes and word roots used in the field of medicine. Topics include medical vocabulary and terms related to anatomy, physiology, pathological conditions, medical treatments, and rudimentary. 3 credits. (3 plus 0)

HIT 1200 Health Information Technology & Systems
Prerequisite or co-requisite: HCA 1100
An introduction to computer system technologies and networks applied to the delivery of healthcare. This includes the selection, implementation, interoperability, use and value provided by systems used to support healthcare business, clinical care delivery, healthcare administration, public health, health and healthcare delivery outcome tracking and reporting. 3 credits. (3 plus 0)

HIT 1300 Medical Coding
Prerequisite or co-requisite: HIT 1100
This course provides a foundation for the development, maintenance, and use of medical records using established coding standards and procedures, including ICD-10, Current Procedural Terminology, and HCPCS. 3 credits. (3 plus 0)

HIT 1400 Advanced Coding
Prerequisite: HIT 1300
A continuation of Medical Coding, this course includes a study of nomenclature versus classification systems, continues with advanced coding principles, and application of coding guidelines, including sequencing guidelines. Case studies and health records are used to allow students to provide students with hands-on application. The relationship between coding and reimbursement is covered, and students continue the use of software to code and assign MS-DRG and/or APCs to each case. 3 credits. (3 plus 0)

HIT 2000 Health Data Management
Prerequisite: HIT 1200
An introduction to the use of technology in the capture, delivery and analysis of health data in the delivery of services across the continuum of care. The course focuses on the use of electronic health records, data mining, and report generation. 3 credits. (3 plus 0)

HIT 2200 Health Data Privacy and Security
Prerequisites: HIT 1300
This course provides an introduction to policies and practices governing the legal health record. This includes the implementation of HIPAA regulations, policies involving the release and use of protected health information, and the security of health data. 3 credits. (3 plus 0)

HIT 2400 Health Information Technology Project Management
Prerequisites: HIT 2000
Health information technology is providing transformative change to highly complex organizations and systems. This course provides basic knowledge and skills for project and change management with a focus on electronic health records and their relationships to multiple stakeholders. 3 credits. (3 plus 0)

HIT 2600 Health Information Technology Field Experience
Prerequisites: HIT 2000; MIS 3100
This course provides a basis for students to demonstrate knowledge and skills to field projects that provide a foundation to launch a career in health information technology. 3 credits. (3 plus 0)

HUMAN SERVICES

HS 1200 Introduction to Human Services
An overview of the program, philosophies, history, and economics of human and social service agencies. 3 credits. (3 plus 0)

HS 1500 Helping Relationships
Prerequisite: HS 1200.
This course provides the student an opportunity to increase effectiveness in helping people. This course examines the helping process in terms of skills, helping stages, and issues involved in a helping relationship. 3 credits. (3 plus 0)

HS 2000 Human Services Programming
Prerequisite: HS 1200.
Principles and techniques for human services programming, including philosophical foundation, needs assessment, objective writing, program planning, and evaluating methods. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

HS 2600 Human Services Field Experience
Prerequisite: HS 2000.
Actual leadership experience in a human services setting or by participation in an organized human services program. Theory is coordinated with practical experience. 3 credits. (3 plus 0)

HS 4950 Human Services Internship
Prerequisite: HS 2600.
Professional experience in a setting related to the field. The specific work setting and type of responsibilities are determined through consultation with the supervising instructor. Work responsibilities should be professional in nature and should not duplicate the HS 2600 Field Experience. Approved elective(s) may be substituted for this class. Variable credit.

HUMANITIES

HUM 2000 Introduction to Humanities
Prerequisite: ENG 1270
Introduction to disciplines in the humanities, including visual art, music, philosophy, literature, and performing arts. 3 credits. (3 plus 0)

HUM 2010 Origins of the Western World
Prerequisite: ENG 1270.
Developments in the fine arts and philosophy from the ancient world through the Middle Ages. 3 credits. (3 plus 0)

HUM 2020 Achievements of the Modern Western World
Prerequisite: ENG 1270.
Explorations of Western art, music, philosophy, and literature from the Renaissance to the present. 3 credits. (3 plus 0)

HUM 2100 Study Abroad
Prerequisite: ENG 1270.
This course provides students with the opportunity to travel abroad and study the history and culture of another country. The course involves both classroom and experiential education and includes ethnographic studies. 3 credits. (3 plus 0)

HUM 2510 Music Appreciation
Prerequisite: ENG 1270.
Designed to develop a wider knowledge and enjoyment of music, especially the Western Classical tradition, to encourage appreciation of composers and performers, to enhance intelligent listening to recorded music, and to compare the classical heritage with alternative styles. 3 credits. (3 plus 0)

HUM 2520 Art Appreciation
Prerequisite: ENG 1270
Designed to provide a broader knowledge and deeper understanding of the visual arts, including architecture, sculpture, and pointing, and relate this experience to the contemporary world enhancing awareness of both man-made and natural environments within which we live. 3 credits (3 plus 0)

HUM 2730 Introduction to Philosophy
Prerequisite: ENG 1270.
The major philosophic orientations in the study of human culture emphasizing intellectual systems from Classical Greece through the 20th century centering in the development of Western Civilization, and in relation to non-western perspectives evident in global interactions toward the end of the century. 3 credits. (3 plus 0)

HUM 2990 Special Topics in Humanities
Prerequisite: ENG 1270.
Directed study of a special body of subject matter in the field of humanities. This course may be repeated for additional credit. Variable credit.

HUM 3100 Topics in Philosophy: The Good Life
Prerequisite: ENG 1270
This higher-level philosophy course explores both ancient and modern theories of Stoicism, Epicureanism, and Hedonism, all philosophies that offer ontological and ethical considerations of the good life. Using an interdisciplinary approach, students are challenged to examine the question, "What is the proper or most fulfilling way to live life?" 3 credits. (3 plus 0)

HUM 3110 Introduction to Cinema
Prerequisite: ENG 1270
(Formerly COMM 2100) A study of film as a mass media. Fundamental elements of film and examination of the social, cultural, political and aesthetical values communicated by film. Critique and analysis of both narrative and documentary film. 3 credits. (3 plus 0)

HUM 3140 Children's Literature
Prerequisite: ENG 1270
This is an introduction to child and adolescent literature. Classics, contemporary, international, multicultural and modern pieces of literature will be studied. Student will emerge capable of teaching literature using best practices and meeting a variety of diverse student needs. 3 credits. (3 plus 0)

HUM 3200 Philosophy of Technology
Prerequisite: ENG 1270.
Introduces students to the concept of technology as a philosophical discipline, and explores the role of technology in human culture. The differences between Epistémé and Techné are studied in detail. Various philosophers will be explored. 3 credits. (3 plus 0)

HUM 3220 Philosophy of Law
Prerequisite: HUM 2730.
This course introduces students to the two traditions concerning the justification for laws. First, legal positivism, which assumes no intrinsic connection between law and morality. Second, natural law theory, which insists upon such an intrinsic connection. After students have become familiar with these traditions and their major exponents, we will examine three reasons laws are enacted: the harm principle, the offense principle, and the parental principle. 3 credits (3 plus 0)

HUM 3310 Interpretation of Fiction
Prerequisite: ENG 1270.
Appreciation of great fiction with the techniques and skills used in writing and interpreting the novel and short story. 3 credits. (3 plus 0)

HUM 3320 Major British Writers
Prerequisite: ENG 1270.
An introduction to selected poets, novelists, and dramatists in British literature. 3 credits. (3 plus 0)

HUM 3330 American Writers
Prerequisite: ENG 1270
Selected American writers representative of key literary movements in the United States. 3 credits. (3 plus 0)

HUM 3340 World Cultures
Prerequisite: ENG 1270.
Religious, philosophical, and artistic developments in the non-Western world, with an emphasis on Asia. 3 credits. (3 plus 0)

HUM 3350 Great Books of the Western World
Prerequisite: ENG 1270.
Outstanding literature by such writers as Homer, Dante, Shakespeare, and several modern novelists. 3 credits. (3 plus 0)

HUM 3360 African-American Literature
Prerequisite: ENG 1270.
An introduction to the literature of Americans of black African ancestry. Special attention will be given to major developments in form and themes, major writers, and the evolution of an African-American literary tradition. 3 credits. (3 plus 0)

HUM 3370 Horror in Film & Literature
Prerequisite: ENG 1270.
An exploration of the human fascination with horror and the uncanny through close viewing and reading of classic works of literature and film. 3 credits. (3 plus 0)

HUM 3380 Shakespeare
Prerequisite: ENG 1270.
This course will introduce students to classic literature and theater through experiential learning; the course includes excursions to theatrical performances at locations such as the International Shakespeare Festival in Stratford, Ontario, and the Chicago Shakespeare Theatre. 3 credits. (3 plus 0)

HUM 3710 Ethics
Prerequisite: ENG 1270.
Introduction to classical ethical theory; how to adopt ethical perspectives; appreciation for ethical problems with applications for contemporary issues such as euthanasia, hunger and welfare, capital punishment, and corporate responsibility. 3 credits. (3 plus 0)

HUM 3720 Advanced Critical Thinking
Prerequisite: ENG 1270.
Evaluation of forms of argument; recognition and detection of argumentative fallacies; deductive and inductive thinking; and an introduction to formal logic structures. 3 credits. (3 plus 0)

INDIANA TECH—COLLEGE READINESS

IIT 1000 University Experience
Indiana Tech history, campus offices, student procedures, study skills, introduction to campus organizations, and scheduled activities with freshmen mentors. Pass/Fail format. 1 credit. (1 plus 0)

IIT 1050 College Study Skills
Basic strategies, skills, and attitudes needed to be successful in college. Goal setting, time management, test taking, note taking, study techniques, and listening skills are covered. Intended for incoming freshmen. College credit awarded but will not be applied toward degree requirements. One (1) credit. (1 plus 0)

IIT 1270 Introduction to Critical Inquiry
Co-requisite: ENG 1270.
This interdisciplinary seminar offers students an introduction to reasoning, problem-solving, and decision-making skills for application in their professional and personal lives. The course includes a study of language and argument. 3 credits. (3 plus 0)

IIT 2000 Pre-Internship Seminar
IIT 2000 is designed for students preparing for an academic credit or non-academic credit internship experience. An internship provides students the opportunity to apply classroom knowledge to real world work situations in a professional environment. Subjects covered will be the following: self-assessment of career objectives and internship goals; exploration of resources and techniques for finding and evaluating potential internships; resume and cover letter writing; interview techniques; techniques to maximize learning in an internship; experience record keeping; and communication, conflict resolution and problem solving in the organizational setting. Also covered will be professional dress, workplace ethics, and appropriate behavior. IIT 2000 is a prerequisite for the following courses IS 4950, HS 4950, REC 4950, SM 4950, HCA 4950 and BA 4950 and preferred for all non-academic credit internships. 0 credits.

INDUSTRIAL & MANUFACTURING ENGINEERING

IME 2010 Safety Engineering
Prerequisite: BA 2010.
Principles of safety engineering applied to industrial situations. Topics include job safety analysis, accident investigation, personal protective equipment, fire and electrical safety, facilities and layout. 3 credits. (3 plus 0)

IME 2020 Work Design
Prerequisite: IME 2010.
Motion study practices relating the worker to equipment

and environment. Application of the principles of motion economy, time study, use of flow process diagrams, worker-machine charts, micro-motion analysis, time formulas, work sampling, rating, allowances, standard date systems and predetermined time standards. Techniques and procedures for developing and applying the principles of human factors engineering to systems design. 3 credits. (3 plus 0)

IME 2110 Quality Control I
Prerequisites: MA 1035; sophomore standing.
An introduction to the quality concepts, procedures, and documentation needed to establish an effective quality system. Specific tools include pareto diagrams, cause and effect diagrams, check sheets, histograms, scatter diagrams, run charts, control charts, and process capability. Projects and computer applications. 3 credits. (3 plus 0)

IME 3020 Computer Simulation of Manufacturing Processes I
Prerequisite: EGR 3430.
Computer simulation of manufacturing processes. Systems simulation structure, logic, and methodology using simulation to identify opportunities for process improvement. Application of random numbers and statistical distributions. Importing CAD graphics and other external files into simulation models. Introduction to manufacturing simulation project management. 3 credits. (3 plus 0)

IME 3040 Computer Integrated Manufacturing
Prerequisites: MA 1100; EGR 1710.
A study of the design and use of computer-based integrated manufacturing management systems for the allocation and control of plant, equipment, manpower, and materials. 4 credits. (3 plus 3)

IME 3060 Advanced Computer Integrated Manufacturing
Prerequisites: EGR 2650; IME 3040.
This course provides a vehicle for students to apply in an open-ended situation the lessons learned in previous courses such as Computer Integrated Manufacturing. The course focuses on automation of flexible measuring cells. The objective is to offer a final training to upper-level students in implementation of computer-based automation helping them prepare themselves for a contemporary, high-tech, manufacturing workplace. 3 credits. (3 plus 0)

IME 3110 Quality Control II
Prerequisite: IME 2110.
An introduction to the quality concepts, procedures, and documentation needed to establish an effective quality system. Specific tools include: gage R & R, control charts for attributes, sampling plans, reliability, cost of quality, and an introduction to TQM. Projects and computer applications. 3 credits. (3 plus 0)

IME 3120 Design of Experiments
Prerequisite: EGR 3430.
A study of how to design experiments and use statistical analysis to determine the sensitivity of the output of a process to changing input parameters. Included are randomized designs, hypothesis testing, analysis of variance (ANOVA) with single factor experiments, randomized Block Design, Latin Square designs, incomplete and complete Block Designs, 2k Factorial Designs, replication, Nested Designs, split-plot design, regression analysis, response surface methods, covariance, and the Taguchi Method. 3 credits. (3 plus 0)

IME 4010 Technical Computer Graphics
Prerequisites: EGR 1710; EGR 2650 or concurrent registration.
Methods of graphical communications as applied to products. Three-dimensional geometry, working drawings, computer graphics. The use of microcomputer hardware and software to increase productivity. Review of ANSI standards; industrial applications of commercially available software. 3 credits. (3 plus 0)

IME 4020 Lean Manufacturing
Prerequisites: IME 2020; EGR 2650.
The study of the principles and practices used to identify and minimize non-value-added activities present in the manufacturing environment. Concepts covered include pull systems, cellular flow, quick change-over, quality at the source, point-of-use storage, 5-S, standardized work, visual control systems, and value of stream mapping. Emphasis is placed on moving from a focus of local optimums to optimizing the entire system. 3 credits. (3 plus 0)

IME 4110 Total Quality Management
Prerequisite: IME 3110.
The examination of various quality control and assurance concepts and their integration into a comprehensive quality management system. 3 credits. (3 plus 0)

IME 4200 Environmental Engineering
Prerequisite: IME 2010.
This course provides students with an understanding of the environmental climate in which manufacturers operate. Concepts covered include: changes in environmental regulations, and understanding of environmental aspects and impacts, pollution prevention, environmental management systems (EMS), and ISO 14000 requirements. Students will also explore the issue of environmental stewardship through life-cycle analysis and design for the environment considerations in product development. 3 credits. (3 plus 0)

IME 4300 Integrated Resource Management
Prerequisites: IME 4020; EGR 3430.
Manufacturing planning from supply through distribution. Concepts include: Supply Chain Management, Economic Order Quantity, Just-in -Time (JIT), MRP, MRP II, ERP, and Distribution Requirements Planning (DRP). Course will include exposure to related software and e-commerce best practices. 3 credits. (3 plus 0)

IME 4950 IME Internship
Prerequisite: Permission of the faculty advisor.
Directed study of IME-related student work experience. Cannot be repeated unless approved by the dean. 3 credits. (3 plus 0)

IME 4973 IME Senior Project I
Prerequisites: EGR 2000; senior standing.
The presentation of a creative engineering design solution to a real-world physical problem. The design solution will involve the formal and creative application of mathematics, science, and engineering theory. Students will aim to produce systems that will be safe, robust, cost-effective, and are technically sound solutions to the problem. Students are required to sit for a comprehensive exam over the IME engineering coursework. 2 credits.

IME 4974 IME Senior Project II
Prerequisite: IME 4973.
The presentation of a creative engineering design solution to a real-world physical problem. The design solution will involve the formal and creative application of mathematics, science, and engineering theory. Students will aim to produce systems that will be safe, robust, cost-effective, and are technically sound solutions to the problem. Students must demonstrate knowledge of the information that currently exists in the public domain relative to their project proposal. 2 credits.

IME 4975 IME Senior Project
Prerequisites: EGR 2000; senior standing. CPS students only.
The presentation of a creative engineering design solution to a real-world problem. The design solution will involve the formal and creative application of mathematics, science, and engineering theory. Students will aim to produce systems that will be safe, robust, cost-effective, and are technically sound solutions to the problem. One semester course. 4 credits.

IME 4990 Special Topics in Industrial & Manufacturing Engineering
Prerequisite: Permission of the dean of engineering.
Directed study of a special body of subject matter in the field of industrial and manufacturing engineering. This course may be repeated for additional credit. Variable credit.

INFORMATION SYSTEMS

IS 1100 Introduction to Information Systems
An introduction to information systems with an emphasis on business related computing. Common computer applications are used to support theory. Scheduled laboratory. 3 credits. (3 plus 0)

IS 1150 Principles of Information Systems
An overview of the field of information systems and the technology used to support and run organizations today. This course looks at why information systems are crucial to businesses and what advantages they provide. Students investigate the components of computers and systems, data and information, the Internet, information security, electronic commerce, enterprise systems, systems development, ethics and computer crime. 3 credits. (3 plus 0)

IS 1200 Digital Imaging
An introduction to the technical aspects of digital imaging using Adobe Photoshop. You will learn basic saving methods, selection and retouching tools, be introduced to scanning procedures, layers, masks, and various other aspects of the software. Optimization and image preparation for Web applications also will be covered. The essential skills and concepts gained from this course are relevant to the use of digital imaging in the modern environment and the many commercial applications for which digital imaging is used. 3 credits. (3 plus 0)

IS 1300 Programming I
Prerequisite: CS 1200 or 1250 with grade C or better; co-requisite: MA 1035.
An introduction to computer programming using the Java language, beginning with the fundamental steps needed to create, compile and run simple stand-alone applications that are platform-independent. Students will learn how to use primitive data types, control statements, methods, and arrays in their software. In addition to covering essential techniques, this course prepares students for an advanced object-oriented Java programming course. Scheduled and unscheduled projects. 3 credits. (3 plus 0)

IS 1400 Visual Communication
Prerequisite: IS 1200.
This course provides an introduction to concepts in visual design and communication. Topics include graphic elements, style, grids, typography, color, organization, proportion and scale. This course also will present common errors made in visual design and practical techniques for correcting these errors. Students will demonstrate the ability to improve the visual quality and effectiveness of user interfaces and multimedia productions by presenting and evaluating existing and original work to the class. 3 credits. (3 plus 0)

IS 1600 Drawing: Design Reasoning
Drawing is a way of seeing. The objective of this class is to sharpen the student's powers of perception and to improve technical drawing skills. This will be approached through a variety of class exercises and projects that deal with line, space, value, proportion and composition. By the end of the semester the student should be able to use these skills as tools for personal expression and interpretation. 3 credits. (3 plus 0)

IS 1800 Web Multimedia
Prerequisite: IS 1100 or IS 1150 or co-requisite CS 1250.
The course will show students how to incorporate graphics, sound and video into Web pages. Topics include: accessibility for disabled readers, standard and animated graphics, popular development tools (such as Adobe Photoshop and Macromedia Flash), safe colors for the Web, and interactive Web pages. The focus of this course is on producing attractive and interactive pages using the capabilities of the Web browser. Weekly scheduled and unscheduled laboratory. 3 credits. (3 plus 0)

Undergraduate Course Descriptions

IS 2100 Internet Programming
Prerequisite: IS 1300.
An introduction to the Internet and Web programming. Topics will include fundamentals of the Internet with existing and evolving technologies. Focuses on Web page development using basic and advanced programming techniques. Weekly scheduled laboratory and unscheduled laboratory. 3 credits. (3 plus 0)

IS 2200 Developing Business Solutions
Prerequisites: IS 1100 or IS 1150; ACC 1010 or OL 3400.
An introduction to solving business problems through the application of information technology. Using spreadsheet and database productivity software students solve problems including inventory management, accounts receivable and payable, payroll, financial analysis, sensitivity analysis, human resource tracking and small application development. Topics such as worksheet formatting, macro building, financial functions, data and regression analysis, database design, queries and sorting, interface design are covered. 3 credits. (3 plus 0)

IS 2300 Programming II
Prerequisites: IS 1300; MA 1035.
A comprehensive second programming course using the Java language. Students will build on their previous basic Java programming knowledge to create class-centric, object-oriented applications that uses abstraction, encapsulation, inheritance, and polymorphism to provide great flexibility, modularity, and reusability in developing software. Graphics programming topics, including event-driven programming, creating graphical user interfaces, and writing applets are covered. Several advanced features such as using exception handling to make programs robust, using multi-threading to make programs more responsive and interactive, incorporating sound and images to make programs user-friendly, using input and output to manage and process a large quantity of data, and creating client/server applications may also be covered. Scheduled and unscheduled laboratory projects. 3 credits. (3 plus 0)

IS 2400 Design Fundamentals
Prerequisite: IS 1400.
Students in this course will have an aptitude for the visual arts and/or an understanding of the fundamentals of competent design. The course will review and pursue to a greater depth the structural elements, organizational principles, psychological effects, and communicative functions of two-dimensional art and design. 3 credits. (3 plus 0)

IS 2450 3D Animation
Prerequisite: IS 2400 or administrative approval.
An introduction to 3D animation using Maya Unlimited. Students will learn 3D modeling, texturing, lighting, and animation techniques used in film production, television, and print. Students will acquire the skills necessary to begin developing their own 3D content using the tools learned, techniques studied, and their own creativity. Scheduled and unscheduled labs. 3 credits. (3 plus 0)

IS 2600 Web Site Design
Prerequisite: IS 2100.
This course looks at the design aspects of developing an interactive Web site. Topics include user population targets, usability issues including federal standards, physical design characteristics, marketing and maintenance, testing and evaluation, and site navigation. Students will develop and test prototype Web sites using hand-coded and an automated framework. Scheduled and unscheduled labs. 3 credits. (3 plus 0)

IS 2900 Web Applications
Prerequisites: IS 2100; CS 2500.
An introduction to the technical and business aspects of web applications. Students will develop and design a web-based software product that meets the long-term requirements of reusability, flexibility, scalability, and reliability. Unscheduled lab. 3 credits. (3 plus 0)

IS 2950 Graphics Portfolio
This course is a practicum in which students will demonstrate their digital design skills by project work agreed upon by the student and the instructor and monitored throughout the semester at scheduled times. The project or projects will represent an array of performance and become part of the student's portfolio. 3 credits.

IS 2990 Special Topics in Information Systems
Prerequisite: Administrative approval.
Directed study of a special body of subject matter in the field of information systems. This course may be repeated for additional credit. Variable credit.

IS 3100 Information Security
Prerequisite: Junior standing and pursuing a computer sciences major or minor.
An introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. 3 credits. (3 plus 0)

IS 3200 Computer Forensics
Prerequisites: NET 1500 or EE 2050; IS 3100.
An introduction to the methods and techniques used to conduct a computer forensics investigation beginning with a systematic accumulation of digital evidence. Students will use methods for discovering deleted, encrypted, or damaged file information. A major focus will be on computer forensics tools in the investigator's laboratory, methods of processing crime and incident scenes, and reporting results of the investigations. 3 credits. (3 plus 0)

IS 3300 Developing Mobile Applications
Prerequisites: IS 2300; IS 2900.
This hands-on course uses advanced level programming languages, application framework, and development tools to create applications for mobile devices, like the Apple iPhone or iPad. Students will study the mobile design

requirements, program several applications in the appropriate SDK, test their product on both simulators and real devices and also examine application distribution. Scheduled and unscheduled labs. 3 credits. (3 plus 0)

IS 4000 Cyber Crime
Prerequisites: IS 3200; CJ 3200.
This course focuses on both technical aspects of digital crime as well as behavioral aspects of computer hackers, virus writers, terrorists and other offenders. Students will examine the history, development, extent and types of digital crime and digital terrorism, legislation and law enforcement practices designed to prevent, investigate and prosecute these crimes. 3 credits. (3 plus 0)

IS 4100 Systems Analysis & Design
Prerequisite: IS 2300; CS 2500
An overview of the systems development life cycle with emphasis on the techniques and tools of system documentation and logical systems specifications. 3 credits. (3 plus 0)

IS 4600 Disaster Recovery
Prerequisite: IS 3100.
This course examines the strategies and activities for limiting the impact to and recovery of information systems, networks, and data should a disaster occur. Recovery and test plans are developed and analyzed to return mission-critical systems to an optimally secure and functional state. Risk identification and analysis are explored for assets, physical facilities and end-user functions with secure accessibility. Topics include data assurance, information security, project management disciplines, and business continuity planning. 3 credits. (3 plus 0)

IS 4700 IS Senior Project
Prerequisites: IS 4100
A hands-on exploration of an emerging trend or a new technology in information systems. Students will investigate the business, social, and technical aspects of one of the new developing areas by researching, analyzing, designing and building their own solution. Latitude is incorporated into the course so that students can pursue a project not available with previous courses. Case study, in-depth project, and presentation. 3 credits. (3 plus 0)

IS 4800 Technical Project Management
Prerequisite: Senior standing or administrative approval.
Concepts and practical applications including tools and techniques for management of technical projects with emphasis on scope, time, communication, and resources. Topics covered include: task estimating and scheduling, project scope, and resource management. 3 credits. (3 plus 0)

IS 4910 Graphics Portfolio I
Prerequisite: Senior standing in Web development program or administrative approval.
This course is a practicum in which students will demonstrate their Web development abilities by creating an advanced Web environment. Each student will create a site of their choosing that demonstrates skills and techniques learned in previous coursework. Projects must be approved by faculty and will be monitored throughout the semester at scheduled times. These projects will represent an array of performance and will become part of the student's portfolio. Portfolios will be critiqued and graded by members of the Web development faculty. 3 credits.

IS 4920 Graphics Portfolio II
Prerequisite: IS 4910.
This course is a continuation of IS 4910. 3 credits.

IS 4950 Internship
Prerequisite: Senior standing or administrative approval.
This course combines professional field experience as a member of an organization with classroom topics and principles of information systems. In addition to the work experience, the student also will participate in a seminar program discussing the relationship of previous course work to actual operations in industry. Variable credit.

IS 4990 Special Topics in Information Systems
Prerequisite: Administrative approval.
Directed study of a special body of subject matter in the field of information systems. This course may be repeated for additional credit. Variable credit.

MANAGEMENT INFORMATION SYSTEMS

MIS 1300 Software Tools
This course studies a variety of office suite packages which include word processing, spreadsheets, presentations and office automation features. Emphasis is on document and spreadsheet usage and contrasting features of each platform. 3 credits. (3 plus 0)

MIS 1500 Computer Systems & Hardware
Prerequisite: MIS 1300.
This course prepares students to effectively manage a variety of hardware issues, such as installation, configuration, upgrading, diagnosing, troubleshooting, safety, preventative maintenance, the principles of motherboards, processors, and memory in microcomputer systems. 3 credits. (3 plus 0)

MIS 2100 Networking & Infrastructure
Prerequisite: MIS 1500.
A survey of network and telecommunications design as they relate to information systems. Topics include hardware, voice, data, video, and digital wireless infrastructure technologies. 3 credits. (3 plus 0)

MIS 2150 Component Analysis & Design
Prerequisite: MIS 2100.
Continuation of MIS 2100. Application of networking technologies as they relate to business environments. Analyze and design a network topology for a new environment and an existing structure with emphasis on compatibility. 3 credits. (3 plus 0)

MIS 3000 Programming Logic
Prerequisite: MIS 1300.
Effective development and documentation of logic structures are reviewed for usage in file management utilizing perspectives of sequence, selection, iteration, and modular programming. 3 credits. (3 plus 0)

MIS 3100 Database Management
Prerequisite: MIS 1300.
This course emphasizes relational database development, usage, and control with exposure to a variety of end user and managerial programs for utilization in a professional environment. Related topics also include normalization and conceptual design using entity relationship diagramming. 3 credits. (3 plus 0)

MIS 3150 Database Applications Development
Prerequisite: MIS 3000 or MIS 3100.
This course emphasizes database application development within multi-tier systems, emphasizing the development of front-end user interfaces. The course is also an introduction to Structured Query Language (SQL). 3 credits. (3 plus 0)

MIS 3200 Web Applications & the Internet
Prerequisites: MIS 2150; MIS 3000.
The course presents strategic and operational uses of the Internet and the World Wide Web by business organizations. Packaged software is used to design a Web site and develop Web pages. Ongoing management issues are addressed for maintaining a dynamic Web site. 3 credits. (3 plus 0)

MIS 4000 Enterprise Resource Planning
Prerequisites: MIS 3000; MIS 3100.
ERP systems provide the foundation for a wide range of e-commerce based processes including web-based ordering and order tracing, inventory management, and built-to-order goods. This course examines the pros and cons of ERP systems, explains how they work, as well as the issues related to system selection, design and implementation. 3 credits. (3 plus 0)

MIS 4200 Systems Analysis & Design
Prerequisite: MIS 3150.
An overview of the system's development life cycle with emphasis on techniques and tools of system documentation and logical system specifications. Concepts covered include detailed analysis of information systems project initiation. 3 credits. (3 plus 0)

MIS 4400 MIS Project Management
Prerequisite: MIS 4200.
This course covers the components of successful project completion including scope, financials, resources, milestones, tracking, and communications. Project-planning software will be utilized to apply theoretical concepts and review documentation. 3 credits. (3 plus 0)

MATHEMATICS

MA 1000 Foundations of College Mathematics
Topics include computation with integers and rational numbers using correct order of operations, ratios, and proportions. The student also learns percent concepts and solving equations involving percentages. Other covered topics are exponents and simplifying and solving equations and inequalities with one variable. Using linear equation problem solving strategies to solve application problems is emphasized. Graphing lines using slope and y-intercept is also taught. Problem solving is integrated throughout and appropriate use of calculators is expected. 3 credits. (3 plus 0)

MA 1010 Basic Algebra
Prerequisite: MA 1000 with grade C or better.
Real numbers, algebraic expressions, basic rules of algebra, ratios and proportions, exponents (including negative exponents and rational exponents), radicals, formulas, Cartesian plane, distance between points, midpoint of a line segment, polynomials, operations on rational expressions, and solving linear equations and inequalities (in one variable). This course may not be applied toward degree requirements. 3 credits. (3 plus 0)

MA 1025 Mathematical Problem-Solving
Prerequisite: MA 1000 with grade C or better.
Topics in algebra include exponents and their properties and addition, subtraction, and multiplication of variable expressions. Solving and applying linear equations and applying exponential equations are studied. Graphing lines and linear inequalities using slope-intercept form and solving systems of equations and inequalities as they relate to business, social science, and finance applications and displaying data are also covered. Throughout the course application problems and appropriate technology will be emphasized. 3 credits. (3 plus 0)

MA 1035 College Algebra
Prerequisites: MA 1010 with grade C or better.
Real numbers, and algebraic expressions, functions and graphs, equations and inequalities, systems of equations and inequalities, exponential and logarithmic functions, and complex numbers. 3 credits. (3 plus 0)

MA 1040 Finite Mathematics
Prerequisite: MA 1035 with grade C or better.
Set theory, coordinate systems and graphs, linear programming (geometric approach and algebraic approach), matrices and linear systems, permutations and combinations, probability, statistics, mathematics of finance. 3 credits. (3 plus 0)

MA 1050 Geometry for Educators
Prerequisite: MA 1025.
The purpose of this course is to reacquaint elementary education students with geometry. This course will familiarize students with the fundamental properties and formulas of one-, two-, and three-dimensional geometric shapes. It will also develop their problem-solving skills through inductive and deductive reasoning. Geometric

proofs will be introduced while exposing the students to the axiomatic system of Euclidean geometry. 3 credits. (3 plus 0)

MA 1060 Trigonometry
Perquisite: MA 1035 with grade C or better.
Basic concepts of trigonometry, trigonometric functions, trigonometric identities and equations, and applications of trigonometry. 3 credits. (3 plus 0)

MA 1100 Applied Calculus I
Prerequisite: MA 1035 with grade C or better.
Functions and graphs, limits, differentiation, curve sketching, exponential and logarithmic functions, antidifferentiation and integration. 3 credits. (3 plus 0)

MA 1110 Applied Calculus II
Prerequisite: MA 1100 with grade C or better.
Integration, series, multivariable calculus, differential equations. 3 credits. (3 plus 0)

MA 1200 Calculus I
Prerequisites: MA 1035 and MA 1060 with grade C or better in both.
Limits, continuity, and derivatives are the focus of this course. The derivatives of polynomials, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions are studied. Techniques of differentiation include using appropriate rules, implicit and logarithmic differentiation. Applications include related rates, differentials, optimization and curve analysis. Basic anti-derivatives are also covered including the substitution technique. 4 credits. (4 plus 0)

MA 1210 Calculus II
Prerequisite: MA 1200 with grade C or better.
Integration techniques and applications of the definite integral including volume, arc length, surface area, and average value of a function. An introduction to methods of solving certain first and second order differential equations. The convergence of infinite sequences and series, Taylor polynomials, Taylor series and power series. Analysis of curves in polar coordinates. 4 credits. (4 plus 0)

MA 2010 Foundations of Statistics
Prerequisite: MA 1025 with a grade of C or better.
The purpose of the course is to help students understand just how much data and statistical analysis have to say about their lives and the world around us. This course emphasizes concepts and statistical thinking rather than computation. The course will focus on statistical concepts and methods for producing data and organizing data. It also will explore elements of probability used to describe chance, variation, and risk. 3 credits. (3 plus 0)

MA 2025 Statistical Problem-Solving
Prerequisite: MA 1025 with grade C or better.
This course will include basic statistical terminology, mean, median, mode, and designing experiments. In addition, standard deviation, variance, normal distribution, probabilities, correlation, statistical inference, and sampling distribution will be covered. Additional topics include regression analysis, confidence intervals, hypothesis testing, and one and two sample t statistics are also to be included. All topics should be used in appropriate application solving applied problems with appropriate technology. 3 credits. (3 plus 0)

MA 2100 Differential Equations & Linear Algebra
Prerequisite: MA 1210 with grade C or better.
First order differential equations, second-order and higher-order linear differential equations, and systems of differential equations, Laplace transforms, and Fourier series. Operations involving matrices, multiplication, transposition, and matrix inversion. Systems of linear equations; Gauss elimination and Cramer's rule. 4 credits. (4 plus 0)

MA 2150 Linear Algebra
Prerequisite: MA 1110 or MA 1210 with grade C or better.
The theory of systems of linear equations, properties of matrix operations, determinants, vectors in the plane and in space, general vector spaces and inner product spaces, eigenvalues and eigenvectors. Applications of the linear algebra will be covered through assigned reading and problem solving. 3 credits. (3 plus 0)

MA 2200 Calculus III
Prerequisite: MA 1210 with grade C or better.
Analytic geometry, coordinate systems in 3Dimensional space, lines, planes, and other surfaces in 3 dimensions, vectors, vector-valued functions, partial derivatives, multiple integrals, and topics in vector calculus. 4 credits. (4 plus 0)

MA 2300 Differential Equations
Prerequisites: MA 1210 with grade C or better; MA 2150
Ordinary differential equations of first order, higher order linear equations, systems of differential equations, Laplace transform methods, series methods; numerical solution of differential equations. An overview of existence and uniqueness theorems is given. Applications to the sciences and engineering are covered. Technology is incorporated through graphing calculators and computer algebra systems for use primarily in projects. 3 credits. (3 plus 0)

MA 2430 Probability & Statistics for Engineers
Prerequisite: MA 1110 or MA 1210.
Basic set theory and methods of enumeration are covered briefly. Probability, random variables, mathematical expectation, discrete and continuous distributions, estimation theory, test of hypotheses, and introduction to standard regression analysis constitute the majority of the course. 3 credits. (3 plus 0)

MA 2990 Special Topics in Mathematics
Prerequisite: Permission of the dean of the College of Engineering and Computer Sciences.
Directed study of a special body of subject matter in the field of mathematics. This course may be repeated for additional credit. 3 credits. (3 plus 0)

MA 3200 Graph Theory
Prerequisite: MA 2100 or MA 2150 or CS 2410
This course focuses on the mathematical theory of graphs;

a few applications and algorithms will be discussed. Topics include trees, connectivity, Eulerian and Hamiltonian graphs, matchings, edge and vertex colorings, independent sets and cliques, planar graphs, directed graphs, and multigraphs. Applications such a route planning, facilities layout, network flows, tournament design will be studied. An advanced topic completes the course. Familiarity with linear algebra and basic counting methods such as binomial coefficients is beneficial, though not a requirement. Comfort with reading and writing mathematical proofs is also required. 3 credits. (3 plus 0)

MA 3520 Math for Elementary Teachers I
Prerequisite: MA 1000 with grade C or better
This course and its companion course MA 3530 are a study of the mathematical concepts, procedures, and processes found in the elementary math curriculum grades K-8. Course includes whole number concepts and operations, estimation, integer concepts and operations, rational number concepts and operations, mathematical reasoning, percent, proportions, and probability. In this course future teachers will learn both what to teach and how to present the material. 3 credits. (3 plus 0)

MA 3530 Math for Elementary Teachers II
Prerequisite: MA 1000 with grade C or better
This course and its companion course MA 3520 are a study a study of the mathematical concepts, procedures, and processes found in the elementary math curriculum grades K-8. Course includes analyzing data, geometry (terms, basic units, polygons, transformations, and patterns), measurement, algebra, and coordinate geometry. In this course future teachers will learn both what to teach and how to present the material. 3 credits. (3 plus 0)

MA 4100 Introduction to Complex Variables
Prerequisite: MA 2200
A basic introduction to the study of complex-valued functions and their properties. It also will give insight into how complex-valued functions and their properties may be applied to various areas of science and engineering. We will study the complex numbers, the complex plane, and basic complex-valued functions. Analytic functions, complex integration, complex series and residue theory constitute the major topics to be explored. 3 credits. (3 plus 0)

MA 4300 Modern Algebra
Prerequisite: MA 2150.
An introduction to the principles and concepts of modern abstract algebra. Topics will include groups, rings, and fields, with applications to number theory, the theory of equations, geometry, cryptography, and error-correcting codes. It attempts to understand the process of mathematical abstraction, the formulation of algebraic axiom systems, and the development of an abstract theory from these axiom systems. An important objective of the course is mastery of the reasoning characteristic of abstract mathematics involving the reading and writing of mathematical proofs. 3 credits. (3 plus 0)

MECHANICAL ENGINEERING

ME 2050 Overview of Machines & Fluids
Prerequisites: Concurrent registration of two courses: MA 1100 and PH 2100.
An overview of mechanical engineering topics, exposing students to mechanical power transmission, HVAC systems, and internal combustion engines. Students will learn basic operation and design selection of generators, compressors, pumps, motors, and engines. Also, students will learn fluid flow characteristics of heating, refrigeration, and geothermal systems. 3 credits. (3 plus 0)

ME 3110 Theory of Machines
Prerequisite: EM 2020.
Basic static, kinematic and dynamic analysis of plane motion mechanisms. Graphical and analytical solutions for basic mechanisms. Power equation, equation of motion. Balancing, rotating and reciprocating masses. Critical speeds of shafts. Computer-aided kinematic design. 3 credits. (3 plus 0)

ME 3200 Thermodynamics I
Prerequisites: MA 1210; CH 1220; PH 1300.
Macroscopic thermodynamics: state, energy, entropy, and equilibrium. First-law and second-law analysis for engineering applications. Computer applications. 3 credits. (3 plus 0)

ME 3400 Mechanical Engineering Design I
Prerequisite: EM 3100.
This course is intended to give students a working knowledge to design and analyze machine components and structures. Stress analysis and deflection analysis of various mechanical components including pressure vessels, rotating rings and disks, press and shrink fits, curved beams, and contact stresses will be reviewed. Fundamentals of statistical considerations in design will be reviewed. Static and dynamic failure theories will be discussed and applied to the design of machine components. Specific design problems will be set during the semester. 3 credits. (3 plus 0)

ME 3405 Finite Element Analysis
Prerequisite: EGR 3600; ME 3400 or concurrent enrollment.
Students will use 3D CAD modeling skills to perform finite element analysis on engineering components. Design problems will be drawn from solid mechanics and fluid mechanics. 1 credit. (0 plus 3)

ME 3410 Mechanical Engineering Design II
Prerequisite: ME 3400.
This course is a continuation of Mechanical Engineering Design I and is intended to give students a working knowledge to design, analyze and synthesize machine components and systems, including bolted and welded joints, mechanical springs, rolling contact bearings, gears, clutches, brakes, couplings, and shafts. In addition, students work in groups on design projects and design a machine to perform a task of their choosing. 3 credits. (3 plus 0)

ME 3460 Computer Aided Design
Prerequisites: ME 3400; ME 4260 or BME 3200 or concurrent registration.
This course is intended to give students a working knowledge of solid modeling and finite elements for the design and analysis of engineering components. Commercial 3D CAD, CAE, CAM software will be used. Students will be presented with both the underlying theory of finite elements and practical applications. Problems will be drawn from solid mechanics, fluid mechanics, and heat transfer. Specific design problems will be set during the semester. 4 credits. (3 plus 3)

ME 4050 Gas Dynamics
Prerequisite: EM 3500.
Basic concepts of gas dynamics and gas properties, isotropic flow, normal and oblique shocks, Prandtl Meyer flow, adiabatic flow, flow with friction. Computer applications. 3 credits. (3 plus 0)

ME 4200 Thermodynamics II
Prerequisite: ME 3200.
Continuation of ME 3200 Thermodynamics I. First-law and second-law applications. Gas mixtures, combustion, chemical equilibrium, power cycles, refrigeration cycles and energy conversion systems. Computer applications. 3 credits. (3 plus 0)

ME 4260 Heat Transfer
Prerequisites: EM 3500; ME 3200 or concurrent enrollment.
Conduction, convection, and radiation. Empirical equations for convective heat transfer. Heat exchangers, condensation, and boiling. Computer iterative solutions. 3 credits. (3 plus 0)

ME 4270 Heat Transfer Laboratory
Prerequisite: ME 4260 or concurrent registration.
Experimental studies in the analysis and design of heat transfer equipment. 1 credit. (0 plus 3)

ME 4280 Energy Systems Design
Prerequisite: ME 4260.
Gas turbine principles and design. Internal combustion engines. Steam power plants. Alternative energy systems such as wind, nuclear, solar, and wave energy systems. Students will apply energy systems theory to course project work. 2 credits. (1 plus 3)

ME 4700 Controls Engineering
Prerequisites: EM 2020, MA 2100.
Control engineering methodology with emphasis on physical system modeling and practical control system design. Topics include Laplace transforms, system modeling, block diagrams, system response, stability, steady-state error, root locus and Bode and control. 3 credits. (3 plus 0)

ME 4820 Computer Integrated Manufacturing
Prerequisite: ME 3110 or concurrent registration.
Study, analysis, design, and use of computer-integrated manufacturing systems. To provide an understanding of automation technology including CAD/CAM, CNC machining, mechanisms used in automation, robotics, control, and PLCs. Introduction to manufacturing management systems, manpower, and materials. 2 credits. (1 plus 3)

ME 4950 Mechanical Engineering Internship
Prerequisite: Senior standing or administrative approval.
This course combines industry experience and knowledge gained in the classroom. The student will serve as an engineering team member of an organization. The student will participate in a pre-internship seminar and will complete required internship tasks. 3 credits.
ME 4973 ME Senior Project I
Prerequisites: EGR 2000; senior standing.
The presentation of a creative engineering design solution to a real-world physical problem. The design solution will involve the formal and creative application of mathematics, science, and mechanical engineering theory. Students will aim to produce systems that will be safe, cost-effective, and are technically sound solutions to the problem. Coursework will include: establishing specifications, conceptual system design, subsystem analysis and characterization, equipment sourcing, and the production of technical documentation for the design. Periodic progress reports to the technical advisor are required. 2 credits.

ME 4974 ME Senior Project II
Prerequisite: ME 4973.
The implementation of the design solution prepared in Mechanical Engineering Senior Project I. The course will involve construction and test of the project hardware and software. The project concludes with a hardware demonstration and an oral presentation to faculty and students in the department. Project students also will produce a formal written report. 2 credits.

ME 4990 Special Topics in Mechanical Engineering
Prerequisite: Permission of the department chair.
Directed study of a special body of subject matter in the field of mechanical engineering. This course may be repeated for additional credit. Variable credit.

NETWORKING

NET 1100 Introduction to Networking
A survey of network fundamentals and telecommunications design as they relate to information systems. Topics covered include hardware, voice, data, video, and digital wireless infrastructure technologies. 3 credits. (3 plus 0)

NET 1200 Network Design I
Prerequisite: MA 1035 or concurrent registration.
This is the first of three courses designed to prepare the student to sit for the Cisco Certified Networking Associate certification. In it students learn network terminology and protocols, and network standards. They learn the difference between LANs and WANs. The OSI and TCP/IP models are used to define networking. Students learn to design, install and test various types of network cables using the proper cabling tools. Students use multiple number bases and Boolean logic to determine hierarchical

network addressing.3 credits. (3 plus 0)

NET 1250 Network Design II
Prerequisites: NET 1200 with grade C or better; CS 1600.
This is the second of three courses designed to prepare the student to sit for the Cisco Certified Networking Associate certification. In it students apply the network terminology and protocols, and network standards from NET1200. Router and switch configuration is covered. Students will design LAN and implement the designs using both physical equipment and network simulation programs. Outside lab time is required for a student to be successful in this course. 3 credits. (3 plus 0)

NET 1500 Circuits & Signals
Prerequisite: MA 1035 or concurrent registration.
Fundamental circuits and hardware course. This course explores the components, circuitry, peripherals and software systems required in a computer system. 3 credits. (3 plus 0)

NET 2000 Windows Networking
Prerequisite: NET 1250.
This is the third course in a sequence. In it students will learn advanced WAN theory and design, WAN protocols used for core access and connection are discussed. Multilayer switching in hierarchical settings is covered. Specific activities will include: designing a WAN, implementing the WAN by configuring routers, switches and security devices as needed. Scheduled and unscheduled laboratory. 3 credits. (3 plus 0)

NET 2200 Advanced Routing & Switching
Prerequisite: NET 1250.
This is the third course in a sequence. In it students will learn advanced WAN theory and design, WAN protocols used for core access and connection. Multilayer switching in hierarchical settings is covered. Specific activities will include: designing a WAN, implementing the WAN by configuring routers, switches and security devices as needed. 3 credits. (3 plus 0)

NET 2300 Script Programming
Prerequisite: IS 1300.
This introductory programming course focuses on the use of scripting languages. Topics include structured programming concepts, interacting with Web sites, file systems, user authentication and content management. Emphasis will be placed on network management and administration tasks. Multiple scripting languages will be used. Lab/project. 3 credits. (3 plus 0)

NET 2500 Linux Networking
Prerequisite: NET 1250.
Procuring, installing, managing and troubleshooting Linux networks on microcomputers. Topics include: configuring and securing network servers and workstations, creating and managing users and groups, using command line and graphical user interfaces, surveying and selecting available application software, managing a Web server. Scheduled and unscheduled laboratory. 3 credits. (3 plus 0)

NET 2990 Networking Special Topics
Prerequisite: Administrative approval.
Directed study of a special body of subject matter in the field of networking. This course may be repeated for additional credit. Variable credit.

NET 3200 Wireless & Mobile Communication
Prerequisite: NET 1250.
Fundamentals of wireless LANs and WANs. Focuses on the design, planning, implementation, operation and troubleshooting of wireless LANs; includes security, and design best practices; also covers microwave, satellite, RF, and new technologies. 3 credits. (3 plus 0)

NET 3300 Network Security
Prerequisite: NET 1250.
Provides the fundamentals of network security; students learn to design and implement security solutions that will reduce the risk of revenue loss and vulnerability. Combines hands-on labs with instructor-led and e-learning. Covers basic risk mitigation, standard vulnerabilities and helps students learn how to balance security with usability. 3 credits. (3 plus 0)

NET 3400 Directed Studies in Networking
Prerequisites: NET 1250 and junior standing.
This course prepares students for the lifelong learning process that is required in technology fields. The student, in consultation with the instructor, chooses a specific area of expertise and then prepares to sit for an industry standard certification exam in that area. Students learn the importance of staying current in their field and verifying to others the level of their expertise. Students also will develop practices that work for them when studying in an independent environment. Curriculum, study materials, and access to labs will be provided. Unscheduled lab. 3 credits. (3 plus 0)

NET 4000 Networking Seminar
Prerequisite: Senior standing or administrative approval.
This course aims to put into perspective previous course work and examine the current state of the field. Students will research a 10-year history of the field as well as the current state in terms of hardware, software, business, employment and societal effects. From this study, students will project where the field will be 10 years hence. Students also will select a topic of current interest that has some ethical component and write a research paper about that topic. 1 credit. (1 plus 0)

NET 4100 Network Design & Administration
Prerequisite: NET 1200.
Administration of a computer network. Design, implementation, and management of computer networks using multi-user network operating systems. Allocating and managing network resources, sharing resources across a network, monitoring network traffic, security. Ethical issues. Unscheduled laboratory. 3 credits. (3 plus 0)

NET 4200 Advanced Server Systems
Prerequisites: CS 1500; NET 2000; NET 2500.
This course examines current and emerging server tech-

nologies. Best practices for the design of the infrastructure are explored. Emphasis is placed on the planning and installing of a virtual server system with multiple operating systems. Both server and desktop requirements are covered. 3 credits. (3 plus 0)

NET 4300 Voice & Video Systems
Prerequisite: NET 1250.
Concepts and design of multi-service IP communication systems including voice and video delivery. Covers VoIP (Voice over IP) protocols and standards, quality of service, traffic prioritization, congestion control, signaling and policy control. Bandwidth allocation and video delivery systems are addressed. 3 credits. (3 plus 0)

NET 4900 Networking Project/Internship
Prerequisites: IS 4100; senior standing.
Practical hands-on work to utilize and put into perspective previous coursework. Students work through, from start to finish, an entire project similar to one they will be involved in upon entering the work force. Students are given a scenario that will cover an entire Internet/Intranet project. They will need to design and implement the project, document appropriately, and demonstrate viability. 3 credits. (3 plus 0)

ORGANIZATIONAL LEADERSHIP

OL 3000 Employee Development
Prerequisite: BA 2700
This course is a study in current theories and concepts of employee development. Students will examine practical approaches to ensuring that employees develop the knowledge and skills to perform effectively in their jobs and advance in their careers. The course will look at the role of training and development, coaching, mentoring, and developmental planning as well as performance management, appraisal, and feedback. 3 credits. (3 plus 0)

OL 3200 Managing Organizational Change & Continuous Improvement
Prerequisite: OL 3000.
This course examines the role of change and continuous improvement in organizations. Students will be introduced to theoretical concepts involved with organizational change and continuous improvement and learning. They also will analyze the forces that drive organizations to change and examine processes for planning and implementing effective organizational change. 3 credits. (3 plus 0)

OL 3300 Quantitative Decision-Making
Prerequisite: OL 3200, MA 1000
A course designed to give OL students the specific math background to understand, correlate, and analyze data. It covers mathematical operations, how to use a calculator effectively to solve organizational problems, equations, and graphs, simultaneous equations and their applications (i.e. breakeven analysis), simple regression and descriptive statistics (mean, median, mode, standard deviation, histograms and Pareto charts). 3 credits. (3 plus 0)

OL 3400 Financial Systems for Decision-Making
Prerequisite: OL 3300 for business majors; MA 2025 for IS majors; IME 2110 for ENE and IME majors.
This course addresses the analysis of managerial planning and control systems. It examines the development and administration of operating reports, budgets, and financial support systems. Accounting vocabulary and financial statement analysis are also introduced, emphasizing financial information for effective organizational leadership. 3 credits. (3 plus 0)

OL 4000 Strategic Planning
Prerequisite: OL 3400
This is a process oriented course that reviews planning activities such as developing a company mission, competitive analysis, company situation analysis, potential strategies supported by a traditional SWOT review, competitive advantage, growth scenarios, the role of setting specific objectives in implementing strategies, and financial projections. This course shows how to transform the company mission statement into an actionable plan. 3 credits. (3 plus 0)

OL 4100 Qualitative Decision-Making
Prerequisite: OL 4000.
A review of methods used to collect information to support business decisions, such as customer surveys, employee surveys, focus groups, competitive studies, and benchmarking. Topics include designing procedures to obtain unbiased data, scaling methods, and analysis and interpretation of data to produce credible results and recommendations. Emphasis is placed on intelligence necessary to support strategic planning activities and initiatives. 3 credits. (3 plus 0)

OL 4900 Organizational Leadership Capstone
Prerequisite: OL 4100.
A format of synthesis is implemented, bringing together concepts and processes of prior studies within the organizational leadership program. Emphasis is placed on viewing the organization from a strategic management and integrated problem-solving perspective. 3 credits. (3 plus 0)

PARALEGAL

PARA 1200 Legal Office Procedures
Prerequisite: PLAW 1100
This course offers a logical, step-by-step introduction to the terminology, basic legal concepts, and legal procedures required to work in a contemporary law office. The course studies various areas of the law, introduces students to forms, document preparation, and legal procedures. 3 credits. (3 plus 0)

PARA 1300 Introduction to Business Law
Prerequisite: PLAW 1100
This course introduces the student to the judicial system and the nature and source of law affecting business. The student will study negotiated contracts, sales contracts, with an emphasis on the Uniform Commercial Code; reme-

dies for breach of contract; tort liability; and legal aspects of property ownership, structures of business entities, and agency relationships. 3 credits. (3 plus 0)

PARA 2100 Torts & Remedies
Prerequisite: PLAW 1100
The course introduces the student to the substantive law of torts and remedies. A tort is a civil wrong that causes an injury for which a person may be liable and for which our legal system provides a remedy to the injured party. Three types of tort liability will be studied: intentional, strict, and negligent. The student will study specific torts related to property, personal injury and economic relations. The study will include specific elements required to establish a specific tort, and the defenses to and damages for the tort. The course will include examination of remedies, both legal and equitable. 3 credits. (3 plus 0)

PARA 2200 Contracts & Uniform Commercial Code
Prerequisite: PLAW 1100
This course examines the nature of contracts and commercial law under both the common law and the Uniform Commercial Code. Contracts is the study of which promises will be enforced by law. Topics include contracts for sales of goods (UCC Article 2), the statute of frauds, performance, remedies, warranties, assignment law, negotiable instruments law (UCC Article 3), and secured transactions law (UCC Article 9). 3 credits. (3 plus 0)

PARA 2550 Mock Trial I
Prerequisite: PLAW 1100; and approval of the instructor
This course prepares students to prepare and try a civil or criminal case for a jury trial. Students will use case files and other literature to conduct a trial through every step of the process. Students will participate in a jury trial utilizing role playing at the end of the course. Students who successfully complete the course may be selected for participation on the mock trial team. 3 credits. (3 plus 0)

PARA 2650 Mock Trial II
Prerequisite: PLAW 1100; PARA 2550; and approval of the instructor
This course is for selected students for preparation for American Mock Trial Association competitions during the academic year. The course includes development of a case for presentation including opening arguments, introduction of testimonial, physical, and demonstrative evidence, direct and cross examination of witnesses, closing arguments, etc. Students will be assigned to a team and may play the role of attorney, witness, victim or other roles pertinent to the case. Students will participate in competitions that will require travel. To enroll in this course students must have approval from the primary instructor, have successfully completed Mock Trial I, and must have a GPA above 2.5. 3 credits. (3 plus 0)

PARA 3100 Alternative Dispute Resolution
Prerequisite: PLAW 1100
This course studies the processes and techniques used to settle disputes without court adjudication, including theoretical and practical application such as negotiation, mediation, arbitration, summary jury trials, mini-trials, and settlement week. The course will emphasize practical applications with classroom presentations and simulations. 3 credits. (3 plus 0)

PARA 3200 Domestic Relations
Prerequisite: PLAW 1100
This course acquaints students with legal problems in domestic relations or family law. Students will discuss problems such as separation, divorce, child custody, adoption, and nonsupport. 3 credits. (3 plus 0)

PARA 3300 Employment Law
Prerequisite: PLAW 1100
This course provides a comprehensive overview of the most important facets of employment law. Studies include the history of employment and labor laws, discrimination regulation, employment law and the family, protecting workers with disabilities, privacy issues, and sexual harassment. 3 credits. (3 plus 0)

PARA 3550 Administrative Law
Prerequisite: PLAW 1100
This course presents basic concepts of administrative law and procedure in federal and state agencies. Topics include representing clients before administrative bodies, agency operation, adjudication, constitutional questions, statutory issues, and appeals. Students will learn both formal and informal advocacy techniques. This course will offer a practical approach to administrative law with hands on learning of documents, forms, and the legal theories behind them. 3 credits. (3 plus 0)

PARA 3650 Business Entities
Prerequisite: PLAW 1100
This course studies the law of corporations and other business organizations. Study includes the laws and business practices involved in sole proprietorships, general and limited partnerships, limited liability partnerships, and limited liability companies, and the legal forms that are commonly used in this practice area. 3 credits. (3 plus 0)

PARA 4200 Property Law
Prerequisite: PLAW 1100
This course is a survey of the law of real and personal property. Property law concepts are analyzed. Topics include the different types of property generally, interests in real property land, legal descriptions and deeds, easements, encumbrances on title, title searches and title insurance, real estate purchase agreements, closings, mortgages and UCC Article 9 security interests, foreclosures, landlord-tenant law, and personal property law topics. 3 credits. (3 plus 0)

PARA 4300 Wills, Trusts & Estates
Prerequisite: PLAW 1100
This course is an overview of the laws of wills, trusts and estates, and the role of the paralegal in estate planning and administration. This course examines the transferring of assets, trusts, wills, gifts, administration of decedents' estates, federal and state taxes and administrator's responsibilities. 3 credits. (3 plus 0)

PARA 4400 Senior Capstone Project
Prerequisite: Senior standing
Students will present paralegal portfolio of all classes that has been maintained throughout their educational career at Indiana Tech. Students will have to formally present their portfolio along with a written summary of their work at Indiana Tech. 3 credits. (3 plus 0)

PARA 4550 Bankruptcy
Prerequisite: PLAW 1100
This course provides an overview of the federal bankruptcy law and rights of creditors and debtors. Emphasis is placed upon bankruptcy procedures in Chapter 7, 11, 12, and 13 of the U.S. Bankruptcy Code. Upon completion, students under the supervision of an attorney should be able to prepare and file bankruptcy forms, collection letters, and UCC search and post-judgment collection such as garnishment. 3 credits. (3 plus 0)

PARA 4950 Internship
Prerequisite: Junior or senior standing; 3.0 GPA
This internship requires that the student be placed in a private law office, a government law office, a prosecuting attorney's office, an insurance company, a court, an administrative agency at any level of government, or a public sector or quasi-public sector equivalent, with the approval of the agency and the instructional staff of Indiana Tech. The student will be expected to observe and work in this setting and record observations. 40 hours in the work setting will equal 1 credit of academic credit. To receive 3 credits of academic credit the student must work a total of 120 hours.

PHYSICAL EDUCATION

PHED 1110 Techniques of Individual & Dual Sports
A course dealing with the performance and study of various individual physical education activities and lifetime activities including bowling, aerobics, plyometrics, badminton, pickleball, tennis, weight training and track and field. Instruction and analysis as well as development of sport skills and rule knowledge will be emphasized for educational and leisure settings. 2 credits. (2 plus 0)

PHED 1120 Techniques of Team Sports
A course that will focus on team sports such as soccer, touch football, basketball, softball, and volleyball. Practice in construction of lesson plans and unit plans, skill performance and peer teaching practicum are emphasized in each of the areas of team sports. This course will deal with performance and study of team sports in the physical education setting as well as skill and rule knowledge acquisition. 2 credits. (2 plus 0)

PHED 1130 Techniques of Applied Skills & Methods
A study of the basics of movement education as an approach to teaching physical education. The emphasis will be on the knowledge of instructional models for physical education. A focus of this course will be concerned with factors related to movement of both the structured and unstructured dynamics of movement. Content will include activities of rhythm, tumbling, gymnastics and individual manipulative activities. 2 credits (2 plus 0)

PHED 1140 History & Principles of Physical Education
An introductory course into the history and development of modern physical education from a historical, philosophical, and social perspective. The scientific foundations and principles underlying school and college physical education will be presented. Students are introduced to facts, principles, and philosophies associated with motivation, learning principles, program instruction, supervision, administration, and evaluation of PE and sports. 3 credits. (3 plus 0)

PHED 2210 Principles of Fitness & Nutrition
A course with the focus on the values of physical activity, assessing fitness needs, measuring results, and the relationship between nutrition and health. The scientific rationale of exercise and proper nutrition for all ages will be explored. 3 credits. (3 plus 0)

PHED 2220 Philosophy of Coaching Sport
An introduction to the coaching profession. This course will focus on the philosophies, strategies, and tactics of coaching. Behavioral and psychological theories as it relates to coaching individuals and teams will be presented. 3 credits. (3 plus 0)

PHED 3700 Motor Learning & Development
Prerequisite: BIO 1110
A course that will focus on principles related to the teaching, learning and performance of motor skills. Application of teaching and learning strategies for motor skill acquisition will be emphasized. Students will interface supporting literature and current research with real-world situations, including teaching; coaching; design of performer-friendly equipment and work environments; and the acquisition of motor skills. This course will also present the motor development of children and the theories underlying growth and development as it applies to physical education. 3 credits. (3 plus 0)

PHED 3710 Prevention & Care of Athletic Injuries
Prerequisite: BIO 1110
An introductory study of athletic-related injury. Discussion of the methods of prevention, immediate care, and treatment of athletic related injuries and illnesses will be explored. Strategies for the prevention and subsequent care of athletic injury will be explored. 3 credits. (3 plus 0)

PHED 3720 Secondary (7-12) Physical Education Methods
Prerequisite: Praxis 1; admission to Teacher Education Program
A course that focuses on the theoretical aspects of teaching physical education in the middle/junior high and secondary school setting. Students will analyze and develop teaching methods, strategies, and materials appropriate for learning. 3 credits. (3 plus 0)

PHED 3730 Exercise Physiology
Prerequisite: BIO 1110
A study of the major physiological systems of the human

body and its acute and chronic responses to exercise. This course will study the physiological aspects of muscular, cardiovascular, and respiratory function as it relates to the physically active and inactive individual. 3 credits. (3 plus 0)

PHED 3800 Elementary (P-6) Physical Education Methods
Prerequisite: Praxis 1; admission to Teacher Education Program
A course that is designed to plan, teach and evaluate developmental physical education programs in grades K-6. Students will learn teaching strategies associated with motor skill and adaptive measures for early and intermediate school age children. Students will participate in service-learning activity in conjunction with an area school, business, or community program. 3 credits. (3 plus 0)

PHED 3810 Theory of Strength & Conditioning
Prerequisite: BIO 1110
A course designed to explore the theoretical and scientific basis of strength and conditioning. Training methods, analysis of current training techniques, and error detection along with physical adaptations related to strength, fitness and power training will be discussed. 3 credits. (3 plus 0)

PHED 3850 Curriculum Development & Theory
Prerequisite: PHED 1140; Teacher Education Program Benchmark II; junior standing
A course that focuses on the dynamics of curricular design in the physical education setting. This course will introduce the student to the design of learning and teaching formats, popular educational trends and philosophical perspectives which affect the development of curriculum. Student will be challenged to rethink traditional physical education curriculum in pursuit of new ways to challenge today's pupils along a standards-based curriculum. 3 credits. (3 plus 0)

PHED 4610 Measurement & Evaluation in Physical Education
Prerequisite: PHED 1140; Teacher Education Program Benchmark II; junior standing
A course that explores rubric, test construction, distinctiveness, application and evaluation for individual and group testing situations from a skill-related and health-related standpoint. Students will learn how to interpret and apply the resulting statistical data to make curriculum adjustments, impact on student learning, and individual educational plans for pupils. Introductory application of statistical measures will be explored. 3 credits. (3 plus 0)

PHED 4620 Biomechanics
Prerequisite: BIO 1110
A course that will introduce the student to the detailed study of the human body in motion and the neuro-musculo-skeletal system. Major muscle groups and their corresponding articulations will be presented. A study of human motions, noting bones, joints, nervous interaction and muscles that are involved and the mechanical conditions under which work is accomplished will be explored. Critical analysis of movement will be studied. 3 credits. (3 plus 0)

PHED 4630 Coaching Practicum
Prerequisite: PHED 2220
Students will receive practical supervision in all facets of coaching. Students must demonstrate a variety of typical functions of coaching for the sport of their choice. 3 credits. (3 plus 0)

PHED 4800 Administration of Sport & Physical Education
Prerequisite: PHED 1140; Teacher Education Program Benchmark II; junior standing
A course with the focus on the role of the physical educator/coach and the development of administrative skills. Students will learn to coordinate their programs with community wellness agencies and services. Policies, procedures, and practices and identification of key constituents and stakeholders will be discussed. 3 credits. (3 plus 0)

PHED 4810 Adapted Physical Education
Prerequisite: PHED 1140; Teacher Education Program Benchmark II; junior standing
A course that will introduce the student to the adapted physical education paradigm and discuss adapted programs and techniques for students with developmental delays and/or cognitive and physical disabilities. Students will be introduced to the individual education plan and the legal aspects of adapted physical education and inclusion. Specific conditions commonly seen in the adapted physical education will be explored. 3 credits. (3 plus 0)

PHED 4850 Professional Development Seminar
Prerequisite: Praxis II
This course is required for all students enrolled in PHED 4900 and PHED 4950. Students will attend seminar presentations and a weekly evening meeting during the student teaching experiences. This class is open only to students who are admitted to student teaching 1 credit. (1 plus 0)

PHED 4900 Student Teaching—Lower Grades
Prerequisite: Praxis II
This course is required for standard licensure in grades K-6. It involves an all-day assignment for 7 weeks and is open only to students who are admitted to student teaching. 6 credits. (6 plus 0)

PHED 4950 Student Teaching—Upper Grades
Prerequisite: Praxis II
This course is required for standard licensure in grades in grades 7-12. It involves an all-day assignment for 7 weeks and is open only to students who are admitted to student teaching. 6 credits. (6 plus 0)

PHYSICS

PH 1000 Physical Science
Introduction to basic ideas of physics, chemistry, and the nature of scientific inquiry, with an emphasis on learning

about learning, and how elementary students think and learn about science. 3 credits. (3 plus 0)

PH 1100 Fundamentals of Physics
Prerequisites: MA 1035; MA 1060 or concurrent registration.
Basic mechanics: vectors, kinematics in one and two dimensions, Newton's Laws, work, energy, momentum, rotational motion. Laboratory is incorporated into the course. 3 credits. (3 plus 0)

PH 1300 General Physics I
Prerequisites: MA 1210 or concurrent registration; PH 1100 or equivalent.
Basic mechanics: vectors, kinematics in one and two dimensions, Newton's Laws, work, energy, momentum and rotational motion. 3 credits. (3 plus 0)

PH 1310 General Physics I Laboratory
Prerequisite: PH 1300 or concurrent registration.
Selected experiments in mechanics, including kinematics, Newton's Laws, energy, momentum, and rotation. Use of computers for data acquisition and analysis. 1 credit. (0 plus 3)

PH 2100 Fundamentals of Physics II
Prerequisite: PH 1100.
Basic electricity and magnetism, with emphasis on DC... Laboratory is incorporated into the course. 3 credits. (3 plus 0)

PH 2300 General Physics II
Prerequisites: MA 1210; PH 1300.
Basic electricity and magnetism. Coulomb's Law, electric fields, electric potential, capacitance, resistance, current, Ohm's Law, magnetic fields, and inductance, with an emphasis on circuits; also harmonic motion, waves. 3 credits. (3 plus 0)

PH 2310 General Physics II Laboratory
Prerequisites: PH 1310; PH 2300 or concurrent registration.
Selected experiments in electricity, magnetism, and periodic motion. Use of computers in data acquisition and analysis. 1 credit. (0 plus 3).

PH 3500 Modern Physics
Prerequisites: MA 2100 or MA 2300; PH 2300.
Fundamental principles of atoms, molecules, and quantum mechanics. Selected topics from the following: special relativity, nuclear structure, nuclear radiation, nuclear reactions, high energy physics, semiconductor theory, semiconductor devices, lasers. 3 credits. (3 plus 0)

PRE-LAW

PLAW 1100 Introduction to Law Studies
This course is a survey of the American legal system, the substantive and procedural law of Indiana, and the role of the professional in the legal profession. Topics include an overview of professional ethics, the court system, procedural and substantive law, and basic legal analysis. This entry-level course is a prerequisite for all law courses in the paralegal and pre-law programs. The purpose of the course is to build a foundation of basic knowledge for subsequent, more specialized courses. 3 credits. (3 plus 0)

PLAW 1400 Constitutional Law
This course is an analysis of federal and state court decisions that interpret the U.S. Constitution as to the authority and process of criminal justice agencies. Topics include a historical overview, the Bill of Rights, trial and punishment, civil remedies and Constitutional conduct, and Constitutional and civil rights. 3 credits. (3 plus 0)

PLAW 2300 Legal Research & Writing
The purpose of the course is to develop the legal writing and research skills students will need as a paralegal. Students will be exposed to various legal writing techniques that are used in drafting a wide variety of legal documents. Throughout the semester, a strong emphasis is placed on proper writing methodology, formatting, and citation. Projects include drafting research, correspondence, litigation and transactional documents. 3 credits. (3 plus 0)

PLAW 2400 Civil Procedural Law
This course is designed to provide students an understanding of the litigation process commencing from the initial fact-gathering stage through post-judgment proceedings. The student will study the procedural rules governing litigation, including: filing requirements, service of process, calculation of deadlines, and discovery. Students will learn both practical application and theoretical knowledge. 3 credits. (3 plus 0)

PLAW 4100 Legal Professional Responsibility
Prerequisite: PLAW 1100.
This course examines the rules of professional conduct that apply to all legal professionals including: the American Bar Association Model Rules of Professional Conduct, State Rules of Professional Conduct, the American Bar Association Guidelines for the Utilization of Legal Assistants; and various other sets of rules of conduct created by paralegal associations. 3 credits. (3 plus 0)

PLAW 4400 Senior Capstone Project
Prerequisite: Senior standing.
Students will present paralegal portfolio of all classes that has been maintained throughout their educational career at Indiana Tech. Students will have to formally present their portfolio along with a written summary of their work at Indiana Tech. 3 credits. (3 plus 0)

PLAW 4950 Internship
Prerequisites: Junior status; GPA 3.0
This internship requires that the student be placed in a private law office, a government law office, a prosecuting attorney's office, an insurance company, a court, an administrative agency at any level of government, or a public sector or quasi-public sector equivalent, with the approval of the agency and the instructional staff of Indiana Tech. The student will be expected to observe and work in this setting and record observations. 40 hours in the work

setting will equal 1 credit of academic credit. To receive 3 credits of academic credit the student must work a total of 120 hours.

PSYCHOLOGY

PSY 1700 Introduction to Psychology
The fundamental principles of psychology including, but not limited to, research methodology, perception, development, motivation, consciousness, learning, thinking, stress management and social relationships. 3 credits. (3 plus 0)

PSY 1750 Human Growth & Development
Prerequisite: PSY 1700.
A life-span human development course which integrates biology, psychology, sociology, medicine, demography, economics and anthropology perspectives from conception to death. Emerging trends in research. 3 credits. (3 plus 0)

PSY 2000 Understanding Diversity
This course explores race, gender, sexuality, sexual orientation, socioeconomic class, and systemic influences. Emphasis is placed on the connection among individuals, institutions and cultural groups, and on the relatedness of individuals' race, gender, sexual orientation, and socioeconomic class. Theoretical and philosophical frameworks and research are presented through readings and course materials drawn from education, psychology, sociology, American studies, cultural studies, health sciences and management. 3 credits. (3 plus 0)

PSY 2510 Theories of Counseling
Prerequisite: PSY 1700.
Introduces the historical and professional foundations of counseling as well as provides exposure to the process, skills of counseling and the specialties engaged in the practice of counseling. Specific focus given to the theories of counseling. 3 credits. (3 plus 0)

PSY 2520 Abnormal Psychology
Prerequisite: PSY 1700.
Introduction to the fundamentals of abnormal behavior and the contemporary treatment protocols used for addressing these mental health problems. 3 credits. (3 plus 0)

PSY 2760 Theories of Personality
Prerequisite: PSY 1700.
Introduction to the study of how individuals are influenced by enduring inner factors and the development of personality over the course of a lifetime. Topics include biological trait theories, behavioral and cognitive social theories, and psychodynamic theories. 3 credits. (3 plus 0)

PSY 2780 Social Psychology
Prerequisite: PSY 1700.
A study of how thoughts, feelings, or behaviors of individuals are influenced by the actual, imagined, or implied presence of others. Topics include attitude formation and attitude change, prejudice and discrimination, cooperation and competition, affiliation, interpersonal attraction, aggression and violence, social perception, group influences and environmental influences on social behavior. 3 credits. (3 plus 0)

PSY 2990 Special Topics in Psychology
Prerequisite: PSY 1700
Directed study in a special body of subject matter in psychology. May be repeated for additional credit. Variable credit.

PSY 3510 Bio-psychology
Prerequisite: PSY 1700; BIO 1110
Introduction to the study of mental processes and their effects on behavior. Measurement of biological variables which affect the quantitative or qualitative change of specific psychological or behavioral variables. 3 credits. (3 plus 0)

PSY 3520 Applied Psychology
Prerequisite: PSY 1700
Exploration of the various roles and functions of professional psychologist through an examination of the theoretical and practical applications of careers in psychology. 3 credits. (3 plus 0)

PSY 3530 Sport Psychology
Prerequisite: PSY 1700
Introduction to how psychological factors affect individual and team physical performance. How participation in sport and exercise affect psychological development and health and well-being of the individual. 3 credits. (3 plus 0)

PSY 3730 Aging
Prerequisite: PSY 1700.
Introduction to the process of aging, directed study in biological, psychological, and social factors affecting the elderly. 3 credits. (3 plus 0)

PSY 3750 Interviewing Strategies for Helpers
Prerequisite: PSY 2510
Fundamental interviewing strategies and techniques used to assist others in addressing interpersonal issues. 3 credits. (3 plus 0)

PSY 3770 Assessment in Psychology
Prerequisite: MA 1025.
The basic concepts, terminology, and principles of assessment applicable to human services counseling are considered, with an emphasis on bother written and oral assessment techniques. 3 credits. (3 plus 0)

PSY 3780 Research Methods & Statistics
Prerequisites: PSY 1700; MA 2025 with grade C or better, junior standing.
The principles, methods, and strategies useful in planning, designing, writing, and evaluating research studies in the behavioral sciences. Non-experimental research methods such as naturalistic observation, survey, correlation, field study, program evaluation and experimental research

will be studied. Topics to be covered include background research skills, hypothesis development, research methodology, descriptive statistics (using calculator or computer), and an introduction to probability. Additional topics include research designs, measurements, hypothesis testing, statistical significance, and the analysis of data. The use of computer statistical packages will be introduced. 3 credits. (3 plus 0)

PSY 4200 Senior Seminar in Psychology
Prerequisites: PSY 1750; PSY 3780; senior standing.
Discussion and exploration of current topics in the field of psychology. Specific topics selected for study vary from year to year. An APA formatted research proposal with IRB approval and subsequent presentation is required. Emphasis on allowing students to research areas of specific interest. 3 credits. (3 plus 0)

PSY 4510 Learning and Cognition
Prerequisite: PSY 1700
Contemporary perspectives and ideas about how human beings think and learn. Learning theory will be related to everyday practice through numerous examples which will emphasize meaningful learning and true understanding of the material. 3 credits. (3 plus 0)

PSY 4520 Advanced Abnormal Psychology
Prerequisite: PSY 2520; BIO 1110
This advanced course builds on the student's understanding of abnormal behavior through the exploration of clinical case studies. The student also builds understanding of the diagnostic criteria necessary for labeling a psychological problem. Specific diagnostic features; subtypes and/or specifiers; recording procedures; associated features; specific culture, age and gender features; prevalence; course; familial pattern; and differential diagnosis also addressed. Students also exposed to clinical note preparation and treatment planning skills development. 3 credits. (3 plus 0)

PSY 4530 Health Psychology
Prerequisite: PSY 1700
Surveys the psychological, social and behavioral factors related to physical health promotion and the role psychology plays in fostering positive health practices. The course covers health related topics that include stress and coping; cardiovascular disease; chronic pain management and arthritis; cancer; risky health practices (smoking, substance use) as well as a look at communicable and chronic diseases. Community access to health care systems and health related policies are also addressed. 3 credits. (3 plus 0)

PSY 4540 Forensic Psychology
Prerequisite: PSY 1700; CJ 1100
Introduction to the practice of forensic psychology. Exploration of how forensic psychologists aid the legal system by serving as expert witnesses, criminal profilers, and trial consultants for jury selection and child custody hearings. 3 credits. (3 plus 0)

RECREATION

REC 1200 Introduction to Recreation Service
An overview of recreation services; from governmental, non-profit, and commercial agencies, types of recreation services, and theories related to recreation, play and leisure studies. 3 credits. (3 plus 0)

REC 2000 Recreation Programming
Prerequisite: REC 1200.
A study of the principles and techniques in recreation programming. Includes philosophical foundations, needs assessment, goal and objective writing, program planning, and evaluating methods. Practice in program planning, delivery of leisure service, and leadership techniques. 3 credits. (3 plus 0)

REC 2500 Community and Outdoor Recreation
Prerequisite: REC 1200.
Examines various aspects of community and outdoor recreation including the importance of leisure, fundamentals of outdoor and community recreation, natural resource issues and resource management. 3 credits. (3 plus 0)

REC 2600 Recreation Field Experience
Prerequisite: REC 1200.
One hundred twenty hours of volunteer/work experience in an approved recreation setting. Theory is coordinated with practical experience. 3 credits. (3 plus 0)

REC 3500 Promotion Strategies and Techniques
Prerequisite: REC 2600
This course focuses on developing skills in recreation and leisure service program promotion. Topics include publicity, advertising, program promotion, sponsorships, and fund raising. Practice in creation of promotional materials will be included. 3 credits. (3 plus 0)

REC 4200 Legal Issues in Recreation and Sports
Prerequisite: REC 2600
This course will familiarize students with the legal issues in the recreation and sports fields. They will be introduced to the legal process and current trends in risk management. Negligence, torts, constitutional rights, personnel rights, and standards of care will be addressed along with how to do risk assessments on your facilities to better protect your client, yourself, and your agency. 3 credits. (3 plus 0)

REC 4950 Recreation Internship
Prerequisite: Majority of major courses completed and approval of advisor
A 240-600 hour professional experience in an approved setting related to the field. The specific work setting and type of responsibilities are determined through consultation with the supervising instructor. Work responsibilities should be professional in nature and should not duplicate the REC 2600 practicum. Theory is coordinated with practical experience. Variable credit (6-15 credits)

REC 4990 Special Topics in Recreation
Prerequisite: Permission of the instructor.
Directed study of a subject in the field of recreation. This course may be repeated for additional credit. Variable credit.

RECREATION THERAPY

RT 1200 Foundations of Recreation Therapy
This course explores the philosophy and psychology of recreation as therapy. It introduces students to creation therapy theories, models, terminology, and the psychology of disability issues and how it relates to the field of recreation therapy. 3 credits. (3 plus 0)

RT 2100 Disabling Conditions and Recreation Therapy's Impact
Prerequisite: RT 1200
An exploration of the role of recreation therapy services in the rehabilitation of individuals with a variety of disabilities. Topics include, but are not limited to: discussions on various disorders in the cognitive, psychosocial and affective domains, symptoms and characteristics, etiology, prevalence, and treatment approaches. 3 credits. (3 plus 0)

RT 2600 Recreation Therapy Practicum
Prerequisite: RT 1200
One hundred twenty hours of volunteer/work experience in an approved recreation therapy setting. Theory is coordinated with practical experience. 3 credits. (3 plus 0)

RT 3000 Client Assessment and Evaluation
Prerequisite: RT 1200
An examination of a variety of assessment tools and evaluation techniques commonly used in the field of recreation therapy. Strong focus on goal and objective formation and how these connect to assessment and evaluation. 3 credits. (3 plus 0)

RT 3400 Processes and Techniques
Prerequisite: RT 1200
This course explores the variety of modalities, techniques, and processes used as tools to treat individuals with disabilities in clinical, rehabilitative and community settings. 3 credits. (3 plus 0)

RT 3700 Administration & Management in Recreation Therapy
Prerequisite: RT 2600
Many aspects of management in the RT field such as theory, organizational behavior, financial management and budgeting, and human resource management will be covered in this course. Topics more specific to RT such as group development, working within the healthcare field and with other healthcare professionals, and managing volunteers and interns are included. 3 credits. (3 plus 0)

RT 4200 Advancement of the Profession
Prerequisite: RT 2600
This course will focus on the importance of professionalism, continuing education in the RT field, and advocacy for our clients. It will cover such topics as legislation which affects our clients and our field, certification, professional standards and ethics, and being active in professional associations, and how those topics relate to the advancement of the RT profession. 3 credits. (3 plus 0)

RT 4950 Recreation Therapy Internship
Prerequisite: Majority of courses completed and approval of advisor
A 600-hour professional experience in an approved setting related to the field. The specific work setting and type of responsibilities are determined through consultation with the supervising instructor. Work responsibilities should be professional in nature and should not duplicate the RT 2600 Practicum. Theory is coordinated with practical experience. 600 hour option is required to apply for possible national certification. Variable credit 6-15 credits.

SCIENCE

SCI 2000 Contemporary Issues in Science
Prerequisites: MA 1025; ENG 1250.
An introduction to the fundamentals of science as it applies to various contemporary issues. This course introduces the nature of science and the scientific method, and deals in depth with the nature of sources and evaluation of the credibility of sources. Specific topics may vary, but may include the following: food and energy; organic compounds in everyday life; greenhouse gases; green chemistry; laws of thermodynamics; energy production, transportation, and usage; electricity; fossil fuels; renewable fuels; nuclear energy; alternative energy sources. 3 credits. (3 plus 0)

SOCIAL SCIENCE

SS 1110 American Government
This course introduces the student to the meaning of politics, its relationship to the concept of political power, and its impact upon governmental policy making. The course explores the nature and history of our political system and the various philosophical principles upon which it is based, and discusses national government institutions and the operation of national, state and local governments. 3 credits. (3 plus 0)

SS 2110 Introduction to Anthropology
The place of human beings in nature, with a comparative approach to our physical emergence and cultural evolution, including the development of social systems and technologies, problems arising from the interactions of biological and cultural phenomena. 3 credits. (3 plus 0)

SS 2200 Macroeconomics
Prerequisite: MA 1025 or concurrent enrollment.
A study of the overall economic system with emphasis upon the gross national product, fiscal and monetary policy, the budget and banking. 3 credits. (3 plus 0)

SS 2210 Microeconomics
Prerequisite: MA 1025 or concurrent enrollment.
A study of the economic system. Supply and demand, competition, pricing policies, wage and rent determination, and government regulation. 3 credits. (3 plus 0)

SS 2410 World History
Human cultural development through a historic approach to pivotal periods, ideas, inventions and innovations in the evolution of civilization including regional and planet-wide perspectives. 3 credits. (3 plus 0)

SS 2430 Early United States History
The growth toward democracy in a new nation, and transition from nationalism to sectionalism during the period 1775 through the Civil War. 3 credits. (3 plus 0)

SS 2440 History of Modern America
The Civil War, reconstruction, corruption, reform, industrialization, internationalism, and isolationism from 1865 to the present. 3 credits.(3 plus 0)

SS 2460 African-American History
A survey of African-American history in America from 1619 to the present as seen through art, literature, and the teachings of several prominent black leaders. Through study of the teachings and philosophies of the black leadership, the student will compare the issues of the past with contemporary problems facing the African-American in today's society. 3 credits. (3 plus 0)

SS 2720 Group Dynamics
Psychology of groups; normal and developmental growth; development of leadership styles, emphasis on assessment of group change. 3 credits. (3 plus 0)

SS 2800 Introduction to Sociology
An introduction to the scientific study of human society and social behavior, this course examines sociological theories of human behavior, cultural patterns, and social change. Emphasis upon the influence of social and cultural forces on personal experience and social behavior in reference to the postindustrial society. 3 credits. (3 plus 0)

SS 2810 Social Problems
Prerequisite: SS 2800.
Analysis of problem conditions in modern society in areas such as the family, economic order, crime, civil rights, ethnic and religious tensions, and the environment. 3 credits. (3 plus 0)

SS 2820 Marriage and the Family
Prerequisite: SS 2800
Analysis of problem conditions in modern society in areas such as the family, economic order, crime, civil rights, ethnic, and religious tensions. 3 credits. (3 plus 0)

SS 2830 Applied Social Problems
An introduction to community development, community building, service learning and cultural diversity through an intense volunteer experience, personal reflection, and focused research. 3 credits. (3 plus 0)

SS 2850 Conflict Resolution
Conflict resolution in both personal and professional settings. Why we have conflicts, and on what levels. The course examines ways to analyze conflict and how to develop mutually beneficial resolutions by using a range of conflict resolution methods and techniques. Current and popular theoretical approaches also are examined. 3 credits. (3 plus 0)

SS 2900 Community & Social Movements
Prerequisite: SS 2800.
This course provides a review of community and social movements including historical perspectives. The course will help students connect with community work and social movements established to accomplish social change in our society. An examination of the individual's role as social advocate and effective citizen will be completed. 3 credits. (3 plus 0)

SS 2990 Special Topics in Social Sciences
Prerequisite: Permission of the dean of general studies.
Directed study of a special body of subject matter in the field of social sciences. This course may be repeated for additional credit. Variable credit.

SS 3300 Sport in Society
Prerequisites: PSY 1700; SS 2800.
An examination of the growth of sports and the sports of industry in society. Historical, sociological, and psychological aspects are examined including consideration of sports as a means of social mobility and character building. Problems such as drug usage, scandals within sports, and cheating also are addressed. 3 credits. (3 plus 0)

SS 4990 Special Topics in Social Sciences
Prerequisites: Permission of the dean of general studies.
Directed study in a special body of subject matter in the social sciences. May be repeated for additional credit. Variable credit.

SOFTWARE ENGINEERING

SE 1100 Introduction to Software Engineering/Projects
Prerequisite: Open only to software engineering majors.
Introduction to software engineering draws the distinction between programming and software engineering. Students are introduced to the stages of the software engineering life cycle. Topics such as requirements elicitation, requirements conception, project planning, software quality assurance, testing, and maintenance are emphasized in daily course lectures. These principles are then utilized during projects. The projects will vary in length and will be completed either collectively as a class, in smaller groups, or individually. 3 credits. (3 plus 0)

SE 2100 Software Engineering Project I
Prerequisite: SE 1100.
The software engineering life cycle principles emphasized in SE 1100 are utilized during projects. The projects will vary in length and will be completed both collectively as a class as well as in individual groups. The importance of

customer needs is stressed. This includes but is not limited to comprehensive requirements writing, accurate project planning (leading to timely completion), thorough testing of the product, and delivery. 3 credits. (3 plus 0)

SE 2110 Software Engineering Project II
Prerequisite: SE 2100.
Projects will be completed paying particular attention to Quality Assurance (QA) which covers all activities including design, development, production, installation, servicing and documentation. Other topics include failure testing, statistical control, and total quality control. Introduces current models like Capability Maturity Model Integration (CMMI). 2 credits.

SE 2120 Software Engineering Project III
Prerequisite: SE 2110.
Projects will be completed that focus on platform porting. Case studies will be created to determine which platforms are most effective for the job and when applicable, how to port from one platform to another based on customer needs. 2 credits.

SE 2990 Special Topics
Prerequisite: Permission of program director.
Course of study agreed upon by the student and his or her advisor; intended to extend the breadth of a student's education which may or may not relate directly to software engineering. May be repeated. Variable credit.

SE 3950 Software Engineering Project
Prerequisite: Junior standing in software engineering program.
Projects will be solicited from our industry partners that introduce another level of realism and practical experience. These projects will include proposal writing, project planning, requirements composition, design, test, quality assurance, user documentation, and delivery. 3 credits.

SE 3951 Software Engineering Project
Prerequisite: Junior standing in software engineering program.
A continuation of SE 3950. Projects will be solicited from our industry partners, building on the level of realism and practical experience. These projects will include proposal writing, project planning, requirements composition, design, test, quality assurance, user documentation, and delivery. 5 credits.

SE 4900 SE Project/Directive Studies/Internship
Prerequisite: Senior standing in software engineering program.
This course may be structured in different ways as determined by the program director in consultation with the student. Variable credit.

SE 4950 Software Engineering Internship
Prerequisite: Permission of the program director.
Software Engineering Internship is an opportunity to apply the principles learned in the classroom to the real world. A student's success will be determined by the employer in conjunction with the portfolio maintained throughout the semester. Variable credit.

SE 4990 Special Topics
Prerequisite: Permission of the program director.
Course of study agreed upon by the student and his or her advisor; intended to extend the breadth of a student's education which may or may not relate directly to software engineering. May be repeated. Variable credit.

SPORTS MANAGEMENT

SM 1400 Introduction to Sports Management
Introduction to the management and business principles of sport in profit and nonprofit organizations. Topics covered include career and internship opportunities, ethical considerations, the evolution of this career field, and future trends. 3 credits. (3 plus 0)

SM 2600 Field Experience in Sports Management
Prerequisite: SM 1400.
Actual leadership experience in a sports-related setting. Theory is coordinated with practical experience. 3 credits. (3 plus 0)

SM 2990 Special Topics in Sports Management
Prerequisite: Permission of the dean of the College of Business.
Directed study of a special body of subject matter in the field of sports management. This course may be repeated for additional credit. Variable credit.

SM 3100 Sport Facility & Event Management
Prerequisites: SM 2600 or REC 2600.
This course focuses on planning, maintaining, and managing single and multi-purpose sport/recreational facilities and associated sporting events. Students will become familiar with management techniques and strategies necessary for proper event promotion, implementation, and evaluation. Emphasis is placed on the relationship between facility design and event success/failure. 3 credits. (3 plus 0)

SM 4200 Marketing Promotion & Fundraising in Sports Administration
Prerequisite: BA 2500; SM 2600.
The characteristics of sports marketing, promotional planning, and fundraising. The course focuses upon the planning processes required for effective promotions and marketing campaigns and establishes guidelines and strategies for fundraising. 3 credits. (3 plus 0)

SM 4950 Sports Management Internship
Prerequisite: SM 2600.
Professional experience in a setting related to the field. The specific work setting and type of responsibilities are determined through consultation with the supervising instructor. Work responsibilities should be professional in nature and should not duplicate the SM 2600 Field Experience. Approved elective(s) may be substituted for this class. Theory is coordinated with practical experience. Variable credit with administrative approval.

GRADUATE COURSE DESCRIPTIONS

Contents

Graduate Course Descriptions

HEALTH CARE MANAGEMENT

HCM 5000 Introduction to Health Care Management
Prerequisite: Core Courses.
Focuses on the health care system of the United States. The student will explore the characteristics that make this system unique and complex. Students will be introduced to the evolution, financing, and administration of a variety of health care organizations. 3 credits.

HCM 5300 Health Care Law
Prerequisite: HCM 5000.
Students will gain an understanding of the basic laws that govern health care and how they affect the delivery of health care services. Topics will include reimbursement law, malpractice, liability, HIPPA, patient/provider relationships, quality-of-life decision making, and licensure. 3 credits.

HCM 6200 Health Care Operations & Quality
Prerequisite: HCM 5000.
Students will be introduced to the quality concepts that help improve operational processes that are part of the health care delivery system. Students will analyze different types of health care organizations to develop recommendations for improvement. 3 credits.

HCM 6300 Health Care Policy & Ethics
Prerequisite: HCM 5000.
Students will examine public policy making in the health care sector. Students will learn the guiding principles of policy formulation and analysis and apply them to a range of health care issues. In addition, the course will focus on the major ethical issues facing health care providers, payers, and patients. 3 credits.

HCM 6400 Health Care Finance
Prerequisite: HCM 5000.
Provides an overview of the techniques used in the financial management of health care organizations. Topics will include sources of health care funding, third party payment or reimbursement, the implications of uninsured patients, budgeting, and capital asset evaluation. 3 credits.

MASTER OF BUSINESS ADMINISTRATION

MBA 5000 Executive Management
Prerequisite: First course in the program.
A study of the executive management function in organizations. Emphasis will be given to the expectations of executive-level managers, including leadership, motivation, strategic thinking, and tools such as research skills, technological competence, and time management. 3 credits.

MBA 5110 Management Information Systems
A study of information flows and information needs within organizations and technological responses to those needs. Attention will be given to the information needs of the full range of organizations from the very small firm, whose needs may be met with office suite software, to the largest multi-site organizations, which maintain information Intranets. Topics covered will include: business processes, data resources, information systems hardware and software, telecommunications, electronic enterprise, systems design. 3 credits.

MBA 5120 Managerial Economics
Prerequisite: MBA 5210.
A review of economic tools in managerial decision-making. Demand analysis and forecasting, cost analysis, production function, market structures, and public sector analysis are covered. 3 credits.

MBA 5130 Managerial Accounting
Prerequisite: MBA 5000 or MSE 5000, for non-MBA accounting majors only.
A study of accounting data used internally by business managers in directing the activities of manufacturing and service organizations. Topics include cost accumulation, budgeting, pricing, and the use of this information in the planning, control, and decision making activities. 3 credits.

MBA 5200 Financial Management
Prerequisite: MBA 5130.
A study of the business organization's financial planning, problems of working capital management, capital budgeting, dividend policy, and comprehensive problems. 3 credits.

MBA 5210 Business Statistics
Prerequisite: MBA 5000 or MSE 5000.
The application of mathematical and basic statistical methods to decision-making in all organizations. A computer software package will be used as a comprehensive hands-on reference tool to analyze data and to present findings. 3 credits.

MBA 5220 Marketing Management
Prerequisite: MBA 5000 or MSE 5000.
A study of strategic market analysis and planning. Specific emphasis will be given to market situation analysis, strategy and program development, and implementation and control of a marketing plan. 3 credits.

MBA 5300 Organizational Behavior
Prerequisite: MBA 5000.
A study of behavior in corporate and organizational settings, including motivation, leadership, communication and power. Understanding contextual and environmental issues will be emphasized. Current and popular theoretical approaches will be examined. 3 credits.

MBA 5310 Business Ethics
In this course students learn about the complex responsibilities facing business leaders today. Through cases about difficult managerial decisions, the course examines the legal, ethical and economic responsibility of corporate leaders. It also teaches students about management and governance systems leaders can use to promote responsible conduct by companies and their employees, and shows how personal values can play a critical role in effective leadership. 3 credits.

Graduate Course Descriptions

MBA 5320 Quality Management
Prerequisite: MBA 5000.
An integrated study in the design and implementation of quality management tools including relevant problem-solving methods and behavioral models from a process-oriented perspective. 3 credits.

MBA 5330 Business Law
Prerequisite: MBA 5000.
This course examines business law from the perspective of the professional (non-legal) manager. The course examines fundamental legal concepts and terminology, providing a basic foundation in civil procedure, and furnishing a substantive analysis of business torts, product liability, negligence, contract law, commercial law and the Uniform Commercial Code (UCC), debtor/creditor law, bankruptcy law, administrative law, alternative dispute resolution, and the litigation process. 3 credits.

MBA 5340 Operations Management
Prerequisites: MBA 5000; MBA 5210.
This course examines the tools and techniques used by operations managers to make strategic and tactical decisions for their organizations. This course also focuses on the design, management, and improvement of operations activities for the production of goods and services. 3 credits.

MBA 5600 Human Resource Management
Prerequisite: MBA 5000.
A study of the following key areas of HR: management practices, selection and placement, training and development, compensation and benefits, employee and labor relations, health/safety and security, and international HR issues. The Society for Human Resource Management (SHRM) Learning System will be utilized to facilitate the learning process required in the key HR areas. 3 credits.

MBA 6200 Performance Management
Prerequisite: MBA 5000.
This course is a study in performance management as a continuous process of identifying, measuring, and developing the performance of individuals and teams and aligning performance with the strategic goals of the organization. Performance management systems are described as key tools to transform people's talent and motivation into a strategic organizational advantage. In addition, performance management is discussed as an integral part of all organizational units and not the domain of the HR function only. 3 credits.

MBA 6210 Labor Relations
Prerequisite: MBA 5600.
This course is a study of industrial relations and the labor-management relations function of the modern work organization. The course examines problems, strategies, and policies of management interactions with formal and informal labor organizations. Labor legislation, collective bargaining, productivity analysis, and arbitration are stressed, with emphasis on negotiating strategies and techniques. Some time is also devoted to alternative dispute resolution as well as current trends in the labor movement. 3 credits.

MBA 6220 Compensation Management
Prerequisite: MBA 5600.
This course is a study of the strategic approach for motivating human performance in organizations through a total compensation system. The focus of the course will be on a blending of compensation management theory and trends with specific strategies regarding creating a corporate compensation system. Theoretical models from economics, psychology, and sociology are integrated in analyses of issues of wage structuring, the design of incentives, and wage level. Practical exercises in the design of compensation systems are employed. 3 credits.

MBA 6310 Project Management
Prerequisites: MBA or MSE 5000; MBA 5120; MBA 5200.
A study of effective project planning and management. Topics covered include: project goals and objectives, feasibility study including estimation of completion times and costs, evaluation and review, incentives, and quantitative analysis. Case studies and project management software will be used extensively. 3 credits.

MBA 6400 International Marketing
Prerequisite: MBA 5220.
This course focuses upon the four decision areas of marketing: product decisions, pricing decisions, promotion decisions, and distribution decisions in a global context. Emphasis will be placed upon a whole-strategy approach to entering global markets. The mechanics of import/export will also be addressed. 3 credits.

MBA 6420 Marketing Research
Prerequisite: MBA 5220.
A study of the generation, organization, interpretation, and use of marketing Information in the business enterprise. The strategic role of marketing information is emphasized. Topics covered include: sources of information, research design and implementation, hypothesis testing, and problem-solving/decision-making. 3 credits.

MBA 6430 Professional Selling & Sales Force Management
Prerequisite: MBA 5220.
An exploration of the knowledge, tactics and strategies for building and sustaining a contemporary sales organization. This study enables students to develop personal selling skills as well as the knowledge for managing a sales force. The management issues discussed in this course include hiring, training, and motivating salespersons as well as sales forecasting, planning and sales force organization. 3 credits.

MBA 6440 Advertising & Promotion Management
Prerequisite: MBA 5220.
Companies of all sizes face challenging decisions on how to reach prospects and retain their current customer base. The ever-changing economy, predicting and meeting consumer demands, the growth of ethnic markets, emerging technologies and the changing demographics are issues that companies face when advertising and promot-

ing their product. Prior knowledge in market research will enable you to implement the key advertising principles and practices while providing you with the knowledge on how IMC (integrated marketing communication) plays a critical role in building customer relationships and brands. 3 credits.

MBA 6490 Special Topics in Marketing
Prerequisite: MBA 5220.
Directed study of a special body of subject matter in the field of marketing. 3 credits. This course may be repeated for additional credit.

MBA 6500 Small Business Management
Prerequisites: MBA 5200; MBA 5220.
A study of the smaller business enterprise and the special management issues and challenges faced by the proprietor/entrepreneur. Emphasis will be given to problem-solving and decision-making in the major functional areas common to small enterprises. Case studies will be used. 3 credits.

MBA 6600 Employment Law
Prerequisite: MBA 5600.
A review of the major regulatory influences that affect human resource management. The regulatory focus will include civil rights, compensation and benefits, employee health and safety, along with labor relations legislation. 3 credits.

MBA 6610 Seminar in Human Resources
Students will attend the National Convention for the Society of Human Resource Management (SHRM). This course is a capstone event that requires professional membership in the SHRM and the opportunity to become professionally certified. Most issues addressed at the conference will be globally related and will include: sexual harassment, compensation planning, disabilities, flexible workplaces, global education, legal perspectives, along with approximately 100 other topics. In addition, the networking and the trade show are spectacular conference events. 3 credits.

MBA 6690 Special Topics in Human Resources
Prerequisite: MBA 5600.
Directed study of a special body of subject matter in the field of human resources. 3 credits. This course may be repeated for additional credit.

MBA 6700 E-Business Technology
Prerequisite: MBA 5110.
This course gives an overview of the technologies relevant to electronic business including strategic planning issues such as operating systems, networking, enterprise resource planning, supply chain management, computer security, electronic transaction processing, and other e-business issues. After completing this course, students should be able to understand the functions of the technologies that support e-business. 3 credits.

MBA 6800 Accounting Automation
Prerequisite: MBA 5130 or MBA accounting major.
The objectives of this course are: (1) to present and integrate accounting principles in such a way that no prior knowledge of computerized accounting is required; (2) to provide a hands-on approach to learning how modern computerized automated accounting systems function; and (3) to provide knowledge and hands-on experience in integrating accounting with other business applications such as spreadsheets and word processors. 3 credits.

MBA 6810 Communication for Accountants
Prerequisite: MBA 5130 or MBA accounting major.
This course is designed for MBA accounting majors to acquire and practice the skills for effective CPA/client communications and to apply these skills during the written portions of the computer-based CPA exam. Emphasis will be placed on AICPA criteria of coherent organization, conciseness, clarity, responsiveness to questions, appropriateness to readers, and use of Standard English. Assignments will include CPA/client communications such as Letters of Engagement, communicating results of accounting reviews, accounting opinions, and notes to financial statements. 3 credits.

MBA 6820 Fraud Examination
Prerequisite: MBA 5130 or MBA accounting major.
This course will emphasize the conduct of fraud examinations, including a discussion of specific procedures used in forensic accounting examinations and the reasoning behind the use of these procedures. Detection, investigation, and prevention of specific types of fraud committed against organizations and individuals. 3 credits.

MBA 6860 Becker Review
Prerequisite: At least 36 credits.
Becker Review - A four-part review course designed to prepare the student to sit for the online CPA Exam. Content: 1) Financial Accounting and Reporting: covers general accounting concepts tested in this part of the CPA Exam, including GAAP (Generally Accepted Accounting Principles) for business enterprises, not-for-profit organizations, and governmental entities. Addresses the necessary application skills. 2) Auditing and Attestation: Covers auditing practices and the required attestation as tested on this part of the CPA Exam. Includes auditing procedures, GAAS (Generally Accepted Auditing Standards), and other related attest engagements. Addresses the skills needed for application, thus moving from theory to practice. 3) Business Environment and Concepts: Covers general business related topics as tested in this part of the CPA Exam, including knowledge of general business environment and business concepts that candidates must know in order to understand the underlying business reasons for and accounting implications of business transactions. Addresses the skills needed to apply that knowledge. 4) Regulation: Covers regulatory issues, including federal taxation, ethics, professional and legal responsibilities, and business law. Addresses essential skills needed to apply this knowledge. 6 credits.

Graduate Course Descriptions

MBA 7000 Business Policy & Strategy
Prerequisite: At least 36 credits, core courses, MBA 5200.
Enrollment requires advisor's approval. A review of the applied research for managerial planning decisions and actions that assist in determining the long-run performance of organizations. Emphasis is placed on the process of strategy formulation, implementation, evaluation, and control for organizations of all sizes. 3 credits.

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

MSE 5000 Introduction to Engineering Management
An overview of the field of engineering management including, technical, management and integrated issues. Tools helpful throughout the program, such as research skills, will be introduced. The first course in the program. 3 credits.

MSE 6010 Environmental Health & Safety
Prerequisite: MBA 5000 or MSE 5000.
An introduction to the state and federal regulations for safety and environmental compliance. This course also covers ISO standards for environmental health and safety. Students will learn to identify how standards apply to various industries and will apply these skills in performing an audit to determine whether operations conform to the standards. 3 credits.

MSE 6020 Designing for Lean Manufacturing
Prerequisite: MBA 5000 or MSE 5000.
A study of the principles and practices necessary to establish/maintain a lean operation. Concepts covered include: theory of constraints, Takt time, pull systems, lean accounting, value stream mapping, waste free manufacturing, workplace organization, quick change-over, just-in-time, and mistake-proofing. Through hands-on exercises, students will learn to apply these concepts in real-world situations. 3 credits.

MSE 6030 Enterprise Resource Planning
Prerequisite: MBA 5000 or MSE 5000.
Explores the relationship of existing and emerging processes and technologies to manufacturing strategy and supply chain-related functions. This course addresses: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change. Concepts include supplier relationship management (SRM), strategic sourcing, throughput supply chain measurements such as inventory dollar days and throughput dollar days, product life cycle management (PLM), and customer relationship management (CRM). 3 credits.

MSE 6040 Computer Integrated Manufacturing
Prerequisite: MBA 5000 or MSE 5000
Integration of facilities (machines tools, robotics) and the automation protocols required in the implementation of computer integrated manufacturing are studied. Specific concepts will include concurrent engineering, rapid prototyping, inter-faces between computer-aided design (CAD) and computer-aided manufacturing systems (CAM), and control of manufacturing systems: numerical control (NC) and computer numerical control (CNC); programmable logic controller (PLC); computer aided process planning (CAPP) and manufacturing scheduling. 3 credits.

MSE 6050 Statistical Methods in Quality Assurance
Prerequisite: MBA 5000 or MSE 5000.
The quantitative aspects of quality are studied, such as control charts, process capability, reliability, and design of experiments. 3 credits.

MSE 6060 Legal Implications for Engineering Managers
Prerequisite: MBA 5000 or MSE 5000.
A study of patent law, product liability, labor law and other legislation relevant to the engineering discipline. 3 credits.

MSE 7000 Advanced Topics in Engineering Management
Integrates the elements of engineering management in a capstone, project-based environment. Last course of the program. 3 credits.

MASTER OF SCIENCE IN MANAGEMENT

MSM 5100 Qualitative Decision-Making
Prerequisite: MBA 5000.
This course will aid the student in using qualitative methods to identify the root cause of problems in business, evaluate alternative responses to these problems, and propose solutions. Emphasis is placed on the application of qualitative research methods to specific business problems and managerial decision-making. The course introduces methods that will be used to collect and interpret data for the applied management project capstone course (e.g., surveying, interviewing, and conducting focus groups). 3 credits.

MSM 5125 Accounting & Finance for Managers
Prerequisite: MBA 5000.
The course touches on the planning and control responsibility of managers and surveys the acquisition, analysis, and reporting of accounting information. The course also focuses on impact of financial data on effective management decision-making. The links between finance and strategic planning and implications for the overall health and success of the organization are explored. 3 credits.

MSM 5350 Customer Relationship Management
Prerequisite: MBA 5000.
Students will analyze organizations to develop effective strategies for customer relationship management. Students will evaluate customer touch points to improve customer service and build customer loyalty. Students will develop models to identify and measure individual perceptions to determine real customer needs. 3 credits.

MSM 5400 Negotiation Skills
Prerequisite: MBA 5000.
Introduces the process of mutual gain by developing long-term relationships with negotiation partners. It will

concentrate on strategies that are successful in business and will cover topics such as: separating the problem from the person, invention of options, and best alternatives. The course will utilize exercises and simulations. 3 credits.

MSM 6400 Managing Change
Prerequisite: MBA 5000.
This course examines the role of change in organizations. A theoretical background in organization development will be introduced in tandem with practical skills and knowledge of change management. Students will define change, analyze factors that affect change, and learn how to effectively facilitate change in their organizations. 3 credits.

MSM 7200 Applied Management Project
Prerequisites: MSM 5100; MSM 5125; MSM 6400.
This reality-based capstone course requires the student to synthesize and integrate the theoretical and practical knowledge that has been learned from prerequisite courses in the MSM curriculum. The completion of this course includes one of two tracks: an applied company project or an academic "mini-thesis." Students will design and implement projects that focus on real-world problems. Students may work on problems within their own companies, organizations to which they belong, or organizations with which the university has a relationship (e.g., alumni companies). As a second option, the student may choose an academic "mini-thesis." The instructor must approve the subject matter of the project. 3 credits.

MASTER OF SCIENCE IN ORGANIZATIONAL LEADERSHIP

MSOL 5000 Leadership Styles & Development
This course provides a comprehensive analysis of major leadership theories and models. This exploration and assessment of personal leadership style and leadership dimensions leads to a final course outcome of a leadership journey assessment and action plan for each student. 3 credits.

MSOL 5400 Building Organizational Change
Achieving excellence in a variety of mission-critical dimensions in critical for all organizations in today's competitive global economy. A comprehensive review of well researched theories and practitioner models are presented in this course including issues related to knowledge management, quality management, innovation management and the development of high performing teams and cultures. The impact of positive psychology on organizational excellence and a global perspective are also explored. 3 credits.

MSOL 5500 Financial Concepts for Leaders
This course provides an overview of the financial concepts that are necessary for responsible fiscal management of an organization. This course also focuses on impact of financial data on effective management and decision-making. The links between finance and strategic planning and implications for overall health and success of the organization are explored. 3 credits.

MSOL 6600 Leadership Problem Analysis and Decision Making
Research indicates the daily activities of leaders and managers focuses largely on problem analysis and decision making. This course provides a thorough understanding of the fundamental models, tactics and tools of this critical leadership competency. Core topics include critical thinking, problem analysis and decision support tools and techniques, and the basics of project management. The role of the leader in group decision making, conflict resolution and negotiation strategy is also reviewed. 3 credits.

MSOL 6700 Developing Human Capital
Contemporary management literature emphasizes the importance of human capital as organizations strive to create a competitive advantage in today's knowledge and service economies. This course provides an in-depth review of models and strategies of human capital development including integrated talent management, individual and management development and competency modeling. Strategic human resources and a global perspective on human capital development are also examined. 3 credits.

MSOL 6800 Leading Strategy-Analysis, Planning, and Implementation
Prerequisites: MSOL 5400, MSOL 6700.
An organization is able to compete more effectively when there is a shared understanding among the leaders and team members regarding the strategic direction and the requirements needed to achieve organizational goals. This course provides a comprehensive understanding of various theoretical perspectives on strategy and strategic planning as well as practitioner models used in organizations. The critical role of the leader in the strategic planning process is also evaluated. 3 credits.

MSOL 7400 Leadership Project I
Prerequisites: MSOL 5400, MSOL 6700.
This is the first course in a three-course capstone sequence. This sequence of courses provides students with an opportunity to explore organizational issues in-depth through original research and communicate results in a graduate level environment. In this first course, having the theoretical and practical knowledge learned throughout the organizational leadership curriculum, students will develop the initial sections of the project (Abstract, Introduction, and Review of Related Literature). This course should be taken in the last half of the program. 3 credits.

MSOL 7500 Leadership Project II
Prerequisites: MSOL 7400.
This is the second course in a three-course sequence and is a continuation of MSOL 7400. Students will go through the IRB (Institutional Review Board) process and add the Design & Methodology section to the project started in the previous course. 3 credits.

MSOL 7600 Leadership Project III
Prerequisites: MSOL 7500.
This is the third course in a three-course sequence and is a continuation of MSOL 7500. Students will complete the project by adding the Findings, Conclusions, and Recommendations sections. 3 credits.

PH.D. IN GLOBAL LEADERSHIP

HEA 7001 Theories & Research in Academic Leadership
Critically analyze theories, research and best practices about academic leadership and culture employed by individuals and organizations in higher education in the United States and globally. How culture, national and international politics, and institutional mission inform higher education leadership is examined. Mission, vision and function of public, private, not for profit and for profit colleges and universities; leadership roles; governance functions including shared governance; union and non-union organizations; relationships with internal and external constituencies; problems of practice and power will be analyzed. 3 credits.

HEA 7002 Higher Education Policy & Accountability
Policy and issues in higher education. Analysis of public expectations of higher education including accountability for student learning and transparency of operating functions. Contemporary public policy issues such as access, affordability, affirmative action, funding for scientific research are analyzed. Practices in accreditation, relationships among institutions to maximize opportunities for students and to provide diverse experiences in order to be prepared to enter the global society, and strategies to adapt to expanding reporting requirements will be compared and critically analyzed to determine best practices. 3 credits.

HEA 7003 Legal Issues in Higher Education
Higher education legal processes, rights, responsibilities, duties and liabilities of faculty, administrators, and students within the context of higher education. Topics such as academic freedom, affirmative action, free speech, disability rights and access/use of electronically accessed information will be analyzed. Studies from constitutional, statutory, and case law will be addressed. 3 credits.

HEA 7004 Higher Education Finance & Resource Management
The acquisition and allocation of funds and resources in higher education are studied. Sources and methods of securing and managing funds. Design and leadership of budgeting processes to address the institution's strategic planning processes and linkage to mission and purposes. Financial formulas to determine institutional viability. Strategies to manage physical, technology, human, and financial resources to assure continuity. 3 credits.

HEA 7005 Comparative Higher Education
Comparative study of current trends in higher education in the United States and globally including curricular models, delivery methods, cultural influences and implications; global institutional partnerships; governmental involvement, accountability and reporting requirements. 3 credits.

HEA 7006 The Contemporary College Student
Intellectual, social, psychological, and cultural contexts of the student experience. Leadership role in meeting student and societal expectations for integrated learning and social experiences. Providing appropriate and high quality experiences to students of varying abilities, needs and expectations. 3 credits.

LDS 7001 Leadership Theory & Research
A foundational course in the critical analysis of seminal theoretical and empirical leadership theories, research and best practices. The concepts and dimensions of leadership are evaluated from the early trait and behavioral theories to the more recent theories which emphasize transformational and servant leadership models. Ethics and morality in leadership decision-making and case studies that examine emerging leadership situations are also analyzed. 3 credits.

LDS 7002 Leading in a Time of Change
Literature and best practices related to the emerging roles of the leader as an agent of change are examined. Theories and models of change management are evaluated including organizational learning, organizational development, appreciative inquiry, sense-making and contingency approaches. Also examined are forces for change, diagnosis for change, visioning, resistance to change, the recipients of change, and consolidating change. 3 credits.

LDS 7003 Communications in Global & Diverse Contexts
Communications literature and best practices are analyzed to understand and maximize human interaction in global and diverse contexts. Effective communication for various leadership roles is examined including interpersonal, small group, organizational, and public situations. Skills to develop intercultural competence and evaluating communication barriers that prevent the understanding of a leader's message are explored. 3 credits.

LDS 7004 Ethics, Governance & Social Responsibility
Ethical theories and research are examined, along with professional codes of conduct and best practices for effective ethical leadership in global organizations. A review of recurring ethical dilemmas results in the development of a personal code of ethics appropriate for global leadership. The literature and best practices related to the leader's role in promoting effective governance for a healthy organization along with social responsibility and sustainable development are examined. 3 credits.

LDS 7005 Global Leadership Development
From a global perspective, leadership development models are analyzed with a focus on organizational and individual outcomes. Leadership development practices are evaluated as they relate to and impact the development of intellectual capital, organizational innovation, talent management, succession planning and executive selection criteria. Leadership development programs for expatriates

and effective modes of leadership development for different countries and cultures are analyzed. 3 credits.

LDS 7006 Developing Human Capital
Classic and recent research, models and best practices for the development of human capital are examined. Approaches to linking organizational strategy, culture, and human resources practices are evaluated with an emphasis on talent development and the use of human capital to create a competitive advantage. Processes to develop and measure individual and team performance are examined. The unique challenges of leading project, virtual and remote teams are analyzed. 3 credits.

LDS 7007 Global Strategic Leadership
Literature and best practices in the development of strategic initiatives are analyzed with the goal of achieving competitive advantage in the global marketplace. Qualities of strategic leadership and strategic processes are examined including strategy formation, tactical planning and decision-making throughout the organization, as well as pro-activity in addressing environmental challenges and cultural differences. Also analyzed are systems-thinking, "Best-in-Class" benchmarking and partnerships, and employee empowerment. 3 credits.

OLM 7001 Organizational Behavior & Culture
Critical analysis of theories, research, and best managerial practices which impact human behavior in organizational, national and global contexts. The study of how culture informs and shapes all aspects of behavior and communication is emphasized. With a focus on achieving long-term, high quality performance and highly engaged associates, the key dimensions of rapidly changing organizations and transnational organizations are examined including the psychology of individual differences, motivation, groups and interpersonal influence, and emerging complex organizational structures and processes. 3 credits.

OLM 7002 Marketing Theory & Research
Critical analysis of foundational marketing theories and research including marketing mix, consumer behavior, direct marketing, brand management, and marketing communications in economic and behavioral contexts. Also analyzed are emerging theories for 21st century marketing including international marketing, services marketing, social marketing, global marketing, and e-marketing. Research activities are examined such as data gathering and analysis of qualitative and quantitative information to drive marketing strategies. Contemporary issues and challenges impacting the future of marketing are examined in terms of their influence on marketing management functions. 3 credits.

OLM 7003 Service Science Management & Development
During the last twenty years most industrial and manufacturing economies have evolved into service and information-based economies. To advance this transformation within organizations a new, interdisciplinary field of "service science" has emerged that combines the relevant knowledge of science, business and technology. The literature and best practices of this emerging field are analyzed including the nature of service systems and their development, the management of systematic transformation, and strategic service management planning. A key dimension of service science to be examined is service innovation that will increase productivity and efficiencies, will grow revenues by developing new services, and will improve the service experience to increase customer loyalty and market share. 3 credits.

OLM 7004 Managing Innovation & the Learning Organization
Critical analysis of theoretical and empirical literature, and best practices about managing innovation and the learning organization. The key transformational role of technology and its impact on emerging core organizational learning capabilities are emphasized. Collaborative work environments, diffusion of innovation, systems thinking, and the technology adoption cycle are examined as means to improve organizational capabilities and managerial competencies required to promote innovation and a learning organization. The cultural structures and processes of a learning organization are explored. 3 credits

OLM 7005 Managing for Financial Performance & Accountability
Critical analysis of theoretical and empirical literature, and best practices for managing private and public organizations to achieve financial accountability and financial performance. Accounting as a managerial tool for assessment of business strategy and tactical implementation are examined. Principles of financial management focusing on the development and use of budgets for planning and control, demonstrating accountability, and establishing priorities within an organization are analyzed. The use of financial data to lead decision-making, links between finance and strategic planning, and Sarbanes-Oxley are explored. Creating shareholder value is analyzed, along with links to customer loyalty. Cash flow management, international financial reporting and consolidations employing currency conversions, and the standards of ethical behavior in various countries are examined. 3 credits.

OLM 7006 Strategic Development of Multinational Organizations
Critically analyze theoretical and empirical literature, and best practices of the strategic management processes for multinational organizations. Foundational concepts for competitive analysis and both short and long-term competitive success are examined including barriers to effective strategic management, Porter's competitive advantages system, and multinational strategic management development. The emerging literature and best practices of value chain analysis, supply chain management, and the global context of organizational sustainability are reviewed to provide recommendations to create and strengthen the organization's competitive advantage and to sustain superior performance. The structure, reporting responsibilities and centralized/decentralized strengths and weaknesses of a multinational organization are explored. 3 credits.

Graduate Course Descriptions

RES 7000 Introduction to Research Methods
This course emphasizes basic principles and techniques employed in social and behavior science research methods. More specifically, students will review a variety of research methods and will be introduced to the basics of research design. This course will discuss sampling techniques, descriptive, inferential statistics, and basics of testing hypothesis. Students will practice formulating research questions and hypotheses; and interpreting and critiquing statistical results found in peer-reviewed empirical studies. Students will also be able to practice using SPSS. 3 credits.

RES 7011 Research Critique
Prerequisites: RES 7000
This course helps enhance students' skills in conceptual argument construction and research analysis. Students will review empirical studies in global leadership and critically evaluate structure, effectiveness, logic and flow of arguments. Students will also examine research purpose, effective hypothesis construction, variables, and research methods. The course will use qualitative and quantitative peer-reviewed articles for research critique. In addition, students will learn about basic and applied natures of research. Finally, students will practice writing research proposals to reflect the applied nature of global leadership scholarship. 3 credits.

RES 7012 Research Design
Prerequisites: RES 7000, 7011
The purpose of this course is to advance students' understanding of theory formation and provide students with skills to design effective research in applied settings. The course will examine selection and application of different qualitative and quantitative methodologies for conducting research. It will also evaluate effective research based on connection between methods, data, and arguments. Students will be required to develop a research proposal for an applied project to convert challenges faced by global leaders into research questions or hypotheses and design an applied study that addresses them. 3 credits.

RES 7013 Quantitative Methods In Research
Prerequisites: RES 7000, RES 7011, RES 7012
This course focuses on the application of quantitative research methods. It presumes basic knowledge of the research process and familiarity with quantitative studies in the field of global leadership. Students will use SPSS software application to analyze bivariate and multivariate parametric and non-parametric statistics, and will interpret and report results in a series of exercises. The course will introduce general purpose and description of the factor analysis; and general purpose of the structural equation modeling. Students will evaluate peer-reviewed research articles, apply course content to design a research proposal, and conduct a pilot student to answer research questions or test hypotheses. 3 credits.

RES 7014 Qualitative Methods In Research
Prerequisites: RES 7000, RES 7011, RES 7012
The course is designed to provide students with more in-depth understanding of naturalistic, qualitative research methods. Students will review philosophical assumptions underlying qualitative paradigms and will learn about design, purposeful sampling, field work, and data collection methods. Course will introduce students to current data analysis techniques and computer software used to analyze qualitative data. Throughout the course, students will read and critically evaluate peer-reviewed qualitative studies. Students will also gain first-hand experience in the qualitative research process by designing and conducting a study, analyzing and interpreting their data, and writing and presenting a report on their findings. 3 credits.

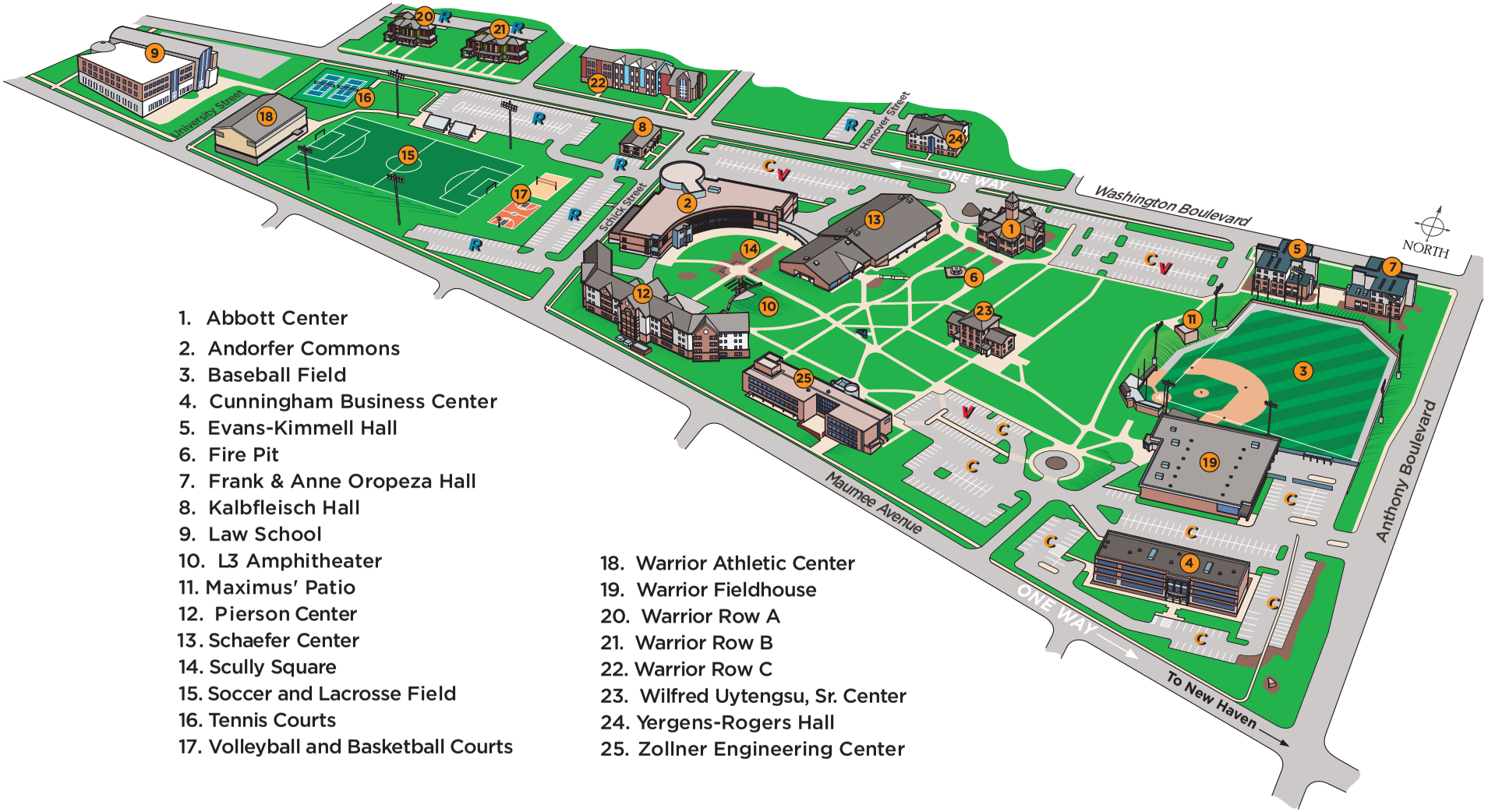
RES 7015 Global Leadership Research
Prerequisites: RES 7000, RES 7011, RES 7012
The purpose of this course is to examine a development of leadership theory in different cultures and to learn about nuances of conducting international studies. Such topics as working with an international sample; collaborating with international scholars; cultural philosophical assumptions and frames of reference and their influence on theory development; challenges with a concept translation; publication standards in international scholarly outlets are among a few topics examined in the course. This course will also enable students to evaluate generalizability of research finds in Western leadership studies. Finally, students will analyze leadership students published by scholars from Asia, Eastern Europe, Latin America. Africa, and Middle East. Applications for theory development as well as for leadership development will be discussed. 3 credits.

RES 8001 Dissertation Research Seminar & Prospectus
The primary focus of this course is on helping students narrow their research interests and develop a Research Brief that identities a gap in the global leadership scholarship and suggests a specific research area for further investigation. Students will also discuss potential research designs for their projects, develop research questions or hypotheses, work on operationalization of their variables, and formulate practical applications of their research. The course will address both the philosophical and methodological issues of students' projects. Ethical and diversity issues (protection of human subjects, cultural and language issues) will be considered. Students with approved Research Briefs will start working on their Research Prospectus. The second goal of the course is to evaluate students' progress in the program and assess their readiness as scholars to conduct an independent research project (their dissertation). Hence, students will conclude the course with the Global Leadership Paper where they explore several original topics suggested by the course professor. 3 credits.

RES 8002 Dissertation Proposal Development, Defense, & IRB Application
Used during continuation of work on the dissertation, this course is necessary to comply with the continuous registration requirement of the degree program. The course serves two purposes: (1) Students that made sufficient progress in RES 8001 but did not complete the prospectus (2) Students that passed RES 8001, enroll in RES 8002 in the dissertation chair's section, form a dis-

sertation committee, develop the dissertation proposal, successfully defend the dissertation proposal before the dissertation committee, and submit an IRB application. A dissertation proposal includes completed first three chapters of the dissertation, and relevant front and back matter. The IRB application, which includes the Research Protocol, certifications and signatures, and curriculum vitae of the principal investigator, is submitted to the Institutional Review Board for Human Subjects (IRB). 3 credits.

RES 8003 Dissertation Implementation
Prerequisite: RES 8001 (P Grade); RES 8002 (submitted IRB application).
Used during continuation of work on the dissertation, this course is necessary to comply with the continuous registration requirement of the degree program. Students register in the section of their dissertation chair. RES 8003 is for students that have successfully defended the dissertation proposal, and are at any of the following stages: revising the IRB application; received IRB approval; approval by Dissertation Chair to implement the study; data collection; completed data collection; developing Chapters 4 or 5; finalizing the written dissertation, preparing for the dissertation defense. Students must maintain compliance with all IRB policies during implementation and notify the IRB of data collection completion. In order to receive a passing grade (P) with each enrollment in RES 8003, students must demonstrate sufficient progress toward completion of the dissertation. A maximum of 6 terms of RES 8003 may be taken. Grading is the responsibility of the Dissertation Committee Chair and is Pass (P)/Fail (F) or No Pass (NP). (1 credit minimum, up to a maximum of 6 credits)



1. Abbott Center
2. Andorfer Commons
3. Baseball Field
4. Cunningham Business Center
5. Evans-Kimmell Hall
6. Fire Pit
7. Frank & Anne Oropeza Hall
8. Kalbfleisch Hall
9. Law School
10. L3 Amphitheater
11. Maximus' Patio
12. Pierson Center
13. Schaefer Center
14. Scully Square
15. Soccer and Lacrosse Field
16. Tennis Courts
17. Volleyball and Basketball Courts
18. Warrior Athletic Center
19. Warrior Fieldhouse
20. Warrior Row A
21. Warrior Row B
22. Warrior Row C
23. Wilfred Uytengsu, Sr. Center
24. Yergens-Rogers Hall
25. Zollner Engineering Center

R – Residential Permit Parking Areas
C – Commuter Permit Parking Areas
V – Visitor Parking

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