THE BIG ORANGE BOOK

Indiana Tech Academic Catalog

2007–2008

INDIANA**TECH**

Raise Your Expectations.

INDIANA TECH

Office of Admissions
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Fort Wayne, Indiana 46803

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www.IndianaTech.edu

Welcome to Indiana Tech

A message from the President

Greetings! As president of Indiana Tech, I am pleased to welcome you to not just a university, but a community dedicated to helping you achieve.

Within the pages of this catalog you'll find details about the requirements of your chosen degree program, the courses we offer, academic policies, and scholarship opportunities. Those details are important because they form the foundation and framework of the university. But like a home, a university needs more than a foundation and framework; it needs people to make it come alive. Staff, faculty, and most of all students are what make Indiana Tech what it is. We hope that you see Indiana Tech as your home for as long as it takes you to complete your degree. Bring life to the campus by being active and involved. Attend athletic events, join or create a club, participate in entertaining and educational activities, listen to guest speakers ... find the things that interest you and take advantage of them.

We believe in relationship-based education at Indiana Tech. This concept of personal attention and bonds built through facing challenges together makes the university community richer for all involved. Make connections with your classmates, your professors, all of the staff and administrators who will cross your path during your college years. The time will pass more quickly than you think, and the friends and mentors you meet along the way are an integral part of your education.

So, take this catalog and let it guide your academic path. But don't just meet the requirements listed on the following pages – stretch yourself beyond them to make your college education an experience to remember.

Sincerely,

Arthur E. Snyder, Ed.D.

President

Table of Contents

This guide is your all-in-one resource for everything Indiana Tech. You'll find detailed information about each of our degree programs, descriptions of classes, information about our school history, what the campus is like, financial aid and what the requirements for admissions and graduation are.

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's the College of Business, College of Engineering, and College of General Studies. There is also the School of Computer Studies, which is part of the College of Engineering, and the Center for Criminal Sciences, 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.

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.

College of Business

College of Engineering

School of Computer Studies

College of General Studies

Center for Criminal Sciences

Additional Undergraduate Information

College of Professional Studies Graduate Programs

Financial Aid

General Information

Student Life

Course Descriptions

Undergraduate Courses

Graduate Courses

Academic Calendar

Fall Semester

New students arrive	Sunday	August 26, 2007
Orientation for new students	Monday	August 27
Registration	Tuesday	August 28
Classes begin	Wednesday	August 29
Last day to add/drop, refund for individual class	Tuesday	September 4
Mid-term	Friday	October 19
Last day to withdraw from a class	Wednesday	October 30
Spring & winter pre-registration begins	Monday	November 12
Thanksgiving break, classes end	Tuesday	November 20
Classes resume	Monday	November 26
Spring & winter pre-registration ends	Friday	December 7
Classes end	Friday	December 14
Final examinations	Mon—Wed	December 17-19
Last day to return textbooks	Wednesday	December 19

Winter Interterm

Classes begin	Monday	January 7, 2008
Last day to add/drop, refund for individual class	Tuesday	January 8
Last day to withdraw from a class	Monday	January 14
Classes end	Saturday	January 19
Final exams	Tuesday	January 22
Last day to return textbooks	Tuesday	January 22

Spring Semester

New students arrive	Sunday	January 20
M. L. King Birthday, no classes	Monday	January 21
Registration & orientation	Tuesday	January 22
Classes begin	Wednesday	January 23
Last day to add/drop, refund for individual class	Tuesday	January 29
Mid-term	Friday	March 14
Spring break, classes end	Friday	March 14
Classes Resume	Monday	March 24
Last day to withdraw from a class	Tuesday	April 1
Sum./Fall pre-registration begins	Monday	April 14
Sum./Fall pre-registration ends	Friday	May 2
Classes end	Friday	May 9
Final examinations	Mon—Wed	May 12-14
Last day to return textbooks	Wednesday	May 14
Commencement	Saturday	May 17

Summer Session I

Classes begin	Wednesday	May 28
Last day to add/drop, refund for individual class	Monday	June 2
Last day to withdraw from a class	Thursday	June 10
Classes end	Tuesday	July 1
Final exams	Wednesday	July 2
Last day to return textbooks	Wednesday	July 2

Summer Session II

Classes begin	Thursday	July 3
Last day to add/drop, refund for individual class	Tuesday	July 8
Last day to withdraw from a class	Monday	July 21
Classes end	Wednesday	August 6
Final exams	Thursday	August 7
Last day to return textbooks	Thursday	August 7

Summer Session III

Classes begin	Wednesday	May 28
Last day to add/drop, refund for individual class	Monday	June 5
Last day to withdraw from a class	Tuesday	July 1
Classes end	Tuesday	August 5
Final exams	Wednesday	August 6
Last day to return textbooks	Wednesday	August 6

Our Philosophy

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

Mission

To provide career-focused, professional programs of higher education.

Core Purpose

Indiana Tech provides learners of all ages with career-focused professional education in the areas of business, computer studies, engineering, and other professional concentrations; prepares them for active participation in the complex, global society of the 21st century; and motivates them toward a life of significance and worth.

Vision

Indiana Tech is dedicated to preparing 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 Indiana Tech's commitment to relationship-based education
- Attracting, developing, and retaining dedicated and excellent teachers, staff, and administrators who are committed to making a significant difference in the lives of our students and the community
- Integrating theory and practice through course content combined with real-world experience
- 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)

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

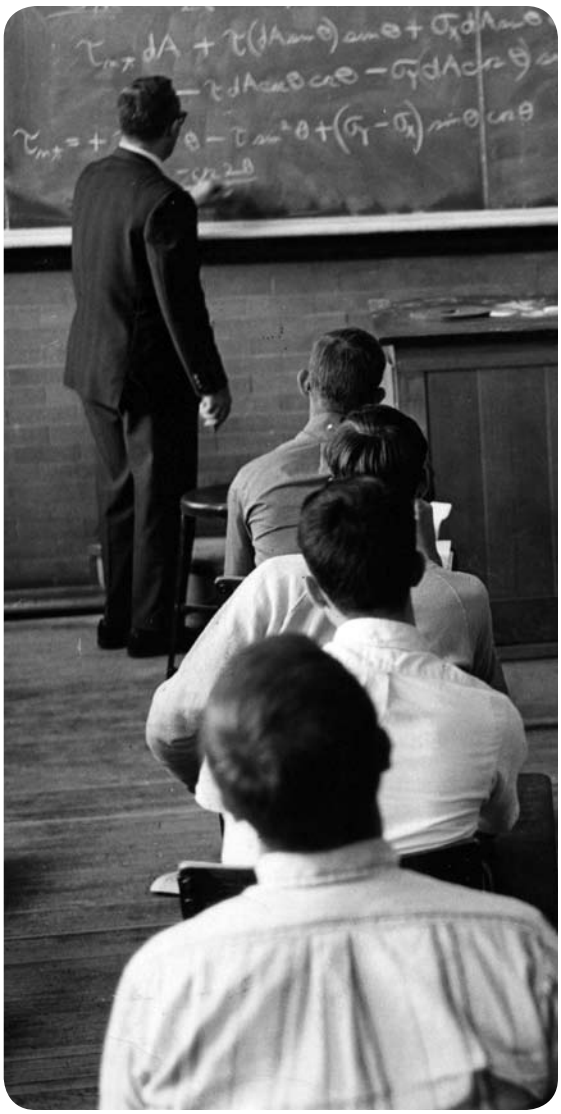
The History of Indiana Tech

The History of Indiana Tech

The Beginnings

The beginnings of what is now Indiana Tech were modest. John A. Kalbfleisch, a former president of International Business College, founded the college in June 1930. The college was incorporated as a proprietary school by the State of Indiana on Jan. 10, 1931.

The first students were recruited by members of the corporation, officially known as Indiana Technical College, using leads from high school principals in Indiana, Michigan, and Ohio. At the time, there were no classes, laboratories, or even school catalogs.



Tuition in that first year was $55 per quarter, much of which was paid using the barter system. Among the items exchanged for classes were a 1929 Chevrolet, honey, chickens, brooms, and 100-pound bags of popcorn.

The school first leased, and then purchased, a former mortuary located on East Washington Boulevard across from the YMCA (where many students lived). The first classes, held in the summer of 1931, had eight students. By fall there were 139, and the winter semester enrolled 179 students. In 24 months a male student could obtain a Bachelor of Science degree in electrical, structural, civil, or radio engineering. In 1933, the first graduating class was composed of thirteen electrical engineers.

The year 1936 saw the passing of Mr. Kalbfleisch, who died in February 1936, and the appointment of Archie T. Keene as president.

The next year, fire struck Indiana Tech in late May. Although the fire caused extensive damage to the building, it was seen as a positive event because the college was able to use insurance money to upgrade the building, classrooms, and laboratories.

The school held its first formal commencement in 1937. The Indiana Tech library was started in 1939 in the basement of the downtown building, with $200 budgeted for books.

World War II and the 1940s

During the war years, enrollment fell from 472 to 86 by the fall of 1944. The five remaining faculty members took 50 percent pay cuts and worked evenings in local industries to support the war effort. The college also held special classes to meet the needs of the military, such as refresher courses for airmen and meteorologists and mechanical drafting classes for women.

The return of servicemen from the war and the G.I. Bill gave a large boost to Indiana Tech's enrollment. By the fall of 1948 there were 1,183 students enrolled, and the school went to three teaching shifts to keep up with the demand.

In August 1948, Indiana Tech was reorganized under state law as a not-for-profit, endowed college, and a $100,000 endowment was given to the school by its former board. A residential building next to the college was purchased and extensively remodeled into classrooms and laboratories.

The Move and the 1950s

A number of major changes were implemented in the '50s, the largest of which was a move to a new site. In 1953, Indiana Tech offered the Missouri Synod of Lutherans $1 million for 20 acres of Concordia College's campus. The official move to the new campus occurred July 1, 1957, although the first classes were held on the campus in September 1955 because of overflow enrollments at the downtown buildings.

In 1956, Charles Dana, founder of the Dana Corporation, offered a $300,000 grant for building an engineering and science facility for the campus. The Dana Engineering and Science Building was dedicated on June 14, 1958.

Indiana Tech's Alumni Association, first proposed in 1943, was incorporated in 1954. Enrollment reached its high-water mark in 1957, with nearly 2,000 full-time students. The first female graduate, Anna Reid, received a degree in chemistry in 1958.

The History of Indiana Tech {Continued}

Establishment and the 1960s

Several notable events occurred during the decade of the '60s. The college went to a four-year degree program in July 1960 and was accredited by the North Central Association of Colleges and Schools in 1962.

The name of the institution was changed from Indiana Technical College to Indiana Institute of Technology, effective January 1, 1963. Also that year, President Keene retired after 26 years at the helm, and Edward Thoma was appointed Indiana Tech's third president.

Construction boomed on Indiana Tech's campus during the 1960s. McMillen Library was dedicated May 19, 1962, with major funding for the project coming from Dale McMillen, founder of Central Soya. The parochial high school (now the Cunningham Business Center) and the Kroger supermarket (now the Fieldhouse) were bought in 1963 for $1 million.

The building now known as Kalbfleisch Hall was built in the summer of 1963 with funds donated by Mr. and Mrs. Carl Pierson. Mr. Pierson was a longtime Indiana Tech trustee, and Mrs. Pierson was the widow of Indiana Tech founder John Kalbfleisch. A wing was added to the Dana Building, and the Alumni Quadrangle dormitories and Student Center were built in 1965.

The '60s saw the advent of the computer on the Indiana Tech campus. The university obtained the first computer in Fort Wayne, an IBM 1620, in October 1960. The area's first computer science degree program was introduced in 1969.

Hard Times in the 1970s

The early 1970s were difficult times for Indiana Tech and then-President Charles Terrell, who took over in 1972 after the resignation of Indiana Tech's fourth president, Edward Dugan. A nationwide decline in the demand for engineers resulted in a downturn in engineering enrollments - a situation that had a major impact on the university's financial well-being.

The problems did not improve until the university's sixth president, Thomas F. Scully, took over in March 1977. President Scully initiated business and the College of Professional Studies programs, after which the financial position of the school gradually improved. The university has not experienced a deficit year since 1978.

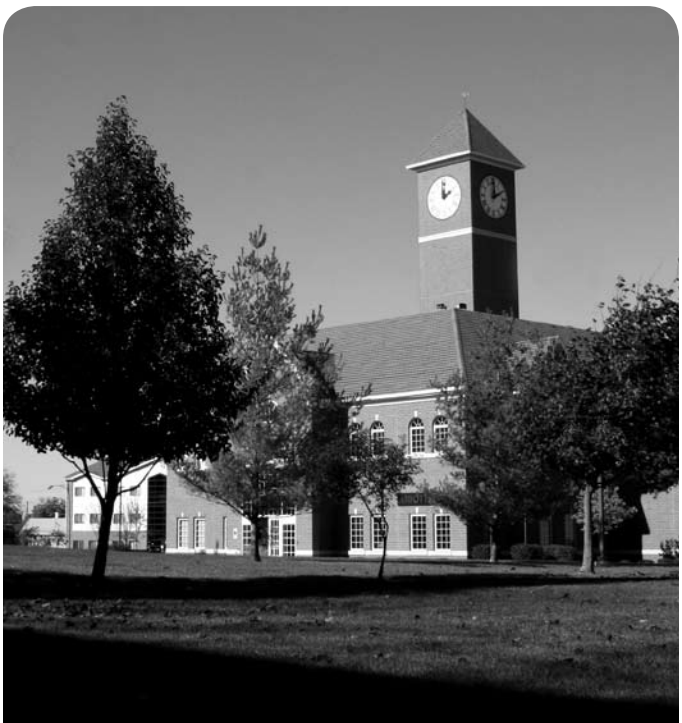
Improvement in the 1980s

The 1980s saw more progress. While strengthening the engineering programs, more emphasis was placed on developing the College of Business and Arts. In 1982, the Extended Studies Division, which is now the College of Professional Studies, began offering correspondence courses for adults.

During the 1980s, the facilities at Indiana Tech underwent continuous improvement. The interior of the Dana Science Center was extensively remodeled in 1983 and 1984. The McMillen Productivity and Design Center was dedicated in 1984. Research and Development moved to the Kroger Building (now the Fieldhouse) to meet record demand for Tech-built magnet wire test instruments. Dormitory space was renovated in the Alumni Quad, and Kalbfleisch Hall was remodeled into student suites.

Following the death of President Scully, Donald J. Andorfer was appointed the seventh president of Indiana Tech in July 1985. Mr. Andorfer had been chief financial officer of the university since 1977 and served as the first Dean of the College of Business and Arts.

The late 1980s brought improvement for the College of



Professional Studies with the development of innovative accelerated classes in 1987. In 1988, the College of Professional Studies established its presence in Indianapolis when it began a program for adult students there.

Expansion and growth of the 1990s

The historic Administration Building, built in 1857 at a cost of $7,000 to house a Lutheran seminary, is the oldest building in Fort Wayne still being used for its original purpose - education. The building was renamed the Seitz Center, and the formal dedication was held June 23, 1994 in honor of Indiana Tech Board of Trustees Chairman Emeritus Paul W. Seitz.

A centerpiece of the campus is the Schaefer Center for Student Life, dedicated in 1990, which houses the university's dining hall and gymnasium. The Schaefer Center was named in honor of the late Edward J. Schaefer, a prolific inventor and engineer who invented the submersible motor. He was the founder of Franklin Electric Company in Bluffton, Indiana. Mr. Schaefer was a trustee who awarded the university a $5 million challenge grant following his death to be used for endowment and campus renovations. As part of that bequest, a major renovation project to upgrade the Anthony Building (now known as Cunningham Business Center) was completed in the fall of 1994.

A third campus, in South Bend, was created in 1995 to meet the needs of prospective adult students for the College of Professional Studies in north-central Indiana.

The year 1999 brought the esteemed ABET accreditation of the mechanical and electrical engineering programs as well as the beginnings of an MBA program, offered in Fort Wayne and Indianapolis through the College of Professional Studies. Also, in August 1999, a College of Professional Studies office was opened in Warsaw, Indiana.

Indiana Tech, Today

As the new millennium dawned, Indiana Tech's future continued to look bright.

A residence hall was dedicated on April 18, 2001 as the Pierson Center, named for the Pierson family. A new administration center was dedicated on May 23, 2001. It was christened the Abbott Center after alumnus Steven R. Abbott, B.S. '69. Additionally, the Engineering and Science Center was doubled in size and renovated in time for students arriving on campus in the fall of 2001. In fall 2002 it was rededicated as the Zollner Engineering Center.

Andorfer Commons, the university's largest building project to date, was begun in spring 2003 and complet-

The History of Indiana Tech {Continued}

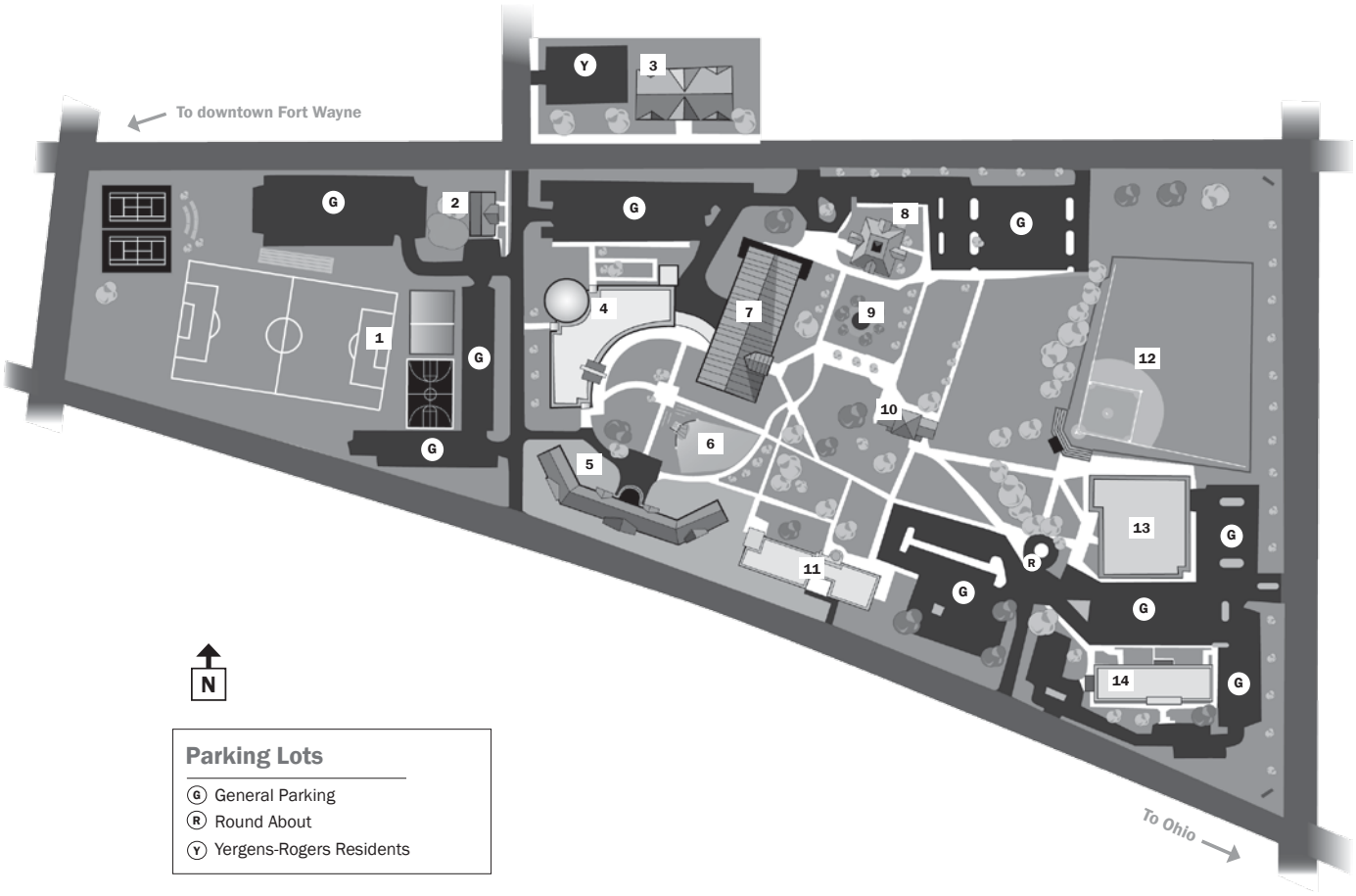
ed during the summer of 2004. The 70,000-square-foot student center houses McMillen Library, the cafeteria, a student union, a theater, a bowling alley, Tech Treasures gift shop, the Wegener Worship Center and conference rooms.

Fall of 2003 marked the inauguration of Dr. Arthur E Snyder as the university's eighth president. Dr. Snyder's tenure has been marked by expansion of academic programs to meet the needs of society and interests of students. From a small engineering college, Indiana Tech has grown into a university with a wide range of programs in engineering, computer studies, and business. The newest offerings include criminal justice, organizational leadership, biomedical engineering, software engineering, health care administration, elementary education, and computer security and investigation.

Physical growth continued with two city blocks being added to the Fort Wayne campus in fall 2004. The land to the west is now home to a lighted soccer field, tennis courts, outdoor basketball court, and sand volleyball court. The campus also grew north, across Washington Boulevard, with the construction of an apartment-style dorm in 2004. The Labor of Love for Learning (L3) amphitheater was dedicated in summer of 2005. The east side of the campus got a makeover in the summer of 2007, when the fieldhouse/warehouse was renovated, a road through campus was closed, and a fountain and firepit were installed.

Growth and change is not limited to the Fort Wayne Campus, however. In 2000, Indiana Tech moved to its current Indianapolis campus in the well-known Pyramids on the northwest side. Expansion continued with an office in Huntington in 2001 and an annex to the Indianapolis campus in Greenwood in 2002. Summer 2003 brought the creation of the Elkhart Campus, although the South Bend site also remains open. Indiana Tech built a new building to house the Warsaw site in 2004. Another Indianapolis annex opened in Plainfield in 2006, and a new Huntington facility was built in 2007.

Campus Map



1 Soccer Field, and Tennis, Volleyball and Basketball Courts

2 Kalbfleisch Hall
Residence Hall

3 Yergens-Rogers Hall
Residence Hall

4 Andorfer Commons
Athletic Director
Business Office
Campus Ministries
Career Planning & Development Center
Cinema Tech
Dining Hall
Gift Shop (Tech Treasures)
Joyce Schlatter Board Room
McMillen Library
Recreation Center
Security
Student Life Offices
Student Organization Offices

5 Pierson Center
Residence Hall
Residency Director

6 L^3 Amphitheater
Outdoor Performance Venue
Outdoor Classroom Area

7 Schaefer Center
Gymnasium
Sports Information Office
Wellness Center

8 Abbott Center
Admissions
Financial Aid
Human Resources
Institutional Advancement
Office of the President

9 Fire Pit

10 Seitz Center
Creative Services
Office of the Registrar
Student Information Center
Vice President for Academic Affairs
Vice President for Finance & Administration
Vice President for the College of Professional Studies (CPS)

11 Zollner Center
School of Computer Studies
College of Engineering
Information Technology Services

12 Baseball Field

13 Buildings & Grounds
Campus Services Coordinator
Parking Permits, Field House

14 Cunningham Business Center
CLEP Testing Center
College of Business & Arts
College of General Studies
CPS Academics-Fort Wayne
CPS Admissions
CPS Support Services
Freshmen College Office
Student Support Services (Tutoring)
Warrior Legend Office

Faculty & Staff

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)
Assistant Professor of Business Administration
B.A., Indiana University, 1979
M.B.A., Indiana University, 1980
Th.M., Dallas Theological Seminary, 1986
Monique Anderson (2006)

Director of Software Engineering
B. S., Elizabethtown College
Monique Anderson (2006)
Director of Software Engineering
B. S., Elizabethtown College

Rosemary Arant (2002)
Associate Professor of Business Administration
B.S., Ohio State University, 1970
M.B.A., Indiana Wesleyan University, 1989

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

Kathleen Barlow
Associate Professor of English and Communication
Chair of Arts and Social Sciences, CPS
B.A., Marion College
M.A., Ball State University
Ph. D., Ball State University
D. Min. Graduate Theological Foundation/Oxford (UK)

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

Mohamed Darwish (2006)
Assistant Professor of Mechanical Engineering
B.S., Menoufiyan University, Egypt, 1964
M.S. Polytechnic University-Brooklyn, 1982
M.S., Ohio State University, 2000

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 Institute of Technology, 2004

Mitchell J. Fanti (2003)
Assistant Professor of Business
B.S., Purdue University, 1980
M.B.A., Indiana University, 1985
Certified Public Accountant
Chartered Financial Analyst

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

Robert Freewalt (2002)
Assistant Professor of Accounting
B.S., University of Illinois, 1971
Masters of Management, Northwestern University, 1974
Certified Public Accountant

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

Sheldon Goldstein
Assistant Professor of Business
B.M.E., City College of the City University of New York, 1969
S.M., Massachusetts Institute of Technology, 1973
M.B.A., Fairleigh Dickinson University, 1979

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

Melanie Hatch (2006)
Associate Professor of Management and Dean of Business
B.S., Indiana University, 1983
M.S. University of Dayton, 1989
Ph.D., Virginia Polytechnic Institute and State University, 1994

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

Linda Hite-Mills
Assistant Professor of Computer Studies
A.A.S., Indiana Vocational Technical College, 1982
P.M.P., Project Management International, 2001
B.S., Tri-State University, 2002

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

Dan J. Kline (1980)
Vice President of Student Life
Assistant Professor of Social Sciences
B.S., Defiance College, 1968
M.S., St. Francis College, 1971

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

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

Steve M. Malloris (2002)
Assistant Professor of English
B.A., Indiana University, 1976
Master's of Liberal Arts, Indiana University, 1999

Julie Mansfield (2002)
Associate Professor of Computer Science
High School Outreach Coordinator, Computer Studies
B.S., Indiana Tech, 1993
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

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

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

David O. Middleton (1978)
Associate Professor of Accounting
B.S., Indiana University, 1971
M.S., Indiana University, 1980
C.M.A.
Certified Public Accountant

T. Neil Moore, Ed.D.
Director, Center for Criminal Sciences
B.A., Kent State University, 1972
M.P.A., concentration in Criminal Justice, 1986
Ed.D., Ball State University, 2001
Chief of Police Fort Wayne Police Department, 1988-97

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

Faculty & Staff
{Continued}

Barbara Perry (2006)
Associate Professor of Education and Dean of General Studies
B.A., University of Michigan,
M.S., Robert Morris College
Ed.D., University of Memphis

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

Parham Piroozan (2001)
Associate Professor of Mechanical Engineering
B.S., Abadan Institute of Technology, 1980
M.S., Northern Illinois University, 1991
Ph.D., Illinois Institute of Technology, 1997

Pontillo, Elaine (2005)
Vice President of Academic Affairs
B.S., Bucknell University
M.Ed., Trinity College (CT)
M.A., University of Pittsburgh
Ph.D., University of Pittsburgh

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

Sajeh Richard (2004)
Developmental Specialist
B. S. Indiana Institute of Technology (1998)
M.B.A., Indiana Institute of Technology (2006)

Eva Sagan
Assistant Professor of Mathematics
B.A, Mathematics, Beloit College 1993
M.B.A. University of Illinois 1995
M.Ed. University of Georgia 1997

Robert B. Savage (1975)
Professor of English
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

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)
Assistant 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

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

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

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

Lisa Williams (2007)
Associate Professor of Education and Program Director
B.S., Southern Arkansas University, 1992
M.Ed., Southern Arkansas University, 1995
Ph.D., University of southern Mississippi, 1998

Administration Staff

Organized by Department

Office of the President

Arthur E. Snyder, President
Jennifer Ross, Executive Assistant to President
Nancy Townsend, Administrative Assistant to President

Human Resources
Chris Black, Director
Amy Jagger, Assistant

Creative Services
Janet Schutte, Director of Marketing
Andrew Kora, Graphic Designer
Jeffrey Melton, Marketing Specialist

Office of Academic Affairs

Elaine Pontillo, Vice President of Academic Affairs
Cathy Elrod, Administrative Assistant

College of Business

Melanie Hatch, Dean
Sheldon Goldstein, Associate Dean
Erin Phares, Administrative Assistant

Business Administration and Accounting
Timothy Allwein, Faculty
Rose Arant, Faculty
Mitch Fanti, Faculty
Robert Freewalt, Faculty
Sherrill L. Hamman, Faculty
David O. Middleton, Faculty
James Schaffer, Faculty
Brad Shank, Faculty
Jeffrey L. Walls, Faculty

Sports Management
Craig Dyer, Faculty

College of Engineering & Computer Studies

Dave Aschliman, Dean
Gary Messick, Associate Dean of Computer Studies
Carol Geller, Administrative Assistant

Industrial and Manufacturing Engineering
Peggy Canales, Faculty
Steve Dusseau, Faculty
Maximo Ortega, Faculty

Mechanical and Biomedical Engineering
Mohamed Darwish, Faculty
Feng Lin, Faculty
Jack Phlipot, Faculty
Parham Piroozan, Faculty

Computer Studies

Robert Fontaine, Faculty
Linda Hite-Mills, Faculty
Dinesh Lad, Faculty
Julie Mansfield, Faculty
Martin Mansfield, Faculty

Software Engineering
Monique Anderson, Director

College of General Studies

Barbara Perry, Dean
Erin Phares, Administrative Assistant

Criminal Science
Neil Moore, Director

School of Education
Lisa Williams, Director

English, Communications, and Humanities
Kathleen Barlow, Faculty
Steven M. Malloris, Faculty
Susan McGrade, Faculty
Robert B. Savage, Faculty

Psychology and Social Science
Norma S. Friedman, Faculty

Recreation Management and Therapeutic Recreation
Beth A. Wiesner, Faculty

Science and Mathematics
Jerome Heaven, Faculty
Rex Joyner, Faculty
Randal Liechty, Faculty
Eva Sagan, Faculty

Student Support Services

Mary C. Scudder, Director of Freshman College and Student Support Services
Lisa McPherson, Administrative Assistant
Sajeh Richard, Developmental Specialist
Lori Wachtman, Academic Skills Specialist, Faculty

Registrar's Office

Lori Brubaker, Registrar
Sharon Lokuta, Associate Registrar
Kris Byndom, Sr. Transfer Credit Specialist
Juliana Bengs, Transfer Credit Specialist
Cari Foust, Transfer Credit Specialist
Nathan Hess, Student Information Center Service Representative
Mandy Odum, Student Information Center Service Representative
Zeb Johnston, Student Information Center Service Representative
Alisa Scagnoli, Academic Services Specialist

Career Planning and Development Center

Alison Delicati, Director
Cindy Verduce, Internship Coordinator
Peggie Coburn, Administrative Assistant

Library

Constance Scott, Director of McMillen Library
Linda Paul, Reference Librarian
Daryl Shrock, Reference Librarian
Patricia Bone, Library Assistant

Office of Admissions

Allison Carnahan, Vice President of Enrollment Management
Monica Chamberlain, Director of Admissions
Amanda Parker, Assistant Director of Admissions
Maria Reichhart, Senior Admissions Counselor
Robert Confer, Admissions Counselor
Sarah Hamrick, Admissions Counselor
Shatea McNeill, Admissions Counselor
Brook Snyder, Admissions Counselor
Adam Lahr, Associate Admissions Counselor
Brooke Solomon, Associate Admissions Counselor
Rhonda Ladig, Admissions Coordinator
Rexann Tunis, Admissions Support Staff
Ben Smith, Phone Center Manager

Office of Financial Aid & Scholarships

Teresa M. Vasquez, Director
Linda Stanwood, Assistant Director
Shawn Morris, Associate Director
Tracie Boyd, Loan Coordinator
Crystal Smith, Counselor
Lisa McDonald, Administrative Assistant

Office of Student Life

Dan J. Kline, Vice President
Jill Thomas, Administrative Assistant
Chris Dickson, Director of Student Life
Joel Harmeyer, Associate Director of Student Life
Bonnie Bonelli, Women's Basketball Coach
Randy Stegall, Men's Baseball Coach
Jeff Parrish, Men's Basketball Coach
Martin Neuhoff, Men's Soccer Coach, Intramural Director
Katie Weber, Women's Soccer Coach, Sports Information Director
Becky Norris, Women's Softball Coach
Laura Douglas, Women's Volleyball Coach, Wellness Center Director
Dan Moster, Tennis Coach
Andrew Stout, Spirit Teams Director
Brad Peterson, Cross Country Coach
Kelly Mettert, Golf Coach
Brian Raypole, Athletic Trainer

Business Office

Judy Roy, Vice President of Business and Finance
Shelly Studebaker, Controller
Phyllis Thieme, Accounts Payable
Linda Rupp, Accounts Receivable
Carolyn Archer, Payroll Specialist
Susan Ludlow, Staff Accountant
Sandy Koenemann, Accounts Receivable Manager
Patricia Harris, Accounts Receivable Clerk
Jennifer Gaff, Accounting Clerk
Desirae Bushey, Accounting Clerk

Buildings and Grounds

R. Michael Townsley, Director
Bill Honor, Coordinator of Custodial Services
Gary W. Chunn, Maintenance
Robert E. Huffman, Maintenance
Tom Dague, Grounds Maintenance Coordinator
Tammy Laws, Custodian
Mark McCray, Custodian
Edward Mendez, Custodian
Eunice Murray, Custodian
Lee Smith, Custodian
Joy Heyman, Administrative Assistant

Administration Staff {continued}

Organized by Department

Information Technology Services

Jeff Leichty, Director of Information Technology
David Bulanda, Network Services Manager
Aaron Diers, Programmer/Analyst
Joel E. Esslinger, Workstation Support Manager
Michael Korreckt, Server Applications Manager
Brian Lewandowski, Webmaster/Programmer Analyst
Karin Brenig, Program Analyst

Office of Institutional Advancement

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Eve Colchin, Director of Development
Julie Morrison, Director, Alumni/Annual Fund
Linda Kreft, Director, Grants
Rose Schafer, Office Manager

College of Professional Studies

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Fort Wayne

Sandy Bradley, Campus Director
Carla Quickel, Admissions Representative
Yiani Demitsas, Admissions Representative
Jill Wright, Admissions Representative
Sharmilla Chowdhury, Admissions Representative
Amy Archer, Bookroom and Print Center Coordinator
Doris Foss, Administrative Assistant
Marlena Lewis, Administrative Assistant
Cindy Meyers, Receptionist
Joel Holcombe, ARC Specialist
Joe Sullivan, ARC Specialist

Indianapolis

Faith Maddox, Campus Director
Angela Snyder, Operations Coordinator
Gwen Clinton, Admissions Representative
Todd DeLey, Admissions Representative
Tonia Miller, Admissions Representative
Cindy Vicars, Admissions Representative
Gloria Enoch, Admissions Representative
Dan Wearstler, Professional Development Director
Annette Johnson, ARC Specialist
Tonya Watts, ARC Specialist
Dee Yard, Administrative Assistant
Virginia Spencer, Administrative Assistant
Yolanda Madison, Administrative Assistant

Elkhart

Mitch Fanti, Campus Director
Jeffrey Dean, Admissions Representative
Virginia Ward, Administrative Assistant
Janice Cunningham, Professional Development Director
Rob Mikula, ARC Specialist
Laurel Wielgus, ARC Specialist

South Bend

Pam Batcho, Admissions Representative
Mark Botzum, Admissions Representative
Nicole Baker, Administrative Assistant

Warsaw

Jeri Burkhart, Enrollment Manager
Patti Weaver, Administrative Assistant

Huntington

Pam Fech, Enrollment Manager
Rhonda Thweat, Administrative Assistant

Greenwood

Christian Maslowski, Enrollment Manager
Michelle Wood, Director of Independent Study
Robin Close, Admissions Representative
Charlene McDonald, Administrative Assistant

Plainfield

Darcie Webster, Enrollment Manager
Teresa O'Riley, Administrative Assistant

Merrillville

Derek Dabrowiak, Enrollment Manager

Office of Distance Education

Ben Lee, Director
Josh Clements, Technical Specialist

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Neurosurgeon
Fort Wayne Neurological Center

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East Wayne Street Center

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Retired Vice President & General Manager
WPTA-TV Pulitzer

Patricia Schaefer
Retired Director
Muncie Public Library System

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President
Indiana Tech

Vince Robinson
Owner / Editor
Diversity Media Group, Inc. / Ink Newspaper

Gregg C. Sengstack
SVP – International & Fueling Group
Franklin Electric Co.

Nicole Turner-Ridley
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Project Renew

Donald R. Willis
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Fourth Wave

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Image Consultant
Beauticontrol, Inc.

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BSCE ’81
Vice President/Engineering
Almet, Inc.

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BSME ’61
Retired
Reelcraft Industries, Inc.

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Retired
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Reid Hochstedler
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BSCE ‘59
DHK Engineers, Consulting
Environmental
DSK LLC Founder & CEO

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BSME ‘57
Retired
International Truck and Engine Corp.

Thomas (Tom) Smead
ASBA ‘01, BSBA ’02, MBA ’05

Vice President
MBA ’05, BSBA ’02, & ASBA ’01
Manufacturing Manager
Superior Essex

Terry Bultemeier
MBA ’06

Jason Crandal
BSACC
Fifth Third Bank
AVP Business Banking

Katie Mettler
BSBA ‘00
Administrative Coordinator
Crossroads

Alumni Association Staff Contacts

Dr. Arthur E. Snyder
President
Indiana Tech

Louise Jackson
Vice President of Institutional Advancement
Indiana Tech

Julie R. Morrison
Director of Alumni Relations / Annual Fund
Indiana Tech

Accreditation

Higher Learning Commission

The Indiana Institute of Technology 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 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.

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
*Production Management
Sports Management
Business Administration, A.S.B.A.
Concentrations
Management
*Production Management
*Business Administration, M.B.A.
Concentrations
Accounting
Management
Human Resources
Marketing
*Organizational Leadership, B.S.O.L.
*Management, M.S.M

College Of Engineering And Science

Biomedical Engineering, B.S.B.M.E.
Computer Engineering, B.S.Cp.E
Electrical Engineering, B.S.E.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 Studies

Computer Security & Investigation, B.S.C.S.I.
Computer Science, B.S.C.S./B.A.C.S.
Graphic Communications, A.S.G.C
Information Systems, B.S.I.S; B.A.I.S.
Internet Technologies, B.S.Int.T.
Networking, B.S. NET
Network Management, A.S.N.M.
Software Engineering, B.S.S.E.
Web Design, A.S.W.D.

College Of General Studies

Communication, B.A.Comm.
Concentrations:
Advertising
Journalism
Digital Media
Public Relations
Elementary Education, B.S.Ed.
*General Studies, A.S.G.S.
Human Services Management, B.S.H.S.M.

College Of General Studies {continued}

Psychology, B.S. Psy.
Recreation Management, B.S.R.M.; A.S.R.M.
Optional Concentration:
Sports Management
Therapeutic Recreation, B.S.T.R.

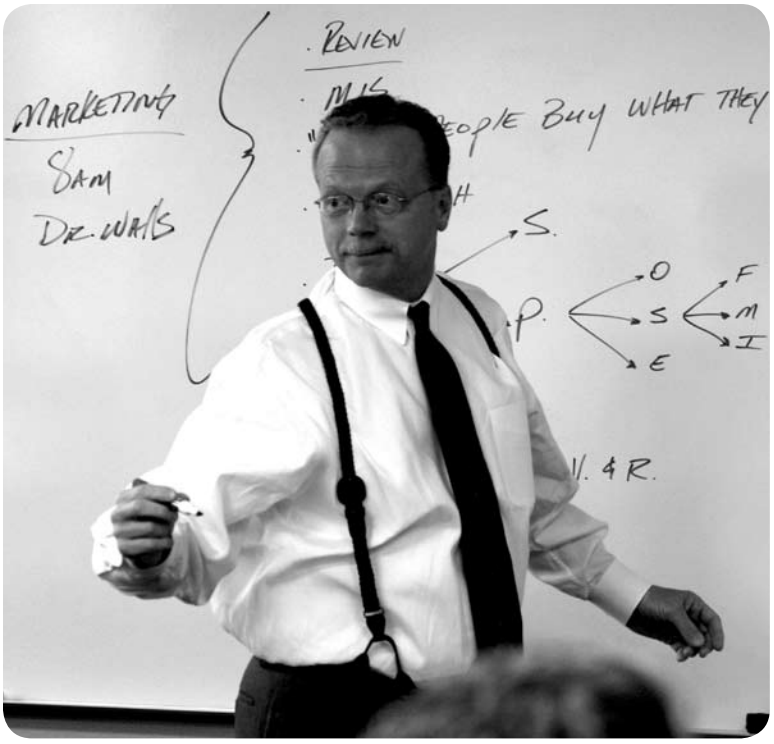
Center For Criminal Science

Criminal Justice, B.S.C.J.
Specialties:
Crime Analysis
Law Enforcement Administration
Criminal Justice, A.S.C.J.

Note: See pages 74 and 75 for a listing of minors currently available to traditional students only.

* Offered ONLY through the College of Professional Studies

Indiana Tech
College of Business



Mission

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, life-long learners, and well-rounded, educated citizens of the world.

Vision

Indiana Tech's College of Business will achieve its mission by emphasizing academic excellence and relationship-based education. It will maintain 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.

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

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.

curriculum:

Semester I

MA 1000	Foundations of Quantitative Methods	3
*ENG 1250	English Composition I	3
BA 1400	Principles of Management	3
IS 1100	Introduction to Information Systems	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
*ENG 1270	English Composition II	3
ACC 1010	Accounting Principles	3
MIS 1300	Software Tools	3
*IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

MA 2025	Statistical Methods for Business	3
ACC 1040	Managerial Accounting	3
ENG 2320	Professional Communication	3
ACC 2200	Intermediate Accounting I	3
SS 2200	Macroeconomics	3
HUM 2000	Introduction to Humanities	3
		18

Semester IV

ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
SS 2210	Microeconomics	3
BA 2850	Managing in the Legal Environment	3
	Elective (Humanities)	3
		15

Total credits required 63

**Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.*

College of Business
Accounting/Bachelor of Science

The purpose of the accounting program is to develop professional business people with 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.

curriculum:

Semester I

MA 1000	Foundations of Quantitative Methods	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
BA 1400	Principles of Management	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
BA 2500	Marketing	3
ACC 1010	Accounting Principles	3
		15

Semester III

MA 2025	Statistical Methods for Business	3
ACC 1040	Managerial Accounting	3
ACC 2200	Intermediate Accounting I	3
MIS 1300	Software Tools	3
SS 2200	Macroeconomics	3
		15

Semester IV

ACC 2240	Intermediate Accounting II	3
ACC 2400	Cost Accounting	3
HUM 2000	Introduction To Humanities	3
SS 2210	Microeconomics	3
ENG 2320	Professional Communication	3
		15

Semester V

ACC 2500	Individual Income Tax	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	
	Elective (Humanities)	3
BA 2000	Operations Management	3
BA 2410	Human Resource Management	3
	Elective (Math)	3
		18

Semester VI

ACC 3500	Corporate Income Tax	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in the Legal Environment	3
BA 3600	Corporate Finance	3
	Elective (Humanities)	3
		15

Semester VII

ACC 4700	Advanced Accounting I	3
BA 3200	Business Ethics	3
BA 4910	Business Policy & Strategy	3
	Elective (E/H/PSY/SS)	3
	Elective (Approved)	3
		15

Semester VIII

ACC 4740	Advanced Accounting II	3
ACC 3300	Auditing	3
	Elective (Approved)	3
	Elective (Approved)	3
	Elective (Approved)	3
		15

Total credits required **123**

**Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.*

College of Business

Business Administration/Bachelor of Science

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 ten 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.

Business administration majors choose a course concentration based on their interests and career goals. Each concentration carries a minimum of an additional five-course specialization so that the major will require at least fifteen business courses. 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.

Business Administration/Associate of Science

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.

College of Business
Business Administration/Bachelor of Science
Health Care Management Concentration

curriculum:

Semester I

PSY 1700	Psychology	3
ENG 1250	English Composition I	3
BIO 1110	Anatomy & Physiology	3
MA 1000	Foundations of Quantitative Methods	3
BA 1400	Principles of Management	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
BA 2500	Marketing	3
ENG 1270	English Composition II	3
IS 1100	Introduction to Information Systems	3
BIO 1140	Medical Terminology	3
		15

Semester III

ACC 1010	Accounting	3
BA 2850	Managing in the Legal Environment	3
ENG 2320	Professional Communication	3
HCA 1100	Introduction to Health Care Administration	3
IIT 1270	Critical Inquiry	3
		15

Semester IV

BA 2410	Human Resources Management	3
BA 2000	Operations Management	3
MA 2025	Statistical Methods for Business	3
HCA 2100	Legal Aspects of Health Care Admin	3
ACC 1040	Managerial Accounting	3
		15

Semester V

HUM 2000	Intro to Humanities	3
Elective	(E/H/S)	3
HCA 3100	Finance of Health Care Admin	3
SS 2200	Macroeconomics	3
BA 3200	Business Ethics	3
		15

Semester VI

SS 2210	Microeconomics	3
SS 2800	Sociology	3
HCA 3200	Health Care Policy	3
Elective	(Humanities)	3
BA 2700	Organizational Behavior	3
		15

Semester VII

BA 4010	Quality Management	3
BA 3600	Corporate Finance	3
Electives	(Approved)	6
Elective	(Humanities)	3
Choose one of the following courses		3
HCA 4100	Managed Care and Medical Group PracticeManagement	
HCA 4200	Long-term Care Administration	
		18

Semester VIII

BA 4910	Business Policy & Strategy Planning	3
	Electives (Approved)	9
HCA 4950	Internship	3
		15

Total Credits Required 123

College of Business
Business Administration/Bachelor of Science
Human Resources Concentration

curriculum:

Semester I

BA 1400	Principles of Management	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Foundations of Quantitative Methods	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
BA 2410	Human Resources Management	3
BA 2500	Marketing	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

ACC 1010	Accounting Principles	3
BA 2600	Occupational Safety & Health	3
BA 2850	Managing in the Legal Environment	3
ENG 2320	Professional Communication	3
BA 2000	Operations Management	3
		15

Semester IV

BA 2650	Compensation Management	3
MA 2025	Statistical Methods for Business	3
ACC 1040	Managerial Accounting	3
	Elective (Approved)	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	
		15

Semester V

BA 2700	Organizational Behavior	3
BA 3800	Labor Relations	3
HUM 2000	Introduction to Humanities	3
SS 2200	Macroeconomics	3
BA 3200	Business Ethics	3
		15

Semester VI

BA 3600	Corporate Finance	3
PSY 3740	Counseling Techniques	3
SS 2210	Microeconomics	3
	Elective (Approved)	3
	Elective (Humanities)	3
		15

Semester VII

BA 4010	Quality Management	3
BA 4700	Training and Development	3
	Electives (Approved)	9
	Elective (Humanities)	3
		18

Semester VIII

BA 4910	Business Policy & Strategy Planning	3
	Electives (Approved)	12
		15

Total credits required **123**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

College of Business
Business Administration/Bachelor of Science
Management Concentration

curriculum:

Semester I

BA 1400	Principles of Management	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Foundations of Quantitative Methods	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
BA 2500	Marketing	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
	Elective (Approved)	3
		15

Semester III

ACC 1010	Accounting Principles	3
BA 2430	International Management	3
BA 2850	Managing in the Legal Environment	3
ENG 2320	Professional Communication	3
	Elective (Approved)	3
		15

Semester IV

BA 2410	Human Resources Management	3
BA 2000	Operations Management	3
MA 2025	Statistical Methods for Business	3
	Electives (Approved)	3
ACC 1040	Managerial Accounting	3
		15

Semester V

BA 2700	Organizational Behavior	3
	Elective (E/H/S)	3
HUM 2000	Introduction to Humanities	3
SS 2200	Macroeconomics	3
BA 3200	Business Ethics	3
		15

Semester VI

BA 3110	Project Management	3
SS 2210	Microeconomics	3
BA 3710	Leadership	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	
	Elective (Humanities)	3
		15

Semester VII

BA 4010	Quality Management	3
BA 4700	Training and Development	3
	Electives (Approved)	6
BA 3600	Corporate Finance	3
BA 4800	Public Relations	3
		18

Semester VIII

BA 4910	Business Policy & Strategy Planning	3
	Electives (Approved)	9
	Elective (Humanities)	3
		15

Total credits required **123**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

College of Business
Business Administration/Associate of Science
Management Concentration

curriculum:

Semester I

BA 1400	Principles of Management	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Foundations of Quantitative Methods	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
BA 2500	Marketing	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
BA 2410	Human Resources Management	3
		15

Semester III

ACC 1010	Accounting Principles	3
BA 2430	International Management	3
BA 2850	Managing in the Legal Environment	3
ENG 2320	Professional Communication	3
SS 2200	Macroeconomics	3
		15

Semester IV

BA 2000	Operations Management	3
SS 2210	Microeconomics	3
HUM 2000	Introduction to Humanities	3
	Electives (Approved)	6
ACC 1040	Managerial Accounting	3
		18

Total credits required **63**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

College of Business

Business Administration/Bachelor of Science

**Management Information Systems Concentration

curriculum:

Business Administration

BA 1400	Principles of Management	3
BA 2000	Operations Management	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in the Legal Environment	3
BA 3200	Business Ethics	3
BA 3600	Corporate Finance	3
BA 4010	Quality Management	3
BA 4910	Business Policy & Strategic Planning	3

Management Information Systems

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

Accounting and Information Systems

ACC 1010	Accounting Principles	3
ACC 1040	Managerial Accounting	3
IS 1100	Introduction to Information Systems	3

Mathematics

MA 1000	Foundations of Quantitative Methods	3
MA 1025	Quantitative Methods for Business	3
MA 2025	Statistical Methods for Business	3

English

ENG 1245	English Composition	3
ENG 1255	Intermediate Compostion	3
ENG 1265	Advanced English Compostition	3
ENG 2320	Professional Communication	3

Social Sciences

HUM 2000	Introduction to Humanities	3
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	

Approved Electives	15
Total credits required	**123**

** Offered only through the College of Professional Studies

College of Business
Business Administration/Bachelor of Science
Marketing Concentration

curriculum:

Semester I

BA 1400	Principles of Management	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Foundations of Quantitative Methods	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1025	Quantitative Methods for Business	3
BA 2500	Marketing	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
BA 2410	Human Resources Management	3
		15

Semester III

ACC 1010	Accounting Principles	3
BA 2550	Personal Selling	3
BA 2850	Managing in the Legal Environment	3
ENG 2320	Professional Communication	3
BA 2000	Operations Management	3
		15

Semester IV

BA 2700	Organizational Behavior	3
BA 2800	E-Commerce	3
MA 2025	Statistical Methods for Business	3
	Electives (Approved)	3
ACC 1040	Managerial Accounting	3
		15

Semester V

BA 3300	Marketing Research & Decisions	3
	Elective (E/H/S)	3
HUM 2000	Introduction to Humanities	3
SS 2200	Macroeconomics	3
BA 3200	Business Ethics	3
		15

Semester VI

BA 3500	Advertising	3
SS 2210	Microeconomics	3
BA 3550	International Marketing	3
BA 3600	Corporate Finance	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	
		15

Semester VII

BA 4010	Quality Management	3
	Electives (Approved)	12
	Elective (Humanities)	3
		18

Semester VIII

BA 4910	Business Policy & Strategic Planning	3
	Electives (Approved)	9
	Elective (Humanities)	3
		15

Total credits required **123**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

College of Business
Business Administration/Bachelor of Science
*Sports Management Concentration

curriculum:

Semester I

BA 1400	Principles of Management	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
SM 1400	Introduction to Sports Management	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1000	Foundations of Quantitative Methods	3
BA 2500	Marketing	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
REC 1250	Introduction to Recreation Services	3
		15

Semester III

MA 1025	Quantitative Methods for Business	3
HUM 2000	Introduction to Humanities	3
BA 2850	Managing in the Legal Environment	3
SS 2200	Macroeconomics	3
Choose one of the following two courses:		3
SS 2800	Sociology	
SS 2720	Group Dynamics	
		15

Semester IV

BA 2410	Human Resources Management	3
SM 2600	Field Experience	3
SM 3100	Facilities Management	3
PSY 1750	Human Growth & Development	3
ACC 1010	Accounting Principles	3
		15

Semester V

BA 2700	Organizational Behavior	3
SS 2210	Microeconomics	3
ACC 1040	Managerial Accounting	3
	Elective (Humanities)	3
ENG 2320	Professional Communication	3
		15

Semester VI

REC 3010	Admin/Mgmt of Recreation/HS	3
BA 2000	Operations Management	3
BA 3200	Business Ethics	3
	Elective (Approved)	3
MA 2025	Statistical Methods for Business	3
		15

Semester VII

BA 4010	Quality Management	3
SM 4200	Marketing, Promotion in Sports Admin.	3
SS 3300	Sports in Society	3
BA 3600	Corporate Finance	3
	Electives (Approved)	3
	Electives (Humanities)	3
		18

Semester VIII

BA 4910	Business Policy & Strategic Planning	3
	Electives (Approved)	12
		15

Total credits required 123

* Only available in the traditional day program.

College of Business

Business Administration/Bachelor of Science

**Production Management Concentration

curriculum:

Business Administration

BA 1400	Principles of Management	3
BA 2000	Operations Management	3
BA 2410	Human Resources Management	3
BA 2500	Marketing	3
BA 2600	Occupational Safety and Health	3
BA 2700	Organizational Behavior	3
BA 2850	Managing in the Legal Environment	3
BA 3110	Project Management I	3
BA 3150	Project Management II	3
BA 3200	Business Ethics	3
BA 3600	Corporate Finance	3
BA 3800	Labor Relations	3
BA 4000	Advanced Production Management	3
BA 4010	Quality Management	3
BA 4500	Purchasing	3
BA 4910	Business Policy and Strategic Planning	3

Math

MA 1000	Foundations of Quantitative Methods	3
MA 1025	Quantitative Methods for Business	3
MA 2025	Statistical Methods for Business	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 1040	Managerial Accounting	3
IS 1100	Introduction to Information Systems	3

English

ENG 1245	English Composition	3
ENG 1255	Intermediate Compostion	3
ENG 1265	Advanced English Compostition	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM 2000	Introduction to Humanities	3
HUM	Electives	6
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3
(One of the two following courses)		3
SS 2720	Group Dynamics	
SS 2800	Introduction to Sociology	

Approved Electives	24
Total Credits	**123**

Business Administration/Associate of Science

**Production Management Concentration

curriculum:

Business Administration

BA 1400	Principles of Management	3
BA 2000	Operations Management	3
BA 2600	Occupational Safety and Health	3
BA 2700	Organizational Behavior	3
BA 3110	Project Management I	3
BA 4010	Quality Management	3

Math

MA 1000	Foundations of Quantitative Methods	3
MA 1025	Quantitative Methods for Business	3
MA 2025	Statistical Methods for Business	3

Accounting & Information Systems

ACC 1010	Accounting Principles	3
ACC 1040	Managerial Accounting	3
IS 1100	Introduction to Information Systems	3

English

ENG 1245	English Composition	3
ENG 1255	Intermediate Compostion	3
ENG 1265	Advanced English Compostition	3
ENG 2320	Professional Communication	3

Humanities & Social Sciences

HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3
SS 2200	Macroeconomics	3
SS 2210	Microeconomics	3

Approved Electives	3
Total Credit Hours	**63**

** Offered only through the College of Professional Studies

College of Business
**Organizational Leadership/Bachelor of Science

The organizational leadership program provides students with the leadership competencies needed for 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 asterisk (*) must be taken in sequence as part of a Tracked Educational Adult Module (TEAM). 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 Student Information Center. Please check the schedule for TEAM starting dates.

curriculum:

Program Prerequisites		
ENG 1245	English Composition	3
ENG 1255	Intermediate Composition	3
Operations & Administrative Competencies		
BA 1400	Principles of Management	3
BA 2410	Human Resource Management	3
BA 2500	Marketing	3
BA 2850	Managing in the Legal Environment	3
IS 1100	Introduction to Information Systems	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 1265	Advanced English Composition	3
ENG 2320	Professional Communication	3
Humanities & Social Sciences		
HUM 2000	Introduction to Humanities	3
HUM	Electives	6
PSY 1700	Introduction to Psychology	3
SS 2800	Introduction to Sociology	3
SS or PSY	Electives	6
Approved Electives		36
Total Credits		**120**

Students must complete at least 45 credit hours, including ENG 1245, ENG 1255, and BA 2700, before enrolling in the organizational leadership TEAM.

** Offered only through the College of Professional Studies

Indiana Tech
College of Engineering

Mission

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 five academic areas: biomedical engineering, computer engineering, electrical 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 scholarship among the faculty as a means of supporting the teaching commitments of the university. The engineering faculty 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.

College of Engineering
Biomedical Engineering/Bachelor of Science

This program focuses on providing graduates with careers in the biomedical engineering field with a specialization in biomechanical skills. The degree is an interdisciplinary degree that combines classical mechanical engineering and biological sciences. With a biomedical engineering degree, graduates are prepared to work at companies that design and manufacture replacement limbs, joints, and tissues for the human body. The graduates will be successful in completing 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
- Understand professional and ethical responsibilities
- 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 life-long 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

curriculum:

Semester I

CH 1220	General Chemistry & Lab I	3
EGR 1710	Engineering Graphics and Design	3
ENG 1250	English Composition I	3
MA 1200	Calculus I	4
*BIOL 0180	Principles of Animal Biology	3
IIT 1000	Freshman Seminar	0
		17

Semester II

CH 1230	General Chemistry II	3
EGR 1500	Computer Programming for Engineers	3
ENG 1270	English Composition II	3
MA 1210	Calculus II	4
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
		17

Semester III

*BIOL 290	Comparative Anatomy	4
EGR 2000	Engineering Communication	3
EM 2010	Statics	3
MA 2100	Differential Equations & Linear Algebra	4
PH 2300	General Physics II	3
		17

Semester IV

*BIOL 349	Vertebrate Physiology	4
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
		17

Semester V

*BIOL 295	Genetics	4
HUM 2000	Introduction to Humanities	3
MA 2430	Probability & Statistics for Engineers	3
ME 3400	Mechanical Engineering Design I	3
PSY 1700	Introduction to Psychology	3
		16

Semester VI

*BIOL 440	Molecular Biology	3
BME 3100	Bio-Materials	3
BME 3200	Thermodynamics & Fluids	3
BME 3250	Thermodynamics & Fluids Lab	1
EGR 3700	CAD II including FEA	3
	Elective	3
		16

Semester VII

*BIOL 471	Immunology	3
BME 3500	Bio-kinematics	3
BME 4973	BME Senior Project I	2
EGR 4400	Professional Practice I	3
	Elective (Humanities)	3
		14

Semester VIII

*BIOL 350	Cell Biology	3
BME 4974	BME Senior Project II	3
SS 2200	Macroeconomics	3
	Elective (SS 2720 or SS 2800)	3
	Elective (Humanities)	3
		15

Total credits required **129**

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 program work on a variety of challenging projects within the areas of computer architecture, computer logic design, computer networks, and communications.

curriculum:

Semester I

NET 1200	Network Design I	4
MA 1200	Calculus I	4
ENG 1250	English Composition I	3
CS 1200	Introduction to Computer Science	3
EGR 1710	Engineering Graphics & Design	3
IIT 1000	Freshman Seminar	0
		17

Semester II

CS 1300	Computer Science I	3
NET 1250	Network Design II	4
MA 1210	Calculus II	4
ENG 1270	English Composition II	3
CH 1220	General Chemistry & Lab I	3
		17

Semester III

CS 1350	Computer Science II	3
CS 2410	Discrete Structures	3
EGR 2000	Engineering Communication	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1
MA 2100	Differential Equations & Linear Algebra	4
		17

Semester IV

CS 2100	Introduction to Computer Systems	3
SS 2200	Macroeconomics	3
PH 2300	General Physics II	3
PH 2310	General Physics II Lab	1
HUM 2000	Introduction to Humanities	3
PSY 1700	Introduction to Psychology	3
		16

Semester V

CS 3800	Data Structures	3
CPE 3500	Computer Engineering I	3
CPE 3550	Computer Engineering I Lab	1
EE 2100	Circuit Analysis I	3
MA 2430	Probability and Statistics	3
	Elective (Humanities)	3
		16

Semester VI

CS 3200	Operating Systems	3
EE 3650	Circuits Lab	1
EE 3100	Circuit Analysis II	3
CPE 3600	Computer Architecture	3
CPE 3610	Computer Architecture Lab	1
	Elective (Humanities)	3
	Elective (Social Science)	3
		17

Semester VII

EE 3150	Signals and Systems	3
EE 3200	Electronics Circuits I	3
CS 4500	Software Engineering	3
CPE 4500	Computer Engineering II	3
CPE 4600	Embedded Systems	3
CPE 4710	Senior Project Proposal	1
		16

Semester VIII

CPE 4720	Senior Project	3
CPE 4550	Computer Engineering II Lab	2
EE 4150	Digital Signal Processing	3
EGR 4400	Professional Practice	3
	Elective (SS/CPE/CS/EE)	3
		14

Total credits required 130

Note: Humanities elective must be chosen from an approved list.

College of Engineering
Electrical Engineering/Bachelor of Science

The electrical engineering program provides its graduates with a thorough knowledge of the fundamental principles and practices of modern electrical engineering. The program places emphasis on the general physical laws and theoretical concepts from which all technological applications derive. Studies in mathematics and science form the program foundation that prepares the student for the theories of electric circuits and electromagnetic fields. Upper level courses present the principle areas of technological application, including electronics, digital systems, 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 power distribution, aerospace, communications, and instrumentation industries.

Electrical engineering program educational objectives:

- Graduates have the curricular foundation to make contributions in a variety of disciplines within EE.
- Graduates are active contributors in positions requiring circuit design.
- Graduates make productive contributions in the EE disciplines typical of regional industry.
- Graduates have the foundation in math, science, and engineering to support continuing education, including graduate studies.
- Graduates positively reflect the field of EE through technical ability and communication skills.

curriculum:

Semester I

MA 1200	Calculus I	4
CH 1220	General Chemistry and Laboratory I	3
EGR 1710	Graphics and Design	3
ENG 1250	English Composition I	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		16

Semester II

MA 1210	Calculus II	4
CH 1230	General Chemistry II	3
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
EGR 1500	Computer Programming for Engineers	3
ENG 1270	English Composition II	3
		17

Semester III

MA 2100	Differential Equations & Algebra	4
MA 2430	Probability and Statistics	3
EM 2010	Statics	3
HUM 2000	Introduction to Humanities	3
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1
		17

Semester IV

MA 2200	Calculus III	4
EM 2020	Dynamics	3
EGR 2000	Engineering Communication	3
EE 2100	Circuit Analysis I	3
	Elective (Humanities)	3
		16

Semester VII

EGR 4400	Professional Practice I	3
EE 4200	Power Electronics	3
EE 4400	Electrical Machines	3
EE 4800	Linear Controls	3
EE 4973	EE Senior Project I	1
SS 2200	Macroeconomics	3
		16

Semester V

EE 3100	Circuit Analysis II	3
EE 3200	Electronics I	3
EE 3500	EM Fields and Waves	3
EE 3650	Circuits Laboratory	2
CPE 3500	Computer Engineering I	3
		14

Semester VI

EE 3150	Signals and Systems	3
EE 3220	Electronics II	3
EE 3550	Transmission Lines	3
EE 3750	Electronics Laboratory	2
CPE 3550	Computer Engineering I Lab	2
	Elective (Humanities)	3
		16

Semester VIII

EE 4100	Circuit Synthesis	3
EE 4300	Principles of Communication Systems	3
EE 4350	Communications Laboratory	1
EE 4450	Machines and Controls Laboratory	1
EE 4974	EE Senior Project II	3
	Elective (SS 2720 or SS 2800)	3
		14

Total credits required **126**

College of Engineering
Industrial & Manufacturing Engineering/Bachelor of Science

The fundamental activity of graduates from the industrial and manufacturing engineering program is the operation of a manufacturing plant 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 also includes courses in areas of high demand, such as computer-aided design and manufacturing, automation, and robotics. An industrial and manufacturing engineer may seek employment in any company engaged in manufacturing operations.

IME Program Outcomes: The IME program will produce graduates who 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 operations.

curriculum:

Semester I

MA 1035	College Algebra	3
CH 1000	Fundamentals of Chemistry	3
EGR 1710	Graphics and Design	3
PSY 1700	Introduction to Psychology	3
ENG 1250	English Composition I	3
IIT 1000	Freshman Seminar	0
		15

Semester II

CS 1250	Problem Solving for Programmers	3
MA 1060	Trigonometry	3
PH 1100	Fundamentals of Physics I	3
BA 1400	Principles of Management	3
ENG 1270	English Composition II	3
		15

Semester III

BA 2500	Marketing	3
MA 1100	Applied Calculus I	3
PH 2100	Fundamentals of Physics	3
IME 2010	Safety Engineering	3
EM 2030	Statics and Dynamics	3
		15

Semester IV

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

Semester V

EGR 2650	Manufacturing Processes	3
MA 3430	Probability and Statistics	3
IME 3040	Computer Integrated Mfg. Systems	4
IME 3110	Quality Control II	3
ACC 1010	Accounting Principles	3
		16

Semester VI

IME 3020	Computer Simulation of Mfg. Proc.	3
IME 3120	Design of Experiments	3
IME 3060	Advanced Computer Integrated Mfg.	3
HUM 2000	Introduction to Humanities	3
ACC 1040	Managerial Accounting	3
		15

Semester VII

EGR 4400	Professional Practice I	3
IME 4010	Tech Computer Graphics	3
IME 4020	Lean Manufacturing	3
IME 4973	IME Senior Project I	1
SS 2200	Macroeconomics	3
	Elective (Humanities)	3
		16

Semester VIII

IME 4110	Total Quality Management	3
IME 4974	IME Senior Project II	3
	Elective (SS 2720 or SS 2800)	3
	Elective (Humanities)	3
	Elective (Approved)	3
		15

Total credits required **122**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

College of Engineering
** Industrial & Manufacturing Engineering/Associate of Science

Graduates from this two-year degree understand the operational side of manufacturing 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 operations.

curriculum:

Business Administration		
BA 1400	Principles of Management	3
English		
ENG 1245	English Composition	3
ENG 1255	Intermediate Composition	3
Humanities and Social Sciences		
HUM 2000	Introduction to Humanities	3
SS 2200	Macroeconomics	3
Math and Science		
MA 1035	College Algebra	3
MA 1060	Trigonometry	3
MA 1100	Applied Calculus I	3
MA 3430	Probability and Statistics	3
CH 1000	Fundamentals of Chemistry	3
PH 1100	Fundamentals of Physics	3
Engineering		
EGR 1710	Graphics and Design	3
EGR 2000	Engineering Communication	3
EGR 2650	Manufacturing Processes	3
IME 2010	Safety Engineering	3
IME 2020	Work Design	3
IME 2110	Quality Control	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

College of Engineering
Mechanical Engineering/Bachelor of Science

The mechanical engineering program provides its 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, and instrumentation. The mechanical engineering program produces graduates:

- ready for immediate productive employment as "professionals" within industry.
- with the foundation in general education, mathematics, science, and engineering to support continuing education, including graduate studies.
- prepared to work in the design and manufacturing of thermal and mechanical systems.
- with the broad scientific background enabling them to identify, model, analyze, and solve real-world engineering problems.

curriculum:

Semester I

MA 1200	Calculus I	4
CH 1220	General Chemistry & Laboratory I	3
EGR 1710	Graphics and Design	3
*ENG 1250	English Composition I	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		16

Semester II

MA 1210	Calculus II	4
CH 1230	General Chemistry II	3
PH 1300	General Physics I	3
PH 1310	General Physics I Laboratory	1
EGR 1500	Computer Programming for Engineers	3
*ENG 1270	English Composition II	3
		17

Semester III

MA 2100	Differential Equations & Linear Algebra	4
MA 2430	Probability and Statistics	3
PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1
EM 2010	Statics	3
EGR 2000	Engineering Communication	3
		17

Semester IV

MA 2200	Calculus III	4
EGR 2600	Materials Science	3
EM 2020	Dynamics	3
EM 3100	Mechanics of Materials	3
EM 3150	Mechanics of Materials Laboratory	1
HUM 2000	Introduction to Humanities	3
		17

Semester V

EM 3500	Fluid Mechanics	3
EM 3550	Fluid Mechanics Laboratory	1
ME 3110	Theory of Machines	3
ME 3200	Thermodynamics I	3
ME 3400	Mechanical Engineering Design I	3
	Elective (Humanities)	3
		16

Semester VI

ME 4260	Heat Transfer	3
ME 4270	Heat Transfer Laboratory	1
ME 3410	Mechanical Engineering Design II	3
ME 3460	Computer-Aided Design	4
EE 2050	Electrical Engineering	3
	Elective (Humanities)	3
		17

Semester VII

EGR 2650	Manufacturing Processes	3
EGR 4400	Professional Practice I	3
ME 4973	ME Senior Project I	1
SS 2200	Macroeconomics	3
ME 4820	Computer Integrated Manufacturing	2
ME 4210	Computational Thermal/Fluids	2
		14

Semester VIII

EM 3700	Mechanical Vibrations	3
ME 4974	ME Senior Project II	3
	Elective (SS 2720 or SS 2800)	3
	Elective (Technical)	3
ME 4220	Energy Systems Design	3
		15

Total credits required **129**

Notes: Technical electives must be chosen from 3000-4000 level courses.

Indiana Tech

School of Computer Studies

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 your chosen 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. They also specialize in individual attention to ensure that you get the education you need and want.

Whichever computer studies 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.

School of Computer Studies
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. 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 in management, sales, accounting, or any field of endeavor that requires computer expertise. The graduate may also pursue further education in graduate school.

curriculum:

Semester I

CS 1200	Introduction to Computer Science	3
MA 1035	College Algebra	3
ENG 1250	English Composition I	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
	Elective (Approved)	3
		15

Semester II

CS 1300	Computer Science I	3
HUM 2000	Introduction to Humanities	3
MA 1060	Trigonometry	3
ENG 1270	English Composition II	3
	Elective (CH 1100 or CH 1220)	3
		15

Semester III

CS 1350	Computer Science II	3
ENG 2320	Professional Communication	3
CS 2400	Discrete Structures	3
	Electives (Approved)	3
Choose one of the following two courses		3
MA 1100	Applied Calculus I	
MA 1200	Calculus I	
		15

Semester IV

CS 2100	Introduction to Computer Systems	3
SS 2200	Macroeconomics	3
	Elective (Science)	3
	Elective (Approved)	3
Choose one of the following two courses		3
MA 1110	Applied Calculus II	
MA 1210	Calculus II	
		15

Semester V

CS 3800	Data Structures and Algorithms	3
	Elective (Science)	3
	Elective (SS or PSY)	3
	Electives (Approved)	6
		15

Semester VI

CS 3700	Object Orientation	3
SS 2210	Microeconomics	3
	Elective (Humanities)	3
	Electives (Approved)	6
		15

Semester VII

CS 4500	Software Engineering	3
CS 4600	Organization of Programming Languages	3
	Elective (SS 2720 or SS 2800)	3
	Elective (HUM Literature)	3
	Elective (Approved)	3
		15

Semester VIII

CS 4000	Seminar	1
CS 4800	System Software	3
CS 4900	Theory of Computation	3
	Elective (Humanities)	3
	Electives (Approved)	6
		16

Total credits required **121**

School of Computer Studies
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.

curriculum:

Semester I

CS 1200	Introduction to Computer Science	3
MA 1200	Calculus I	4
NET 1200	Network Design I	4
ENG 1250	English Composition I	3
IIT 1000	Freshman Seminar	0
		14

Semester II

MA 1210	Calculus II	4
CS 1300	Computer Science I	3
ENG 1270	English Composition II	3
NET 1250	Network Design II	4
CH 1220	General Chemistry & Lab I	3
		17

Semester III

ENG 2320	Professional Communication (or EGR 2000)	3
PH 1300	General Physics I	3
PH 1310	General Physics I Lab	1
CS 1350	Computer Science II	3
CS 2410	Discrete Structures	3
PSY 1700	Introduction to Psychology	3
		16

Semester IV

PH 2300	General Physics II	3
PH 2310	General Physics II Laboratory	1
CS 2100	Introduction to Computer Systems	3
CS 2500	Database Systems	3
HUM 2000	Introduction to Humanities	3
	Elective (Approved)	3
		16

Semester V

MA 3430	Probability and Statistics	3
CPE 3500	Computer Engineering I	3
CS 3500	Numerical Methods I	3
CS 3800	Data Structures and Algorithms	3
	Elective (Approved)	3
		15

Semester VI

CS 3200	Operating Systems	3
CS 3550	Numerical Methods II	3
CS 3700	Object Orientation	3
	Elective (Humanities)	3
	Elective (Approved)	3
		15

Semester VII

CS 4500	Software Engineering	3
CS 4600	Organization of Programming Languages	3
SS 2200	Macroeconomics	3
	Elective (SS 2720 or SS 2800)	3
	Elective (Approved)	3
		15

Semester VIII

CS 4000	Computer Science Seminar	1
CS 4800	System Software	3
CS 4900	Theory of Computation	3
SS 2210	Microeconomics	3
	Elective (Approved)	3
	Elective (Humanities)	3
		16

Total credits required **124**

Note: Humanities elective must be chosen from an approved list.

School of Computer Studies
Computer Security & Investigation/Bachelor of Science

curriculum:

Semester I

CJ 1100	Introduction to the Criminal Justice System	3
CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IS 1150	Principles of Information Systems	3
MA 1035	College Algebra	3
IIT 1000	Freshman Seminar	0
		15

Semester II

BA 1400	Principles of Management	3
ENG 1270	English Composition II	3
IS 1300	Programming I	4
NET 1500	Circuits & Signals	3
PSY 1700	Introduction to Psychology	3
		16

Semester III

BA 2700	Organizational Behavior	3
CJ 2400	Procedural Law	3
HUM 2000	Introduction to Humanities	3
IS 2100	Internet Fundamentals	3
NET 1200	Network Design I	4
		16

Semester IV

IS 2000	Physical Forensics	3
ENG 2320	Professional Communication	3
IS 2300	Programming II	3
MA 2025	Statistical Methods	3
NET 1250	Network Design II	4
		16

Semester V

CJ 3600	Basics of Criminal Investigation	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
PSY 3760	Abnormal Psychology	3
	Elective (Approved)	3
		15

Semester VI

CJ 3200	Criminal Behavior	3
HUM 3710	Ethics	3
IS 3200	Computer Forensics	3
NET 2900	Network Administration	3
SS 2800	Sociology	3
		15

Semester VII

IS 4000	Cyber Crime	3
IS 4100	System Analysis & Design	3
NET 3300	Network Security	3
SS 2210	Microeconomics	3
	Elective (Humanities)	3
		15

Semester VIII

CJ 4400	Fundamentals of Crime Analysis	3
IS 4600	Disaster Recovery	3
IS 4950	Internship or Elective (Approved)	6
	Elective (SS)	3
		15

Total credits required **123**

Note: Humanities elective must be chosen from an approved list.

School of Computer Studies
Graphic Communications/Associate of Science

curriculum:

Semester I

CS 1250	Problem Solving	3
IS 1200	Digital Imaging	3
ENG 1250	English Composition I	3
IS 1600	Drawing: Design Reasoning	3
MA 1025	Quantitative Methods for Business	3
IIT1000	Freshman Seminar	0
		15

Semester II

BA 2500	Marketing	3
ENG 1270	English Composition II	3
IS 1300	Programming I	4
PSY 1700	Introduction to Psychology	3
IS 1400	Visual Communications	3
		16

Semester III

IS 1800	Web Multimedia	3
IS 2100	Internet Fundamentals	3
IS 2400	Design Fundamentals	3
HUM 2000	Introduction to Humanities	3
BA 2550	Personal Selling	3
		15

Semester IV

IS 2450	Digital Video Editing & Production	3
IS 2950	Graphics Portfolio	3
CH 1100	Chemistry for Changing Times	3
BA 3500	Advertising	3
SS 2210	Microeconomics	3
		15

Total credits required **61**

School of Computer Studies
Information Systems/Bachelor of Arts

curriculum:

Semester I

ACC 1010	Accounting Principles	3
CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IS 1150	Principles of Information Systems	3
MA 1025	Quantitative Methods for Business	3
IIT 1000	Freshman Seminar	0
		15

Semester II

ACC 1040	Managerial Accounting	3
BA 1400	Principles of Management	3
ENG 1270	English Composition II	3
IS 1300	Programming I	4
PSY 1700	Introduction to Psychology	3
		16

Semester III

BA 2500	Marketing	3
HUM 2000	Introduction to Humanities	3
IS 2100	Internet Fundamentals	3
IS 2200	Developing Business Solutions	3
	Elective (Approved)	3
		15

Semester IV

CH 1100	Chemistry for Changing Times	3
ENG 2320	Professional Communication	3
IS 2300	Programming II	3
MA 2025	Statistical Methods for Business	3
	Elective (Humanities)	3
		15

Semester V

BA 2700	Organizational Behavior	3
BA 2800	E-commerce	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
	Elective (Approved)	3
		15

Semester VI

HUM 3710	Ethics	3
IS 2900	Web Applications	3
SS 2800	Sociology	3
	Elective (Approved)	3
	Elective (Humanities)	3
		15

Semester VII

IS 4100	Systems Analysis & Design	3
SS 2210	Microeconomics	3
	Elective (Approved)	3
	Elective (Approved)	3
	Elective (Humanities)	3
		15

Semester VIII

IS 4600	Disaster Recovery	3
IS 4700	IS Senior Project	3
IS 4950	Internship or Electives (Approved)	6
	Elective (SS)	3
		15

Total credits required **121**

School of Computer Studies
Information Systems/Bachelor of Science

curriculum:

Semester I

ACC 1010	Accounting Principles	3
CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IS 1150	Principles of Information Systems	3
MA 1035	College Algebra	3
IIT 1000	Freshman Seminar	0
		15

Semester II

BA 1400	Principles of Management	3
ENG 1270	English Composition II	3
IS 1300	Programming I	4
NET 1500	Circuits & Signals	3
PSY 1700	Introduction to Psychology	3
		16

Semester III

BA 2500	Marketing	3
HUM 2000	Introduction to Humanities	3
IS 2100	Internet Fundamentals	3
IS 2200	Developing Business Solutions	3
NET 1200	Network Design I	4
		16

Semester IV

IS 2000	Physical Forensics	3
ENG 2320	Professional Communication	3
IS 2300	Programming II	3
MA 2025	Statistical Methods	3
NET 1250	Network Design II	4
		16

Semester V

BA 2700	Organizational Behavior	3
BA 2800	E-commerce	3
CS 2500	Database Systems	3
IS 3100	Information Security	3
	Elective (Approved)	3
		15

Semester VI

HUM 3710	Ethics	3
IS 2900	Web Applications	3
IS 3200	Computer Forensics	3
NET 2900	Network Administration	3
SS 2800	Sociology	3
		15

Semester VII

IS 4100	System Analysis & Design	3
IS 4800	Technical Project Management	3
NET 3300	Network Security	3
SS 2210	Microeconomics	3
	Elective (Humanities)	3
		15

Semester VIII

IS 4600	Disaster Recovery	3
IS 4700	IS Senior Project	3
IS 4950	Internship or Elective (Approved)	6
	Elective (SS)	3
		15

Total credits required **123**

School of Computer Studies
Networking/Bachelor of Science

curriculum:

Semester I

CS 1250	Problem Solving	3
MA 1035	College Algebra	3
ENG 1250	English Composition I	3
NET 1200	Network Design I	4
IS 1800	Web Multimedia	3
IIT 1000	Freshman Seminar	0
		16

Semester II

NET 1250	Network Design II	4
ENG 1270	English Composition II	3
IS 1300	Programming I	4
NET 1500	Circuits & Signals	3
MA 1060	Trigonometry	3
		17

Semester III

PSY 1700	Introduction to Psychology	3
NET 2000	Windows Networking	3
NET 2300	Script Programming	3
EGR 2000	Engineering Communications	3
	Elective (COMM/LIT)	3
		15

Semester IV

NET 2500	Linux Networking	3
NET 2900	Network Administration	3
IS 2000	Physical Forensics	3
MA 1040	Finite Math	3
HUM 2000	Introduction to Humanities	3
		15

Semester V

NET 3300	Network Security	3
SS 2200	Macroeconomics	3
CS 2500	Database Systems	3
	Elective (Humanities)	3
	Elective (Approved)	3
		15

Semester VI

NET 3200	Wireless Communication	3
SS 2210	Microeconomics	3
	Elective (Approved)	3
	Elective (Approved)	3
	Elective (Approved)	3
		15

Semester VII

IS 4800	Technical Project Management	3
NET 4300	Voice and Video systems	3
IS 3100	Information Security	3
IS 4100	Systems Analysis & Design	3
	Elective (Approved)	3
		15

Semester VIII

NET 4000	Networking Seminar	1
NET 4900	Networking Project/Internship	3
	SS2720/2800	3
	Elective (HUM Literature)	3
	Elective (Approved)	3
	Elective (Approved)	3
		16

Total credits required **124**

School of Computer Studies
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.

curriculum:

Semester I

CS 1250	Problem Solving for Programmers	3
IS 1150	Principles of Information Systems	3
ENG 1250	English Composition 1	3
MA 1035	College Algebra	3
NET 1200	Network Design I	4
IIT 1000	Freshman Seminar	0
		16

Semester II

ENG 1270	English Composition II	3
NET 1250	Network Design II	4
IS 1300	Programming I	4
PSY 1700	Introduction to Psychology	3
MA 1040	Finite Math	3
		17

Semester III

IS 2100	Internet Fundamentals	3
BA 1400	Principles of Management	3
	ENG2320/EGR2000	3
NET 2000	Windows Networking	3
NET 2300	Script Programming	3
		15

Semester IV

NET 2500	Linux Networking	3
CH 1100	Chemistry for Changing Times	3
NET 2900	Network Design and Administration	3
SS 2210	Microeconomics	3
HUM 2000	Introduction to Humanities	3
		15

Total credits required **63**

School of Computer Studies
Software Engineering/Bachelor of Science

A new era in education has begun. In the revolutionary new 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 all directly relate to the S.E. projects you are working on.

For instance, what is learned in calculus will have a direct application to what is being worked on in S.E. And the skills gained from composition will directly enhance a student's ability to communicate S.E. concepts in the business world. And rather than having each course for an entire semester, classes are arranged into 3 to 6 week learning modules that revolve around S.E. projects. The result? A program that is intensely practical and academically rigorous.

curriculum:

Since SE is not a typical program, the curriculum gets broken down a little differently from the others in this book. The chart at the right shows the basic structure of the curriculum. On the left side, you'll see the courses grouped together by their subjects. Each course corresponds to an amount of credit hours earned per semester in the columns on the right. The courses are designed to overlap and intertwine with each other. So work done for one course may actually result in credits earned in another, or it will be reflected in an S.E. project or internship. Contact the program director for more information.

Courses / Subjects	total	Semesters I	II	III	IV	V	VI	VII	VIII
Computer Science	**21**								
Intro to CS		0							
Computer Science 1		3							
Computer Science 2			3						
Database Systems				3					
Operating Systems					3				
Object Orientation						3			
Data Str & Algorithms							3		
Org. of Prog. Languages								3	
Discrete Structures			2						
SE Projects/Internship	**30**	3	2	2	2	3	6	6	6
Directed Studies	**12**							6	6
Mathematics	**13**								
Calculus		3	4						
Linear Algebra				2					
Prob & Stats					2				
Differential Equations						2			
Social Science	**12**								
Economics		3		3					
Psychology			3						
Group Dynamics		3							
Humanities	**12**			3	3	3	3		
English/Communications	**9**	2	2	2	3				
Science	**11**								
Physics					4	4			
Chemistry							3		
Total:	**122**	**17**	**16**	**15**	**17**	**15**	**15**	**15**	**12**

School of Computer Studies
Web Development/Bachelor of Science

curriculum:

Semester I

CS 1250	Problem Solving	3
ENG 1250	English Composition I	3
IS 1150	Principles of Information Systems	3
IS 1200	Digital Imaging	3
MA 1025	Quantitative Methods for Business	3
IIT 1000	Freshman Seminar	0
		15

Semester II

BA 1400	Principles of Management	3
ENG 1270	English Composition II	3
IS 1300	Programming I	4
IS 1400	Visual Communication	3
PSY 1700	Psychology	3
		16

Semester III

BA 2500	Marketing	3
IS 2100	Internet Fundamentals	3
IS 1800	Web Multimedia	3
NET1200	Network Design I	4
IS 2600	Web Site Design	3
		16

Semester IV

BA 2800	E-Commerce	3
ENG 2320	Professional Communication	3
BA 2550	Personal Selling	3
IS 2300	Programming II	3
MA 2025	Statistical Methods	3
		15

Semester V

CS 2500	Database Systems	3
HUM 2000	Introduction to Humanities	3
IS 3100	Information Security	3
IS 3000	Web Site Deployment	3
	Elective (Approved)	3
		15

Semester VI

CH1100	Chemistry for Changing Times	3
IS 2900	Web Applications	3
NET 2900	Network Design & Administration	3
SS2800	Sociology	3
	Elective (Humanities)	3
		15

Semester VII

BA 2700	Organizational Behavior	3
IS 4100	Systems Analysis and Design	3
SS 2200	Macroeconomics	3
	Elective (Approved)	3
	Elective (Approved)	3
		15

Semester VIII

IS 4900	Web Site Management	3
IS 4950	Internship or Elective (Approved)	6
SS 2210	Microeconomics	3
	Elective (Humanities)	3
		15

Total credits required **122**

School of Computer Studies
Web Design/Associate of Science

curriculum:

Semester I

CS1250	Problem Solving	3
IS 1150	Principles of Information Systems	3
ENG 1250	English Composition I	3
MA 1025	Quantitative Methods for Business	3
IS 1200	Digital Imaging	3
IIT 1000	Freshman Seminar	0
		15

Semester II

ENG 1270	English Composition II	3
IS 1400	Visual Communications	3
IS 1300	Programming I	4
PSY 1700	Introduction to Psychology	3
HUM 2000	Introduction to Humanities	3
		16

Semester III

IS 2100	Internet Fundamentals	3
CS 2500	Database Systems	3
BA 2500	Marketing	3
IS 1800	Web Multimedia	3
IS 2600	Web Site Design	3
		15

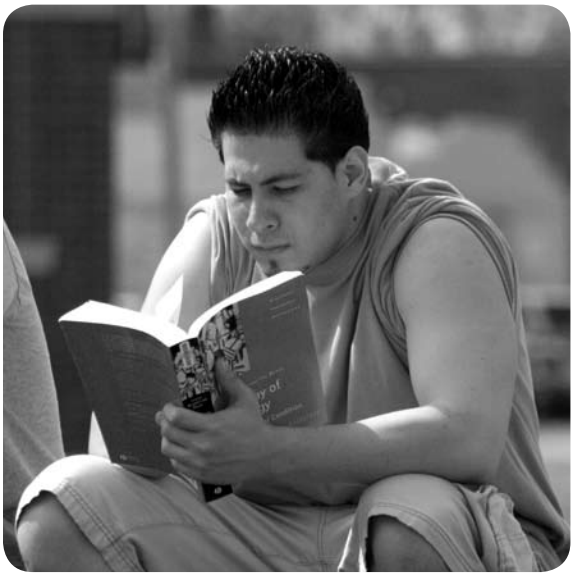
Semester IV

IS 2300	Programming II	3
CH 1100	Chemistry for Changing Times	3
IS 3000	Web Site Deployment	3
IS 2900	Web Applications	3
SS 2210	Microeconomics	3
		15

Total credits required **61**

Indiana Tech

College of General Studies



Mission

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 science, mathematics, 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.

Vision

Convinced that learning in the liberal arts and sciences 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 will develop, maintain, and deliver the university general education core classes and social service programs to meet current and evolving demands of life and work beyond the college classroom by engaging in the following efforts:

- Providing outstanding general education courses integrated with each student's major
- Emphasizing integrity and ethical behavior in all work and life decisions
- Engaging in a cycle of college program and policy review as a means of ongoing assessment and continuous improvement
- Employing and developing faculty who create outstanding new programs, shape curricula, teach and mentor students

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

College of General Studies
Communications/Bachelor of Arts

curriculum:

Semester I

ENG 1250	English Composition I	3
MA 1000	Foundations of Quantitative Methods	3
IS 1100	Introduction to Information Systems	3
PSY 1700	Introduction to Psychology	3
COMM 1250	Found. of Communication	3
IIT 1000	Freshman Seminar	0
		15

Semester II

ENG 1270	English Composition II	3
SS 1025	Quantitative Methods for Social Science	3
IIT 1270	Introduction to Critical Inquiry	3
COMM 1500	Rhetoric and Argument	3
PSY 2000	Understanding Diversity	3
		15

Semester III

ENG 2320	Professional Communication	3
SS 2800	Introduction to Sociology	3
BA 1400	Principles of Management	3
COMM 1600	Introduction to Journalism	3
PSY 2750	Psychology of Communication	3
		15

Semester IV

HUM 2000	Introduction to Humanities	3
HUM 2730	Introduction to Philosophy	3
SS 2720	Group Dynamics	3
COMM 2000	Persuasion and Propaganda	3
COMM 2500	Public Communication	3
		15

Semester V

BA 2700	Organizational Behavior	3
	*Concentration Course	3
COMM 3100	Media Theory and Criticism	3
	Elective (Approved)	3
Choose one of the following two courses		3
COMM 2100	Introduction to Cinema	
COMM 2200	On Television	
		15

Semester VI

SS 2200/2210	Macro/Microeconomics	3
PSY 3780	Research Methods/Statistics	3
	Elective (Humanities)	3
	*Concentration Course	3
	Elective (Approved)	3
		15

Semester VII

COMM 4000	Comm. Law & Ethics	3
	*Concentration Course	3
	Elective (Social Science)	3
	Elective (Approved)	9
		18

Semester VIII

COMM 4750	Applied Communication	3
	*Concentration Course	3
	*Concentration Course	3
	Elective (Approved)	3
.	Elective (Approved)	3
		15

Total credits required **123**

Concentrations in the communication program:

Advertising Concentration

BA 2500	Marketing
BA 2550	Personal Selling
BA 2800	E-Commerce
BA 3500	Advertising
IS 2500	Desktop Publishing

Digital Media Concentration

BA 2500	Marketing
BA 3500	Advertising
IS 1200	The Web and E-Commerce
IS 1800	Web Multimedia
IS 2500	Desktop Publishing

Journalism Concentration

COMM 1700	Photography
COMM 3200	Writing for Print Media
COMM 3300	Information Gathering and Reporting
COMM 3500	Editing and Design
IS 2500	Desktop Publishing

Public Relations Concentration

BA 4800	Public Relations
COMM 3400	Writing for Public Relations
COMM 3500	Editing and Design
COMM 4250	Crisis Communication
SS 2850	Conflict Resolution

College of General Studies
Human Services Management/Bachelor of Science

The human services management degree prepares the individual for employment in human services or graduate study. The student is provided an orientation to social agency administration with a management background. In addition, human services management experience is developed through placement in social and human service agencies in the Fort Wayne area.

curriculum:

Semester I

MA 1000	Foundations of Quantitative Methods	3
BA 1400	Principles of Management	3
PSY 1700	Introduction to Psychology	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
IIT 1000	Freshman Seminar	0
		15

Semester II

HS 1200	Introduction to Human Services	3
PSY 1750	Human Growth and Development	3
ENG 1270	English Composition II	3
	Elective (PSY/SS/CJ)	3
IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

HS 2000	Human Services Programming	3
SS 2800	Introduction to Sociology	3
ENG 2320	Professional Communication	3
BA 2500	Marketing	3
IIT 1100	Professional Development	3
		15

Semester IV

BA 2410	Human Resource Management	3
HS 2600	Human Services Field Experience	3
HUM 2000	Introduction to Humanities	3
SS 1025	Quantitative Methods for Social Science	3
SS 2720	Group Dynamics	3
		15

Semester V

SS 2810	Social Problems	3
BA 2700	Organizational Behavior	3
	Elective (Humanities)	3
	Electives (PSY/SS/CJ)	3
ENG 2400	Grant writing	3
		15

Semester VII

BA 4700	Training and Development	3
	Elective (Humanities)	3
	Elective (Approved)	9
	Electives (PSY/SS/CJ)	3
		18

Semester VI

BA 3710	Leadership	3
SS 2200	Macroeconomics	3
PSY 2000	Understanding Diversity	3
PSY 3740	Counseling Techniques	3
REC 3010	Nonprofit Management Practice	3
		15

Semester VIII

HS 4950	Human Services Internship	12
	Elective (Approved)	3
		15

Total credits required **123**

College of General Studies—School of Education
Teacher Education/Bachelor of Science

The mission of the School of Education is to prepare elementary education professionals from diverse backgrounds with the knowledge, skills, and dispositions to promote student learning and development, especially those in urban schools. Building on quality field experiences, the program develops reflective practitioners who model lifelong learning, technological competence, and professionalism.

Admission Requirements

Admission to the School of Education does not constitute admission to a teacher education program. Program planning and proper advisement must be completed to gain admission to teacher education programs. Regular status in the School of Education is maintained by meeting the quality point requirements for hours completed as designated by the general university requirement and evaluated by the registrar's office.

University Core for School of Education (62 hours)
The following course are to be taken during the freshman and sophomore semesters. All of the following courses are three credits unless otherwise indicated:

I. Written and Oral Communication (12 hours)
- ENG 1250 English Composition I
- ENG 1270 English Composition II
- ENG 2320 Professional Communication
- COMM 1250 Foundations of Communication

II. Humanities & Social Science (18 hours)

Humanities (6 hours)
- HUM 2000 Introduction to Humanities
- HUM 2510 Music Appreciation

Social Sciences (6 hours)
- SS 2410 World History
- SS 2720 Group Dynamics

Psychology (6 hours)
- PSY 1700 Introduction to Psychology
- PSY 2000 Understanding Diversity

III. Math (6 hours)
- MA 1000 Foundations of Quantitative Math or MA 1010 Basic Algebra (Course to be taken is based upon ACT or entrance test scores)
- MA 1010 Basic Algebra or MA1035 College Algebra (Course to be taken is based upon successful completion of MA 1000 or MA 1010)

IV. IIT (3 hours)
- IIT 1000 (Freshman Seminar [0])
- IIT 1270 (Introduction to Critical Thinking)

V. Sciences (10 hours)
- BIO 1000 (General Biology and Lab [4])
- LHS 2100 (First Aid)
- PHY 2000 (Physical Science)

VI. Education (13 hours)
- EDU 1000 (Intro to Education)
- EDU 1200 Issues in American Education
  Prerequisite: EDU 1000
- EDU 2010 Educational Psychology and Lab (4)
- EDU 2050 Technology Tools of Teaching

Teacher Education Programs and Requirements

Students desiring admission to the professional education program must present a pre-professional portfolio which documents the following:

Successful completion of all subtests of the Pre-Professional Skills Test (Praxis I)

Indiana requires the Praxis I PPST for teacher licensing. Under very limited circumstances, Core Battery scores are still accepted. Visit the Indiana Professional Standards Board for more information.

10710	PPST Reading	176
20720	PPST Writing	172
10730	PPST Mathematics (calculators prohibited)	175
	or	
5710	Computerized PPST Reading	176
5720	Computerized PPST Writing	172
5730	Computerized PPST Mathematics (calculators prohibited)	175

The tests should be successfully completed before, during or immediately following the following: English Composition I, English Composition II, or Contemporary Math. Students must pass all sections of Praxis I before taking education courses beyond EDU 1000 and EDU 1200.

1) Faculty interview and completed application signed by advisor and applicant.

2) Complete EDU 1000, EDU 1200 and EDU 2010 with a grade of B- or better.

3) Complete a federal criminal background check, facilitated by the Teacher Education Program at Indiana Tech.

4) Successfully complete 65 credit hours of listed required courses and electives, with a GPA of 2.75 of general education coursework, and 2.75 of education coursework. Student must be currently taking coursework as required and be making satisfactory progress.

5) Submission of two Faculty/Supervisor Disposition Reference forms. This survey documents the candidate's dispositions and is required by the faculty and field experience teacher from EDU 1000, EDU 1200 and EDU 2010.

6) Personal Written Essay/Statement of philosophy and career commitment.

7) Letter of previous experience working with children.

8) Passage of the Basic Technology Exam.

Students will not be admitted into the teacher dducation program if their indiana tech academic status shows they are on probation, probation continued, or while suspended. A minimum overall GPA of 2.75 (transfer credit, transfer plus indiana tech, or at indiana tech) is required for admission to the teacher education program.

All applicants desiring to pursue a teacher education program degree must request formal admission to the teacher education program through the dean's office, School of Education. Students pursuing an undergraduate degree with a major in elementary education will attain an elementary teacher's license (certification for grades kindergarten through grade six). This degree program focuses on emergent literacy and educational methodologies specific to kindergarten students and continuing through the early/middle primary grades. Students will also choose an area of core academic endorsement in one of the following

Degree Plan

K-5 emphasis with one additional endorsement.

(Middle School/Junior High—Highly Qualified Area)

Grades 6-8

Curriculum on next page ▸

Elementary Education/Bachelor of Science {continued}

Proposed Curriculum:

Freshman Year, Fall Semester

ENG 1250	English Comp I	3
COMM 1250	Foundations of Communication	3
PSY 1700	Introduction to Psychology	3
EDU 1000	Introduction to Education	3
IIT 1000	Freshman Seminar	0
MA 1000	Quantitative Math	3
	or	
MA 1010	Basic Algebra	3
		15

Freshman Year, Spring Semester

ENG 1270	English Comp II	3
IIT 1270	Introduction to Critical Inquiry	3
BIO 1000	General Biology & Lab	4
MA 1010	Basic Algebra	3
	or	
MA 1035	College Algebra	3
HUM 2000	Introduction to Humanities	3
		16

Summer Session

ALL Majors need to take ONE elective during summer or online 3

Sophomore Year, Fall Semester

EDU 1200	Issues in American Education	3
PSY 2000	Understanding Diversity	3
ENG 2320	Professional Communication	3
HUM 2510	Music Appreciation	3
LHS 2100	First Aid	3
		15

Sophomore Year, Spring Semester

EDU 2010	Educational Psychology & Lab	4
EDU 2050	Technology Tools of Teaching	3
PHY 2220	Physical Science	3
SS 2410	World History	3
SS 2720	Group Dynamics	3
		16

Summer Session or Online

Math Majors need to take ONE elective during summer or online 3

Social Studies Majors need to take ONE elective during summer or online 3

EDU 3020 General Teaching Methods 4
(Recommended taken in the summer if possible because of the need for preparation for Praxis II)

Junior Year, Fall Semester: Block A
(Courses should be considered a block and taken together)

EDU 3020	General Teaching Methods	4
	(If not taken during the previous summer)	
EDU 3040	Teaching Methods for Language Arts/ Social Studies	3
EDU 3100	Introduction to Literature	3
EDU 3200	Teaching Special Needs Students	3
HUM, SS, ENG, MA, Science:		
	Required or Concentration Courses from Approved List	6
		15 or 19

Junior Year, Spring Semester: Block B
(Courses should be considered a block and taken together)

EDU 3050	Teaching Methods for Math/Science	3
EDU 3150	Methods of Reading	3
EDU 3250	Testing – Assessment for Teaching	3
	HUM, SS, ENG, MA, Science Required or Concentration Courses from Approved list	6
		15

Summer Preparation Seminar - Praxis II Prep

Complete course work as needed.

All coursework and praxis exams have to be completed before student teaching can begin.

Please make sure all courses are completed with at least a C or better. You must have a GPA of 2.65 to complete Student Teaching. Students who have not made passing scores on all Praxis elementary education exams will not student teach until this is accomplished. No exceptions will be made.

Senior Year, Fall Semester

EDU 4000	Functional Behavior Analysis and Behavior Management	3
EDU 4030	Integrated Methods: Art, Music , PE/Health	3
EDU 4020	Inclusive Classroom Instruction	3
EDU 4040	Curriculum Materials in the Classroom	3
EDU 4100	School Law – State and Federal Perspectives	3
		15+

Finish any HUM, SS, ENG, MA, Science: Required or Concentration Courses from approved list.

Senior Year, Spring Semester

EDU 4900	Student Teaching (Early)	4
EDU 4950	Student Teaching (Middle)	4
EDU 4850	Seminar for Student Teaching	1
		9

Total 126

The Recreation Management & Therapeutic Recreation Programs

Recreation management and therapeutic recreation 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 degree in recreation management prepares a student to seek employment in a variety of recreation settings. The degree in therapeutic recreation provides students with practical experience and a theoretical background sufficient to work in therapeutic and clinical settings. Both 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 therapeutic recreation. 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 management, and B.S. therapeutic recreation. Also, recreation management students can select a sports management concentration.

The associate degree is designed for activity specialists and programmers. Credits earned in the two-year program are fully applicable toward the 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. Therapeutic recreation 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.

Recreation Management/Associate of Science

curriculum:

Semester I

REC 1200	Introduction to Recreation Management	3
BA 1400	Principles of Management	3
PSY 1700	Introduction to Psychology	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
IIT 1000	Freshman Orientation	0
		15

Semester II

MA 1000	Introduction to Quantitative Methods	3
PSY 1750	Human Growth and Development	3
HS 1200	Introduction to Human Services	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

REC 2000	Recreation Programming	3
SS 2800	Introduction to Sociology	3
ENG 2320	Professional Communication	3
HUM 2000	Introduction to Humanities	3
IIT 1100	Professional Development	3
	Elective (Approved)	3
		18

Semester IV

SS 2720	Group Dynamics	3
REC 2600	Recreation Field Experience	3
PSY 3740	Counseling Techniques	3
SS 1025	Quantitative Methods for Social Science	3
	Elective (Humanities)	3
		15

Total credits required 63

College of General Studies
Recreation Management/Bachelor of Science

curriculum:

Semester I

REC 1200	Introduction to Recreation Management	3
BA 1400	Principles of Management	3
PSY 1700	Introduction to Psychology	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
IIT 1000	Freshman Seminar	0
		15

Semester II

MA 1000	Introduction to Quantitative Methods	3
PSY 1750	Human Growth and Development	3
ENG 1270	English Composition II	3
HS 1200	Introduction to Human Services	3
IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

REC 2000	Recreation Programming	3
SS 2800	Introduction to Sociology	3
HUM 2000	Introduction to Humanities	3
ENG 2320	Professional Communication	3
IIT 1100	Professional Development	3
		15

Semester IV

SS 2720	Group Dynamics	3
REC 2600	Recreation Field Experience	3
PSY 2000	Understanding Diversity	3
SS 1025	Quantitative Methods for Social Science	3
	Elective (Humanities)	3
		15

Semester V

SS 2810	Social Problems	3
BA 2500	Marketing	3
BA 2410	Human Resources Management	3
ENG 2400	Grant Writing	3
	Electives (Approved)	3
		15

Semester VI

REC 3010	Nonprofit Management Practices	3
SS 2200	Macroeconomics	3
PSY 3740	Counseling Techniques	3
	Electives (Approved)	3
	Electives (PSY/SS/CJ)	3
		15

Semester VII

BA 3710	Leadership	3
	Elective (Humanities)	3
	Electives (Approved)	9
	Electives (PSY/SS/CJ)	3
		18

Semester VIII

REC 4950	Recreation Internship	12
	Elective (Approved)	3
		15

Total credits required **123**

College of General Studies

Recreation Management/Bachelor of Science

Sports Management Concentration

curriculum:

Semester I

REC 1200	Introduction to Recreation Services	3
BA 1400	Principles of Management	3
SM 1400	Introduction to Sports Management	3
ENG 1250	English Composition I	3
PSY 1700	Introduction to Psychology	3
IIT 1000	Freshman Seminar	0
		15

Semester II

IS 1100	Introduction to Information Systems	3
BA 2500	Marketing	3
REC 1250	Introduction to Sports/Activities	3
ENG 1270	English Composition II	3
IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

MA 1000	Introduction to Quantitative Methods	3
REC 2000	Recreation Programming	3
HUM 2000	Introduction to Humanities	3
SS 2800	Introduction to Sociology	3
IIT 1100	Professional Development	3
		15

Semester IV

BA 2410	Human Resources Management	3
SM 2600	Field Experience	3
SM 3100	Facilities Management	3
PSY 1750	Human Growth and Development	3
MA 1025	Quantitative Methods for Business	3
		15

Semester V

ENG 2320	Professional Communication	3
SS 2200	Macroeconomics	3
	Elective (Approved)	3
	Elective (Humanities)	3
Choose one of the following two courses:		3
BA 2700	Organizational Behavior	
SS 2720	Group Dynamics	
		15

Semester VI

REC 3010	Nonprofit Management Practices	3
BA 3710	Leadership	3
PSY 3740	Counseling Techniques	3
	Electives (Approved)	6
		15

Semester VII

SM 4200	Marketing, Promotions, Fund Raising	3
SS 3300	Sports in Society	3
	Elective (Approved)	9
	Elective (Humanities)	3
		18

Semester VIII

REC 4950	Recreation Internship	12
	Electives (Approved)	3
		15

Total credits required **123**

College of General Studies
Therapeutic Recreation/Bachelor of Science

curriculum:

Semester I

TR 1230	Introduction to Therapeutic Recreation	3
MA 1000	Introduction to Quantitative Methods	3
PSY 1700	Introduction to Psychology	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
IIT 1000	Freshman Seminar	0
		15

Semester II

REC 1200	Introduction to Recreation Services	3
PSY 1750	Human Growth and Development	3
ENG 1270	English Composition II	3
HS 1200	Introduction to Human Services	3
IIT 1270	Introduction to Critical Inquiry	3
		15

Semester III

REC 2000	Recreation Programming	3
HUM 2000	Introduction to Humanities	3
ENG 2320	Professional Communication	3
IIT 1100	Professional Development	3
BA 1400	Principles of Management	3
		15

Semester IV

SS 2720	Group Dynamics	3
TR 2600	Therapeutic Recreation Field Experience	3
SS 1025	Quantitative Methods for Social Science	3
TR 2300	TR Intervention and Facilitation	3
BIO 1110	Anatomy and Physiology	3
		15

Semester V

SS 2810	Social Problems	3
PSY 3760	Abnormal Psychology	3
PSY 2000	Understanding Diversity	3
SS 2800	Introduction to Sociology	3
	Elective (Social Science or PSY)	3
		15

Semester VI

SS 2200	Macroeconomics	3
PSY 3740	Counseling Techniques	3
REC 3010	Nonprofit Management Practices	3
TR 3100	TR for Special Problems	3
	Elective (HUM)	3
		15

Semester VII

TR 4100	Client Assessment and Evaluation	3
	Elective (Humanities)	3
	Electives (Approved)	9
	Elective (PSY/SS/CJ)	3
		18

Semester VIII

TR 4950	Therapeutic Recreation Internship	12
	Electives (Approved)	3
		15

Total credits required **123**

College of General Studies
Psychology/Bachelor of Science

The psychology major at Indiana Tech is designed to give students a solid foundation for a variety of helping careers. While the program includes course requirements appropriate for students interested in further graduate study and research, the primary focus of the degree is to provide the foundation for a practitioner-oriented career. It is designed for individuals who wish to pursue a career in a helping profession and who desire to maintain broad career flexibility. Graduates holding this degree may choose a career in many fields including human services, human resource development, sales, law enforcement, opinion research, child care, counseling, and residential care for elderly or developmentally impaired persons. The specific goals of the program are: (1) to develop an appreciation and understanding of individual human behavior, (2) to develop strong communication and critical thinking skills as well as necessary math and technology skills, and (3) to provide students with the basic skills needed for an entry-level psychology position or for continued professional development, such as graduate study.

curriculum:

Semester I

PSY 1700	Introduction to Psychology	3
BA 1400	Principles of Management	3
MA 1000	Introduction to Quantitative Methods	3
ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
IIT 1000	Freshman Seminar	0
		15

Semester II

PSY 1750	Human Growth & Development	3
IIT 1270	Introduction to Critical Inquiry	3
HS 1200	Introduction to Human Services	3
ENG 1270	English Composition II	3
SS 1025	Quantitative Methods for Social Sciences	3
		15

Semester III

PSY 2760	Personality Theory	3
SS 2800	Introduction to Sociology	3
HUM 2000	Introduction to Humanities	3
ENG 2320	Professional Communication	3
IIT 1100	Professional Developement	3
		15

Semester IV

PSY 2780	Social Psychology	3
SS 2720	Group Dynamics	3
PSY 2600	Field Experience (suggested) OR	
	Elective (Approved)	3
SS 2810	Social Problems	3
BIO 1110	Anatomy & Physiology	3
		15

Semester V

PSY 3200	Introduction to Psychotherapy	3
PSY 3760	Abnormal Psychology	3
PSY 3770	Assessment in Psychology	3
SS 2200	Macroeconomics	3
	Elective (Humanities)	3
		15

Semester VI

HS 1200	Introduction to Human Services	3
PSY 3740	Counseling Techniques	3
PSY 3780	Research & Statistics in Psychology	3
PSY 2000	Understanding Diversity	3
	Electives (Humanities)	3
		15

Semester VII

PSY 4200	Senior Seminar in Psychology	3
BA 2700	Organizational Behavior	3
	Elective (E/H/S/PSY)	3
	Electives (Approved)	6
One of the following two courses		3
PSY 3720	Child and Adolescent Psychology	
PSY 3730	Aging	
		18

Semester VIII

PSY 4950	Internship (Suggested)	3
	Electives (Approved)	12
		15

Total credits required **123**

Indiana Tech
Center for Criminal Sciences

Mission

Crime fighting isn't as glamorous as it seems on TV or in the movies. It requires hard work by well-trained individuals—from the police officers on the street to the highest ranks of law enforcement and everyone in between. That's where Indiana Tech's Center for Criminal Sciences comes in.

The Center for Criminal Sciences, which is part of the College of General Studies, was developed to meet the crime fighting needs of today's world. To lead the program, Tech enlisted none other than former Fort Wayne Police Chief T. Neil Moore. Guided by more than 30 years of experience, Moore crafted a program that would not only meet the needs of modern law enforcement, but also ensure the professional success of its graduates.

The field of criminal justice offers multiple career opportunities in local, state, and federal agencies, as well as private sector corporations. The possibilities of putting your criminal justice degree to work are varied and numerous. Pursuing a degree at the Center for Criminal Sciences will give you the knowledge and background you need to achieve your dream of helping to make your neighborhood, your town, and your world safer.

Center for Criminal Sciences

Criminal Justice/Bachelor of Science
Crime Analysis Specialty

The bachelor's degree program has a core of criminal justice courses, and this program allows the student to specialize in either law enforcement administration or crime analysis. The crime analysis specialty has been designed to meet the growing need for people who are capable of analyzing crime and intelligence data. The curriculum blends criminological theory with the use of computer software and analytical techniques to explore methods of predicting, preventing, and controlling crime.

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

curriculum:

Semester I

CJ 1100	Introduction to the Criminal Justice System	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Introduction to Quantitative Methods	3
BA 1400	Principles of Management	3
IIT 1000	Freshman Seminar	0
		15

Semester II

CJ 2300	Substantive Criminal Law	3
CJ 2100	The Police in America	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
SS 1025	Quantitative Methods for Social Science	3
		15

Semester III

CJ 2200	Corrections in America	3
CJ 2400	Understanding Procedural Law	3
PSY 1700	Introduction to Psychology	3
BA 2700	Organizational Behavior	3
SS 2800	Introduction to Sociology	3
		15

Semester IV

CJ 3200	Understanding Criminal Behavior	3
CJ 3400	Criminal Courts & Courtroom Demeanor	3
ENG 2320	Professional Communication	3
SS 2810	Social Problems	3
MA 2025	Statistical Methods for Business	3
		15

Semester V

CJ 3100	A System of Juvenile Justice	3
CJ 3600	Basics of Criminal Investigation	3
SS 2200/10	Macro/Microeconomics	3
	Elective (PSY)	3
HUM 2000	Introduction to Humanities	3
		15

Semester VI

CJ 3500	Applied Research Methods	3
CJ 4400	Fundamentals of Crime Analysis	3
PSY 2000	Understanding Diversity	3
BA 3710	Leadership	3
	Electives (Approved)	3
		15

Semester VII

CJ 4500	Crime Mapping/Spatial Analysis	3
PSY 3760	Abnormal Psychology	3
	Humanities Elective	3
	Electives (Approved) (3)	9
		18

Semester VIII

CJ 4600	Crime Prevention/Environmental Design	3
HUM 3710	Ethics	3
	Elective (PSY)	3
	Elective (Approved) (2)	6
		15

Total credits required **123**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

Center for Criminal Sciences
Criminal Justice/Bachelor of Science
Law Enforcement Administration Specialty

The bachelor's degree program has a core of criminal justice courses, and this program allows the student to specialize in either law enforcement administration or crime analysis. The law enforcement administration concentration is a unique study of the management and operation of policing organizations. The Indiana Tech program is the only one in the state to offer an in-depth look at this aspect of criminal justice.

Students who choose the law enforcement administration specialty will gain an understanding of different structures and philosophies of police organizations. Graduates may become entry level police officers with the broader understanding of police operations necessary for achieving higher rank.

curriculum:

Semester I

CJ 1100	Introduction to the Criminal Justice System	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Introduction to Quantitative Methods	3
BA 1400	Principles of Management	3
IIT 1000	Freshman Seminar	0
		15

Semester II

CJ 2300	Substantive Criminal Law	3
CJ 2100	The Police in America	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
SS 1025	Quantitative Methods for Social Science	3
		15

Semester III

CJ 2200	Corrections in America	3
CJ 2400	Understanding Procedural Law	3
PSY 1700	Introduction to Psychology	3
BA 2700	Organizational Behavior	3
SS 2800	Introduction to Sociology	3
		15

Semester IV

CJ 3200	Understanding Criminal Behavior	3
CJ 3400	Criminal Courts & Courtroom Demeanor	3
ENG 2320	Professional Communication	3
SS 2810	Social Problems	3
MA 2025	Statistical Methods for Business	3
		15

Semester V

CJ 3100	A System of Juvenile Justice	3
CJ 3600	Basics of Criminal Investigation	3
ENG 2400	Grant Writing	3
	Elective (PSY)	3
HUM 2000	Introduction to Humanities	3
		15

Semester VI

CJ 4200	Law Enforcement Planning Process	3
SS 2200/10	Macro/Microeconomics	3
PSY 2000	Understanding Diversity	3
BA 3710	Leadership	3
	Electives (Approved)	3
		15

Semester VII

CJ 4100	Technology in Criminal Justice	3
PSY 3760	Abnormal Psychology	3
	Electives (HUM)	3
	Electives (Approved)	9
		18

Semester VIII

CJ 4300	Police Organization and Management	3
HUM 3710	Ethics	3
	Elective (PSY)	3
	Electives (Approved)	6
		15

Total credits required 123

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

Center for Criminal Sciences
Criminal Justice/Associate of Science

The associate degree in criminal justice will provide a broad overview of the criminal justice system. The core courses examine the criminal justice system as a whole, and then take a closer look at various components of the system, such as the police, the courts, and the corrections system.

curriculum:

Semester I

CJ 1100	Introduction to the Criminal Justice System	3
*ENG 1250	English Composition I	3
IS 1100	Introduction to Information Systems	3
MA 1000	Introduction to Quantitative Methods	3
BA 1400	Principles of Management	3
IIT 1000	Freshman Seminar	0
		15

Semester II

CJ 2300	Substantive Criminal Law	3
CJ 2100	Police in America	3
*ENG 1270	English Composition II	3
*IIT 1270	Introduction to Critical Inquiry	3
Choose one of the following two courses		3
SS 1025	Quantitative Methods for Social Science	
MA 1025	Quantitative Methods for Business	
		15

Semester III

CJ 2200	Corrections in America	3
CJ 2400	Understanding Procedural Law	3
CJ 3600	Basics of Criminal Investigation	3
BA 2700	Organizational Behavior	3
SS 2800	Introduction to Sociology	3
PSY 1700	Introduction to Psychology	3
		18

Semester IV

CJ 3200	Understanding Criminal Behavior	3
CJ 3400	Criminal Courts & Courtroom Demeanor	3
ENG 2320	Professional Communication	3
PSY 2000	Understanding Diversity	3
BA 3710	Leadership	3
		15

Total credits required **63**

*Students in the College of Professional Studies will take ENG 1245, ENG 1255 and ENG 1265 instead of ENG 1250, ENG 1270 and IIT 1270.

Indiana Tech

Additional Undergraduate Programs

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).

curriculum:

Semester I		
ENG 1250	English Composition I	3
PSY 1700	Introduction to Psychology	3
Math (TBD by exam)		3
IIT 1000	Freshman Seminar	0
Electives (Approved)		6
		15

Semester II		
ENG 1270	English Composition II	3
SS 2800	Sociology	3
IS 1100	Introduction to Information Systems	3
	Electives (Approved)	6
		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 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 core requirements current at the time
- 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
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 hours of credit 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 Minor

ACC 1010	Principles of Accounting	3
ACC 1040	Managerial Accounting	3
ACC 2200	Intermediate Accounting I	3
ACC 2400	Cost Accounting	3
ACC 2240	Intermediate Accounting II	3
BA 1400	Principles of Management	3
BA 2850	Managing in the Legal Environment	3
MA 1025	Quantitative Methods for Business	3
		24

Athletic Training Minor

BIO 1110	Anatomy & Physiology	3
LHS 2100	First Aid in Fitness Settings	3
LHS 2110	Principles of Fitness and Nutrition	3
LHS 2120	Care and Prevention of Athletic Injuries	3
LHS 3100	Introduction to Physiology of Exercise	3
LHS 3300	Therapeutic Modalities in Athletic Training	3
LHS 4300	Biomechanics of Physical Activity	3
LHS 4350	Athletic Training Practicum	3
		24

Business Administration Minor

ACC 1010	Principles of Accounting	3
BA 1400	Principles of Management	3
BA 2410	Human Resources Management	3
BA 2500	Marketing	3
BA 2850	Managing in the Legal Environment	3
BA 4010	Quality Management	3
	2 BA Electives (above 3000 level)	6
		24

Coaching Minor

BIO 1110	Anatomy & Physiology	3
LHS 2100	First Aid in Fitness Settings	3
LHS 2110	Principles of Fitness and Nutrition	3
LHS 2120	Care and Prevention of Athletic Injuries	3
LHS 3100	Introduction to Physiology of Exercise	3
LHS 3200	Strength and Weight Training	3
LHS 3210	Principles and Philosophies of Coaching	3
LHS 4200	Coaching Practicum	3
		24

Dance Minor

LHS 1100	Introduction to Dance	3
LHS 2500	Dance History	3
LHS 2510	Modern Dance Technique I	3
LHS 2520	Ballet	3
LHS 3500	Modern Dance Technique II	3
LHS 3510	Improvisation	3
LHS 4500	Principals of Choreography	3
LHS 4510	Dance Pedagogy	3
		24

Computer Science Minor

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
Choose one of the following pairs:		6
CS 2410	Discrete Structures	
CS 4900	Theory of Computation	
	or	
CS 2100	Introduction to Computer Systems	
CS 4800	System Software	
	or	
CS 3500	Numerical Methods I	
CS 3550	Numerical Methods II	
		24

E-Commerce Minor

CS 1250	Problem Solving for Programmers	3
IS 1100	Introduction to 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 2900	Electronic Commerce Systems	3
IS 4700	IS Senior Project	3
		25

Humanities Minor

HUM 2000	Introduction to Humanities	3
HUM 2730	Introduction to Philosophy	3
HUM 3710	Ethics	3
HUM 3720	Advanced Critical Thinking	3
Choose at least three:		9
HUM 3310	Interpretation of Fiction	
HUM 3320	Major British Writers	
HUM 3330	American Writers	
HUM 3340	World Cultures	
HUM 3350	Great Books of the Western World	
Choose one of the following:		3
	Additional HUM course	
	SS 2410, SS 2430, SS 2440, or SS 2460	
		24

Industrial & Manufacturing Engineering Minor

EGR 2650	Manufacturing Processes	3
IME 2010	Safety Engineering	3
IME 2020	Work Design	3
IME 2110	Quality Control I	3
IME 3020	Computer Sim Manuf Process I	3
IME 3040	Computer Integrated Manuf Systems	4
IME 4020	Lean Manufacturing	3
IME 4200	Environmental Engineering	3
		25

Information Systems Minor

IS 1100	Introduction to Information Systems	3
IS 1300	Programming I	4
IS 1500	Internet Fundamentals	3
IS 2200	Developing Business Solutions	3
IS 2300	Programming II	3
IS 4100	System Analysis and Design	3
CS 1250	Problem Solving for Programmers	3
CS 2500	Database Systems	3
		25

Information Security Minor

NET 1200	Network Design	4
NET 1250	Network Design II	4
IS 3100	Information Security	3
IS 3200	Computer Forensics	3
NET 3300	Network Security	3
IS 3400	Disaster Recovery	3
Choose one of the following sequences:		
CS 1250	Problem Solving	3
IS 1300	Programming I	4
IS 2300	Programming II	3
	or	
CS 1200	Intro to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
	or	
CS 1250	Problem Solving	3
NET 1300	Script Programming	3
		29–30

Networking Minor

NET 1200	Network Design I	4
NET 1250	Network Design II	4
NET 2000	Windows Networking	3
NET 2500	Linux Networking	3
NET 2900	Network Design and Administration	3
Choose one of the following sequences		
CS 1250	Problem Solving for Programmers	3
IS 1300	Programming I	4
IS 2100	Internet Fundamentals	3
OR		
CS 1200	Introduction to Computer Science	3
CS 1300	Computer Science I	3
CS 1350	Computer Science II	3
		23–24

Personal Fitness Coaching Minor

BIO 1110	Anatomy & Physiology	3
LHS 2100	First Aid in Fitness Settings	3
LHS 2120	Care and Prevention of Athletic Injuries	3
LHS 3100	Introduction to Physiology of Exercise	3
LHS 3400	Methods of Fitness Exercise Instruction	3
LHS 3410	Fitness Testing and Interpretation	3
LHS 4400	Certification Seminar	3
LHS 4450	Personal Fitness Trainer Practicum	3
		24

Psychology Minor

PSY 1700	Introduction to Psychology	3
PSY 2000	Understanding Diversity	3
PSY 2760	Theories of Personality	3
PSY 2780	Social Psychology	3
PSY 3740	Counseling Techniques	3
PSY 3760	Abnormal Psychology	3
PSY 3770	Assessment in Psychology	3
SS 1025	Quantitative Methods for Social Sciences	3
		24

Indiana Tech

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.

About the Graduate Programs

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 10 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), and a Master of Science in Engineering Management. 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.

College of Professional Studies
Master of Business Administration

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 inter national marketplaces. MBA students can become immersed in a concentration that best fits their goals. Concentrations are offered in accounting, human resources, management, and marketing.

curriculum:

The following courses are required for students in the human resources, marketing, and management concentrations.

Foundation Core

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
MSM 5310	Business Ethics	3
MBA 5330	Business Law	3
MBA 7000	Business Policy & Strategy	3
	Concentration Courses	6
	Electives	6
Total Credits		**42**

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.

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 6420	Marketing Research	3
MBA 6400	International Marketing	3

College of Professional Studies
Master of Business Administration, Accounting

The MBA program has been revised for the 2007–08 academic year and now requires 42 credits of course work. New students entering the program must follow the requirements below. Students who entered the program prior to Session 1 2007 must follow the requirements for the catalog year in which they enrolled.

curriculum:

Foundation Core

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
MSM 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	Forensic Accounting	3
MBA 6860	Becker Review	6

Total Credits	**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.

curriculum:

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 5320	Quality Management	3
MBA 5600	Human Resource Management	3
MBA 6600	Employment Law	3
MSM 5310	Business Ethics	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	**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.

curriculum:

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 5320	Quality Management	3
MBA 5340	Operations Management	3
MBA 5350	Customer Relationship Management	3
MBA 5600	Human Resource Management	3
MBA 5330	Business Law	
or		
MBA 6600	Employment Law	3
MBA 7000	Business Policy & Strategy	3
MSM 5100	Qualitative Decision Making	3
MSM 5310	Business Ethics	3
MSM 5400	Negotiation Skills	3
MSM 6400	Managing Change	3
	Electives	6

Total Credit Hours	**60**

*Elective courses are any graduate-level business courses offered by the university or accepted as transfer credit.

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.

curriculum:

MSE Courses

MSE 5000	Introduction to Engineering Management (first course)	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 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 **42**

Graduate Admissions, Policies & Procedures

Graduate Admission Requirements

The graduate program at the university 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 younger 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 Finance

Students who do not meet the 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 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 administration 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 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.

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.

Graduation Requirements

To qualify for graduation from Indiana Tech, you must complete:

- all necessary credit hours required for the degree.
- required coursework in all graduate classes at a minimum cumulative grade point average of 3.0 with no more than nine (9) credit hours of C work counting toward the degree.
- required coursework within seven (7) years after completing your first graduate class.
- a petition for graduation when within 15 credits of completing courses.
- all financial obligations to the university.

Computer Requirement

Students will be required to have access to a personal computer outside of the classroom for homework assignments. It is recommended that this computer be a Windows-based platform with Microsoft Office software. Other hardware and software may be incompatible with campus printers.

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 given 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 department chair. 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. 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.

Coursework must reach a certain standard of excellence. This standard is measured by a system that assigns a point value to each grade. The number of credit points is the product of the credit hours multiplied by the point values. Grades and point values are as follows:

A = 4 credit points	**B- = 2.67 credit points**
A - = 3.67 credit points	**C+ = 2.33 credit points**
B + = 3.33 credit points	**C = 2 credit points**
B = 3 credit points	**F = 0 credit points**

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 received is not included.)

Financial Aid Information

Tuition and 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.

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 se-mester. This means that your payment is due 30 days before the first day of class in any given semester. Inter-term and summer school charges are due prior to the session start date.

Payment Plan: Indiana Tech has an internal payment plan which allows you to split your charges for the year among 10 payments. The first payment is due 30 days prior to the first day of class in 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 30 days prior to the first day of class 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.

Refund Schedule

Should a student find it necessary to WITHDRAW COMPLETELY from the university, a prorated refund of tuition will be granted. 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

The tuition refund schedule described above will not apply to any student who is dismissed from the university for misconduct or who withdraws unofficially.

Students who are participating in the Title IV programs who find it necessary to withdraw from classes will be assessed a percent-age of assistance based on the total completion of weeks of enrollment. Refunds will be calculated when they:
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.

No federal refund will be calculated for students who withdraw after the 60% point period of enrollment. The net refund to Title IV programs will be applied in the following order:

- Unsubsidized FFEL Loans
- Subsidized FFEL Loans
- Unsubsidized Direct Federal Loans
- Subsidized Federal Direct Loans
- Federal Perkins Loans
- FFEL PLUS Loans
- Federal Direct PLUS Loans
- Federal Pell Grants
- Academic Competitiveness Grant
- National Smart Grant
- Federal SEOG
- Other Title IV Assistance

Drop/Add 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 forms, 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).

Gifts, Memorabilia, and Apparel

A selection of gifts, memorabilia, and university apparel are available at the campus gift shop located in Andorfer Commons. Purchases may be made online – just visit the shop on the university web site.

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. Approximately 90% 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 a Free Application for Federal Student Aid (FAFSA). Students desiring to complete a FAFSA online can do so at: www.fafsa.ed.gov. The FAFSA is available from the Office of Scholarships and Financial Assistance at Indiana Tech or from your high school guidance counselor. Institutional aid applications are automatically mailed to all eligible aid applicants. 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. Separate scholarship applications are not required unless one is requested under the scholarship description.

Alumni Association Scholarship:
Established by the Indiana Tech Alumni Association Board of Directors, it is awarded to a student in the junior or senior year. The scholarship is awarded on the basis of academic standing (3.0 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 12 credit hours of tuition.

Lenore 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.

AFCEA (Armed Forces Communication and Electronics Association Scholarship):
The Indiana Chapter located in Fort Wayne established this scholarship. One award annually goes 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:
Vivien Armstrong established this scholarship in memory of her husband, Ralph L. Armstrong. Mr. Armstrong was a 1965 electrical engineering graduate of Indiana Tech and retired after 30 years with Ford Motor Co. – Design Engines. Eligible engineering students must demonstrate financial need. This scholarship is open to all Indiana Tech students and it is renewable based upon satisfactory progress.

Athletic Scholarships:
A number of grants 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 in the particular sport.

Athletic Hall of Fame Scholarship
Established in 2001, this scholarship is to help finance 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.

Mr. Albert E. Beckwith Memorial Scholarship:
The scholarship was established in memory of Mr. Beckwith, a former member of the Board of Trustees. One award annually goes to a four-year business administration student holding a cumulative grade point average (at Indiana Tech) of 2.50 or better. Students must demonstrate academic excellence and financial need and must be U.S. citizens or permanent residents.

William E. 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 need apply, any adult student showing need is eligible. First preference is for a Fort Wayne adult stu-dent. Should no one apply from the adult program then any upper level student from the College of Business would be acceptable.

Steven and 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 has served as the Chairman of the Board of Trustees since 1993. Recipients of this scholarship must maintain a 2.0 GPA on a 4.0 scale. One semester of probation is per-

mitted. 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 Fort Wayne Community Foundation. 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 degree 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 Fort Wayne Community Foundation.

Robert W. (Smiley) Cates Memorial Scholarship:
Gordon and Paula Cates and Cates Control Systems, Houston, Texas, established this scholarship to honor the memory of their son Robert, a former student at Indiana Tech. Eligible candidates for this scholarship must complete a FAFSA, demonstrate financial need, major in electrical engineering, and maintain a "C" or better average. The recipient of this scholarship must be a U.S. citizen.

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/her degree. It is open to all majors offered by the university. Recipients of this scholarship must be from LaGrange, Dekalb, Noble, or Steuben counties. 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:
Mr. 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 Science who demonstrates financial need. Scholarships are renewable based on continued academic progress and are available to U.S. citizens and permanent residents only.

Mr. Joseph P. Cunningham Memorial Scholarship:
This scholarship was established in memory of Mr. Cunningham, a former member of the Board of Trustees. Awards are given annually to upper-class accounting or business administration majors. Students must maintain a 2.0 Cumulative Grade Point Average (at Indiana Tech).

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 Science. Other disciplines within the university will be considered should an engineering student not be available. The scholarship will initially be awarded to a student during his/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 the Indiana Tech and a member of the Board of Trustees.

Selection of a student is made with first preference to a student majoring in civil engineering—then to any other discipline in engineering, computer science, and to business degree majors. 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.

The 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 Science, 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. & Mrs. Gene Dominique established this scholarship to honor their daughter, Tamra Sue Dominique, a 1994 BSBA graduate of Indiana Tech. Tamra earned her degree 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. Sarah was the assistant controller and assistant softball coach with Indiana Tech at the time of her death in May of 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 Program:
This scholarship was established by Mr. Jack McCurley, a 1954 BSAEE Indiana Tech graduate, to honor Professor Ben Dow. First scholarship preference will go to a student enrolled in the College of Engineering and Science 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 permanent resident status.

Lawrence and 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 Company 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 and Coil Winding Association Scholarship Fund:
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, Indiana 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.

Robert R. and Celia Featheringham Scholarship:
Mr. Featheringham established this scholarship to honor his wife, Celia. Mr. Featheringham was Director of Business Development with Telos Corporation and a 1960 BSEE graduate of Indiana Tech. The scholarship will be awarded to a student majoring in electrical engineering. Other engineering or science disciplines will be considered should an EE 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 Mr. Ferguson, a 1951 BSME graduate of Indiana Tech. Mr. Ferguson is now retired. He was employed as a project manager with Busch Entertainment Company/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 Science. Candidates in other majors will be considered if engineering students are not available. Recipients must be in good academic standing.

Clarence L. Forrest Scholarship:
Mr. Clarence (Casey) Forrest, a 1943 BSAE Indiana Tech graduate, 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 grade average. 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:
Mr. 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 Science 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 was a 1960 electronics engineering graduate of Indiana Tech. Candidates for this scholarship are to be freshmen majoring in electrical engineering, mechanical engineering, industrial & manufacturing engineering, computer engineering, or biomedical engineering. Also consideration will be given to four year

busi-ness administration programs in marketing, management or human resources. The scholarship is renewable based upon the re-cipient maintaining at least a C grade point average. First priority is to students with demonstrated financial need.

Robert S. Graziano Engineering Scholarship
The Robert S. Graziano Engineering Scholarship was established to support Indiana Tech engineering students with fi-nancial need. It is dedicated to Bob Graziano's son, Paul, his good friend and engineer, Bill Jurek (BSME '68), Dean Don Steiner, who provided those 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 shall be given to an engineering student enrolled in the College of Engineering and Science.

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 Science. 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. This scholarship will first be given to an entering freshman studying in the College of Engineering and Science. Financial need is considered in selection of this award, and it is renewable based on continued satisfactory progress. This scholarship requires that the recipient be a U.S. citizen.

Henry Helberg Engineering Scholarship:
Henry Helberg, former Dean of Engineering and former adjunct faculty member, established this scholarship. This scholarship is awarded to a student who has successfully completed two years of an engineering major at Indiana Tech. The student must be a team member of a sport that competes against other colleges, and must possess a 2.50 or better cumulative grade point average.

William J. Hess Memorial Scholarship Fund:
The scholarship fund was established in memory of William J. Hess, one of the founders of the Indiana Tech. Both financial need and academic records are taken into consideration. In order to be considered for the scholarship, students must submit a FAFSA to Indiana Tech. To continue eligibility over a four-year program, students must maintain a 3.0 cumulative grade point average. The director of financial aid will select eligible applicants. It is available to U.S. citizens or permanent residents only.

Indiana Michigan Power Scholarship:
The American Electric Power Company of Fort Wayne, Indiana, established this scholarship, which is awarded to a minority student during the freshman year. The student must be in the upper 25% of his/her graduating high school class and must have a first interest in engineering and a second in business. The director of financial aid makes the selection. The scholarship will be renewable based upon satisfactory progress. One award is given annually. The recipient must be a U.S. citizen or permanent resident.

Indiana Tech University Commitment Scholarship:
The University Commitment Scholarship is the top 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 grade point average 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 grade point average from the previously attended college.

Indiana Tech Dollars for Scholars:
Indiana Tech matches scholarships up to $1000 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 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 credit hours or more). This discount will be awarded to the student taking the lower number of credit hours 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 Tech Working Grant is to provide part-time

Institutional Aid & Scholarships {continued}

employment on campus to students demonstrating financial need. In order to apply, a student must complete and submit 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.

Donald H. and Sally King Scholarship:
Mr. 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 Science. 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:
Mr. Kenneth King, a self-employed Developer/Business Consultant and 1964 BSCE graduate of Indiana Tech, established this scholarship. One annual scholarship is awarded to a full-time student majoring in civil engineering who demonstrates financial need and is in good academic standing. The scholarship is renewable based upon satisfactory progress, and is available to U.S. citizens or permanent residents only.

Edward J. Klodzen Scholarship:
This scholarship was established by Mr. Klodzen, who retired from NIPSCO. He is a 1956 BSEE graduate of Indiana Tech. 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.

Knight Foundation Scholarship:
This scholarship was established by the foundation which was created by John S. and James L. Knight. The foundation is located in Miami, Florida.

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.

Frank J. Krandell Memorial Scholarship:
Mr. 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. Mr. Lowell Krandell is retired and 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 EE candidate not be available. It is a renewable scholarship based upon satisfactory progress. It is available to U.S. citizens or permanent residents only.

Tom J. Landis Scholarship:
Mr. 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 Science. 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 completion of a FAFSA and is open to U.S. citizens or permanent residents.

Harold E. and Laura F. Lee Scholarship:
Established by Mr. 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 and have now 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 Award Scholarship
The Legacy 2001 Award Scholarship 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 reimbursement program or who is unemployed. The scholarship will be renewable during the student's tenure at Indiana Tech. More than one student may participate in the scholarship. The recipient must maintain a satisfactory grade point average. There are no geographic stipulations on this scholarship.

Allan S. Leonard Scholarship Program:
Mr. Leonard, a product design engineer with Ford Motor Company and a 1963 BSME graduate of Indiana Tech 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 an ME 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.

Mac II Engineering Major:
Retired from QDT Limited where he was a systems engineer, Mr. Jack McCurley, a 1954 BSAEE Indiana Tech graduate, established this scholarship to assist students in financial need. First scholarship preference will go to a student who will major in aerospace engineering (major not currently available). Next preference for a candidate will be to students 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 permanent resident status. This scholarship is renewable based upon satisfactory academic progress.

Joan Maassen McCurley Scholarship:
Jack McCurley, a 1954 BSAE graduate, established this scholarship to honor his wife, Joan. Mr. McCurley has also established two other scholarships to benefit Indiana Tech students. First preference for this award is for a female student majoring in aerospace engineering (not currently available). Second preference will be to a female student studying mechanical engineering. Other engineering or science majors will be considered should a candidate not meet the above criteria. A candidate must be a citizen of North America or hold permanent resident status. This scholarship is renewable based upon satisfactory academic progress.

Edwin C. Metcalfe Scholarship:
Mr. Metcalfe has been a member of the Board of Trustees since 1983 and served as Board Chair during his tenure. In 1999, he was elevated to 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.

Ed 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 upperclass student working toward an accounting or business administration degree, this scholarship requires completion of a FAFSA and a separate scholarship application.

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.

The News-Sentinel Scholarship Fund:
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.

North American Van Lines Scholarship Fund:
North American Van Lines, whose corporate offices are located in Fort Wayne, Indiana, 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.

NIPSCO (Northern Indiana Public Service Company) Scholarship:
This scholarship was established by the Northern Indiana Public Service Company, whose service area includes Fort Wayne, Indiana. It will assist 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.

Operating in Excellence (NSBE) Scholarship
This scholarship was established to support the financial need of a National Society of Black Engineers member. It will ensure the academic development of our 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 im-pact 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 non-renewable and is to be used toward tuition/housing costs.

Part-Time Employment:
The Career Planning and Development Center acts as a clear-

inghouse for any part-time employment whether on-campus or off-campus. All part-time employment opportunities are made available through the career services office. On-campus employment opportunities exist in many departments. 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.

Pepsi-Cola Scholarship
Pepsi and Pepsi-Cola are registered trademarks of PepsiCo., Inc. 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 Scholarship Fund:
The Phelps Dodge Magnet Wire Company, with corporate offices in Fort Wayne, Indiana, 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 Science, and demonstrate academic excellence and financial need. Scholarships are renewable based upon satisfactory progress and require completion of a FAFSA. Available to U.S. citizens and permanent residents only.

Carl H. and Katherine (Kalbfleisch) Pierson Memorial Scholarship:
This scholarship was established by the Pierson family to honor the late Carl Pierson, who was a long-time member of the Board of Trustees of Indiana Institute of Technology. It also pays tribute to Mrs. Katherine Kalbfleisch Pierson, who was the wife of the university founder, Mr. John Kalbfleisch, and of Carl Pierson. This scholarship is awarded to assist students in financial need. It is available to United States citizens and permanent residents. Applicants are required to complete a FAFSA.

Dr. Ivan and 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 and, if a candidate is not available, then a student in other engineering disciplines will be selected. Financial need and academic records are reviewed and will help determine eligible candidates for this scholarship. 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 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 ME major not qualify. This scholarship will accumulate until such time that it can support a student in the College of Engineering and Science 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.

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 the Indiana Tech. Mr. Wenrick is a 1960 graduate in civil engineering and a member of the Board of Trustees. The scholarship is awarded to a full-time student. The scholarship was established to provide funding to students who have financial need and show academic excellence. It 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 Corporation. 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.

Bernard and Joan Rome Scholarship:
This scholarship was established by Mr. and Mrs. Rome to assist engineering students in financial need. Bernard Rome is a 1956 BSME graduate of Indiana Tech. He 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.

Professor Robert Ruhl Memorial Scholarship:
Thomas and Granis Dowling established this scholarship. Tom Dowling is a 1951 BSCE graduate of Indiana Tech. He 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 long-time dean of engineering at Indiana Tech. Professor Ruhl served on the 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.

Hildegarde Schaefer Memorial Scholarship:
This scholarship was established by Mr. Edward Schaefer to honor his wife, Hildegarde. Mr. Schaefer was a long time supporter of the university and served on its Board of Trustees from 1963 to 1991. He was the co-founder of the Franklin Electric Company.

Four to five scholarships are awarded annually to U.S. citizens who plan to earn degrees in the College of Engineering and Science 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, 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 may be either males or females who are citizens of the United States. Applicants must be enrolled on a full-time basis and have completed 30 or more credit hours in the disciplines of electrical engineering or computer science. The applicant must have at least a 2.5 cumulative grade point average. Veterans of the United States 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 the university. It is awarded to freshman engineering majors possessing academic excellence plus financial need. Students must complete and submit a FAFSA. To continue eligibility over a four-year period, students must maintain a 2.50 G.P.A. The number of scholarships will vary per year and are available to U.S. citizens or permanent residents only.
Orland C. and Catherine Sheese Scholarship Fund

Nellie Shiflet Memorial Scholarship:
Edwin L. Wedel, 1952 BSRE graduate, established this scholarship in memory of Nellie Shiftlet, who ran the Indiana Tech bookstore when he was a student. She 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).

Sigma Pi Scholarship:
Scholarships are awarded annually to the brothers of Sigma Pi Fraternity. Current fraternity members select recipients.

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 Science. 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.

Abe and Ellen Smaardyk Scholarship:
Abraham and Ellen Smaardyk established this scholarship. The Smaardyks established the scholarship after Abraham retired from the Argonne National Laboratories. He is a 1943 BSME graduate of Indiana Tech. The scholarship will provide assistance to students who choose to attend Indiana Tech. Students enrolled in the College of Engineering and Science will be given preferential consideration. It is available to U.S. citizens and permanent residents only.

Laird W. Smith Scholarship:
Mr. 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

Institutional Aid & Scholarships {continued}

only.

The Philip and Sadie Sporn Memorial Scholarship:
This scholarship was established by Philip and Sadie Sporn. Mr. Sporn was a philanthropist and friend of the university. This scholarship will assist students who choose to attend a private university. Recipients must have completed a minimum of 30 credit hours and demonstrate financial need and academic excellence. Scholarship recipients are chosen by the financial aid office and 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.

Thomas and Laurel Stockamp Scholarship:
Thomas and Laurel Stockamp established this scholarship. Mr. Stockamp is a 1963 BSCE graduate of Indiana Tech and president of TG Excavating, Inc. Selection of 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 Fund:
Robert J. Swindell, a retired chemistry professor at Indiana Tech, established this scholarship. Eligible candidates must complete a separate application, which is available in the Financial Aid Office. 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 director of financial aid, a member of the Sigma Phi Epsilon fraternity, and the chapter counselor will select the recipient.

Nicki and Zohrab Tazian Scholarship:
Zohrab and Nicki Tazian established this scholarship. Mr. Tazian has been a member of the Board of Trustees of the university since 1975. He is president of Z. K. Tazian Associates, Inc. and a 1960 BSCE graduate of Indiana Tech. The scholarship will be awarded on an annual basis. To be eligible, students must be working toward a Bachelor of Science degree in the College of Engineering and Science. 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 U.S. or Armenia.

The Ralph R. Teetor Scholarship:
The Teetor Scholarship is awarded to a recipient that 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. Eligible candidates must contact the director of financial aid. This scholarship is renewable and is available to U.S. citizens or permanent residents.

Henry J. & Elizabeth Toews Scholarship:
This scholarship was endowed by Henry and Elizabeth Toews. Mr. Toews is a retired contractor and a 1939 BSCE graduate of Indiana Tech. The first preference for a candidate will be a student enrolled in the College of Engineering and Science. 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.

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, Indiana. The scholarship is awarded to provide assistance to minority students who choose to attend a private institution. The scholarships are awarded to students who come from regions served by Verizon. Based upon financial need and academic excellence, scholarships are renewable based upon satisfactory progress and are available to U.S. citizens and permanent residents only.

Lloyd R. and Shirley Wadekamper Scholarship:
Lloyd and Shirley Wadekamper established this scholarship. Mr. Wadekamper is a 1957 BSME and AE graduate of Indiana Tech and is 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 Science 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.

Mary Louise (Ulrey) Wainwright Scholarship:
Donald E. Wainwright established this scholarship. Mr. Wainwright is 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 H. Warmack Scholarship
Ralph H. Warmack was a 1942 mechanical engineering graduate of Indiana Tech. Following his service to the U.S. dur-ing WWII, 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 oth-erwise have the opportunity to attend college or devote themselves to be full-time students.

Patricia 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 Extended Studies Division program, with second preference to a female student in the College of Business and Arts. 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 and Nanalee Wegener Scholarship:
Heinz and Nanalee Wegener established this scholarship. Mr. Wegener is owner/president of Cross Technologies, Inc. and a 1970 BSEE graduate of Indiana Tech. 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, Indiana, 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.

Wenrick Scholarship:
Nelson and Peggy Wenrick established this scholarship. Mr. Wenrick is the president and owner of Wenco, Inc. He is a 1960 BSCE graduate of Indiana Tech and a member of the Board of Trustees. The scholarship is awarded during the freshman year to a U.S. citizen who will major in Civil Engineering. Academic records are reviewed by the director of financial aid, and all eligible candidates will be considered for the scholarship. The scholarship will be renewable based upon satisfactory progress. One award will be made annually.

R. A. Weymouth Scholarship:
This scholarship was established by Mr. 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 Mrs. Barbara Wigham, President of Communication and Marketing Specialists. Dr. Wigham received an honorary degree from Indiana Tech in the year 2000 and has been very instrumental in the Fort Wayne community. She serves on many community boards, including the Board of Trustees at Indiana Tech.

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.

Joseph D. Woodrich Scholarship
Joseph D. Woodrich established this scholarship in 2003. Mr. Woodrich is a 1966 chemical engineering graduate of Indiana Tech. Eligible students must demonstrate a financial need. The scholarship is renewable for up to 3 years and available to students having achieved approximately 50% of the credits needed to obtain their undergraduate degree. It is restricted to a student in the College of Engineering and Computer Studies. 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.

Tom and Millie Wong Scholarship:
This scholarship was established by Tom and Millie Wong. Tom Wong, a 1966 BSCHE Indiana Tech graduate is president of Visual Check International located in Fresno, California. The scholarship will be awarded to a deserving minority, female student who is enrolled at the university on a full-time basis. All

Institutional Aid & Scholarships {continued}

majors will be considered eligible for this award and it 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.

Jackie D. and 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 Corporation. 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 Scholarship:
The Yergens Rogers Foundation established this scholarship to recognize the contributions of Mrs. Virginia Yergens Rogers. Mrs. Yergens Rogers is president and treasurer of The Huser-Paul Company, 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 Corporation located in Fort Wayne.

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. They are available to U.S. citizens or permanent residents only.

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.

Federal PELL Grant:
A Federal PELL Grant is a program awarded to students who enter recognized post-secondary educational programs after July 1, 1973, 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 United States Government makes low-interest loan funds available to needy students. 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 private lending institutions. Repayment begins within 60 days of disbursement. Simple interest is charged. Indiana Tech can assist families by providing Federal PLUS Loan applications.

Federal Subsidized Stafford Student Loans:
Loans are available to U.S. citizens and permanent residents through private lending centers (banks, credit unions, savings and loans, etc.). Federal, state, and private agencies guarantee Federal Stafford Loans. 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 Academic Competitiveness Grant:

Federal grant available to first and second year Pell eligible students. Eligible students must have completed a rigorous secondary school program, be Pell eligible, and a U.S. Citizen. Grade point average and income requirements apply to this program.

Federal National Smart Grant:
Available to third and fourth academic year of study students. Eligible students must be U.S. Citizens, Pell eligible, be enrolled on a full time basis and major in certain degrees and posses at least a 3.00 cumulative grade point average.

Federal Supplemental Educational Opportunity Grants:
Under the Higher Education Act of 1965, Federal Supplemental Educational Opportunity Grants are made available to qualified students who demonstrate exceptional financial need. They require completion of the FAFSA.
Federal Unsubsidized Stafford Loan:
This is a low interest loan, and repayment by the student begins six (6) months after graduation or withdrawal. It is available to students who do not qualify for the Federal Stafford loan program. 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.

SSACI 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.

SSACI 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 State Student Assistance Commission. 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 from the director of financial aid.

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 at least once per year, usually at the end of the academic year. Failure to meet these standards after one year will result in the student being placed on financial aid probation. Failing to meet the required standards after two years 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.

Students meeting the minimum hour criteria in the box on this page will be noted as making satisfactory progress.

Students receiving financial assistance have a maximum number of semesters in which to complete their educational objective.

Minimum Hours for Associate and Baccalaureate Degrees:

Undergraduate Program

Sem. Att.	To Be Comp.	Min. GPA
1	9	1.50
2	18	1.50
3	27	1.70
4	36	2.00
5	48	2.00
6	60	2.00
7	72	2.00
8	84	2.00
9	96	2.00
10	108	2.00
11	119	2.00
12	131	2.00

Graduate Program

Sem. Att.	To Be Comp.	Min. GPA
1	9	3.00
2	18	3.00
3	27	3.00
4	39	3.00

Length of Financial Aid Eligibility:

Master's Degree	16 Semesters
Bachelor's Degree	12 Semesters
Associate Degree	7 Semesters

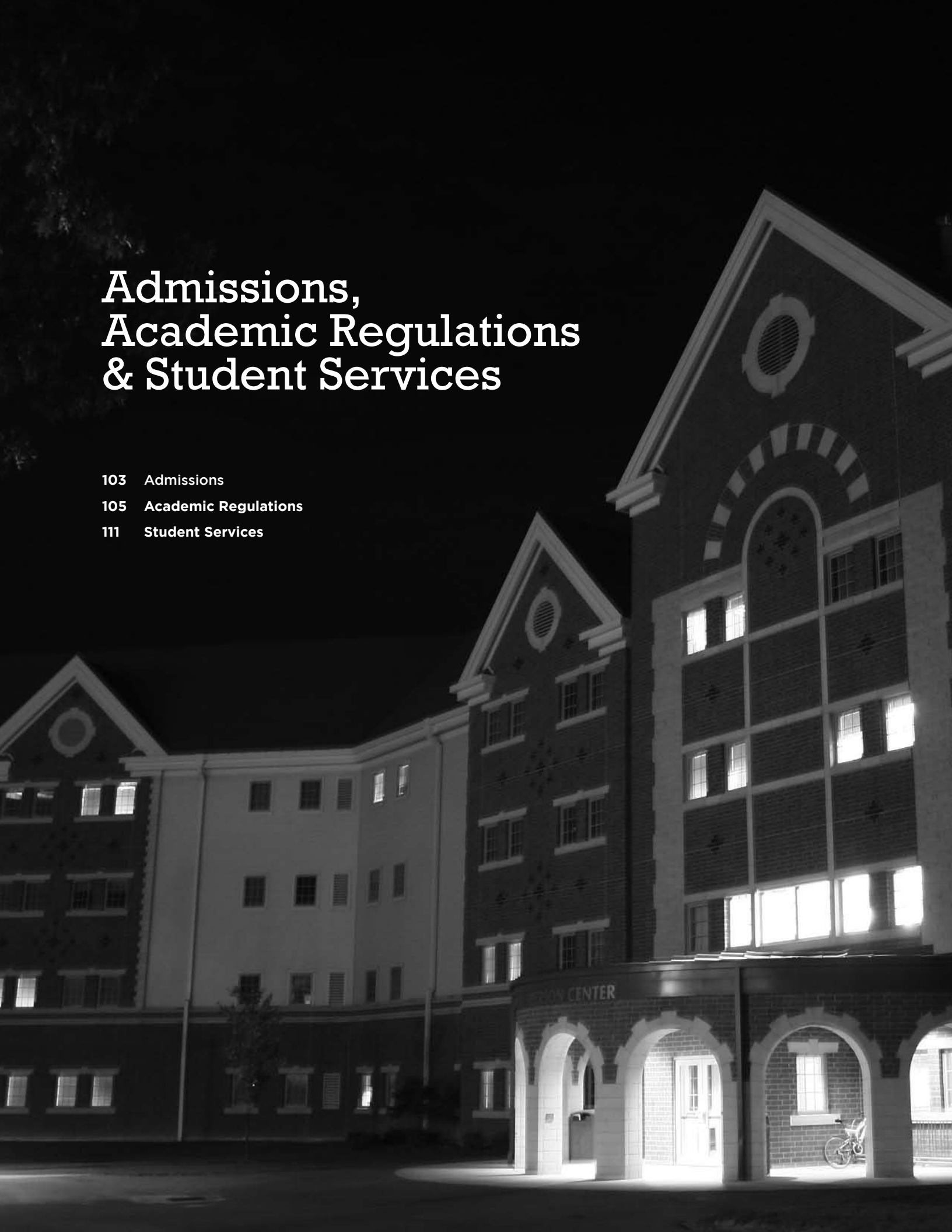
A student must be enrolled on a full-time basis which, in the undergraduate program, is the equivalent of enrolling for 12 or more credit hours each term. An academic schedule with 6, 7, or 8 credit hours is considered half-time attendance. An academic schedule of 9, 10, or 11 credit hours is considered three-quarter time attendance. 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 still meets any minimum enrollment requirements BEFORE withdrawal from any registered course.

Pre-professional And Pre-graduate Programs

Many graduates of the 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 the MBA program through Indiana Tech. Enrollment in nine credit hours per semester is considered to be full-time enrollment in Indiana Tech's MBA program. Contact the financial aid office for available funding.

Admissions, Academic Regulations & Student Services



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 received by the university by May 1 for fall starts and by Oct. 1 for spring starts.** 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 received by the university by May 1st. 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 residence 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 or by calling toll free at 800.937.2448 ext.2205. Office hours are weekdays 8:30 a.m. to 5:00 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 and 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.

International Students

See Internation Student section on page 100.

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 federal government's College Level Examination Program (CLEP) or the Dantes 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.

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.

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 a computer based TOEFL score of over 173 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.

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 Foreign Student Liaison Officer and admission staff are available for assistance and counseling service.

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 hours each semester) and keep their passports valid for no less than six months. All international students should report to the International Student 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 International Student Advisor 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 International Student Office.

Non-discrimination Policy

All members of 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 (cancer-related or genetic characteristics), 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.

Advising

All student coursework schedules must be approved by an appropriate advisor, who reserves the right to specify individual course sequences consistent with the course prerequisites and term order within the curriculum.

Registration

All students are expected to register on the dates indicated in the academic calendar or the schedule of classes. Students receive assistance from advisors in planning their schedules, and all final schedules must be approved by an advisor.

A student may make necessary adjustments in a schedule during the first five (5) days of the semester. In order to add or drop a course, the student must first obtain the approval of the advisor. To transfer from one section of a class to another requires the approval of the dean of the college offering the course. All forms approving these changes must be submitted to the registrar's office before they become official.

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 And Credit Hours

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. In some courses, a part of the scheduled time each week is spent in laboratory work.

Eighteen hours is the maximum allowable load. In order to carry 19 hours or more, students must have a cumulative grade point average of 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

There is no system of class cuts at Indiana Tech, and students must attend every meeting of all the classes for which they are registered. Certain absences are permissible with proper written authorization.

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.

Name
Address
Phone Number
Major Field of Study
Current Course Load/Enrollment
Dates of Attendance
Degrees Received
Graduation Date

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.

Student Dishonesty

Student dishonesty (cheating or plagiarizing) will not be tolerated in any class at Indiana Tech. Students are encouraged to inform the academic advisors of instances of cheating or plagiarizing.

Cheating is defined as dishonesty or deceitfulness in order to gain an advantage. Examples are: talking to other students or looking at their work during examinations.

Plagiarism is another form of cheating. Students are guilty of plagiarism when they present someone else's work as their own. Examples are: asking a friend to write an assignment paper for you, or including portions of material from a book, journal or computer file, without giving appropriate credit to the author.

Penalties for student dishonesty can include a grade of F in the course. However, if a student believes he or she has been unjustly accused of dishonesty, he or she may follow the Grade Appeal Procedure to request a review of the case.

Undergraduate Grading System

Grades for most of the college credit courses are as follows:

A: Excellent, highest possible grade

B: Good performance

C: Satisfactory performance

D: Unsatisfactory but passing

F: Failure

W: Course withdrawal. Assigned within the first 45 days of a term, with no effect on the student's grade average.

I: Incomplete. The grade of I (Incomplete) is to be given 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. The I will not be given for a course in which a student is definitely failing. In order to receive credit for the course in which an I is given, the student must complete the course requirements by the date specified on the approval for incomplete form or 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 this policy excludes Independent Study courses. Any deviation from the above rules must receive special permission from the vice president of academic affairs.

A student's grade average is based upon a point system:

A = 4.00	**C+ = 2.33**
A- = 3.67	**C = 2.00**
B+ = 3.33	**C- = 1.67**
B = 3.00	**D = 1.00**
B- = 2.67	**F = 0.00**

A term or cumulative grade average is determined by the following manner:

1. Multiply course credit hour value by point value of grade earned in the course.
2. Add total credit hour values.
3. Add total point values.
4. Divide summed point value by summed credit hours.

At the end of each term, students receive official grade reports.

Release Of Grades

Parents of dependent students have the right to information about their children, such as grades, bills, and other information without having to gain students' consent until such student is married or reaches age 21. With regard to transcripts of academic records, the policy covering "dependency" determination is to consider all undergraduate students in the traditional day program as "dependent," unless they specifically inform the registrar's office in writing at the beginning of each academic year that they consider themselves to be "independent," or until such time as the student reaches age 21. Official transcripts of academic records are released only upon the written request of the student.

Each graduate is entitled to two (2) free transcripts. Additional copies may be requested at a fee of $2 per copy. For students other than graduates, the transcript fee is $5 per copy.

Freshman Orientation

The freshman orientation begins with a one-day orientation before the start of fall classes. A freshman seminar class also meets once per week for the first half of the fall and spring semesters.

Freshman College

The Freshman College includes the following new students:

1. All new freshmen.
2. All new international students, including transfers.
3. Domestic transfer students with fewer than twenty-four (24) transfer credits.
4. Domestic transfer students who are conditionally admitted.

Exempt from the Freshman College will be the following new students:

1. Domestic transfer students with more than twenty-four (24) transfer credits.
2. Special or non-matriculated students.
3. Students in the College of Professional Studies

All freshmen will be assigned to a faculty mentor who will serve as their academic advisor. The following policies apply to Freshman College students:

1. Students who enter the Freshman College will remain in the Freshman College for a minimum of two (2) semesters.
2. At the conclusion of the two-semester period, the advisor will review student records and, if warranted, counsel students about the choice of major.
3. Students with a grade point average (GPA) of less than 1.80 will not exit the Freshman College after two (2) semesters,

but will remain in Freshman College until academically eligible to be removed from academic probation. A minimum GPA of 1.80 is required for a student to continue in a given major.

4. Students must earn at least twenty-four (24) hours of credit toward their degree requirements in order to exit the Freshman College.
5. The director of the Freshman College will provide support services as appropriate for students who do not exit Freshman College after two (2) semesters.
6. All policies related to academic probation and dismissal apply to students in the Freshman College. In cases of academic dismissal, students may apply to be reinstated in another academic major. These applications will be considered on an individual basis to determine if continued enrollment is in the best interest of the student and the university.

Academic Honors

A student who earns a grade average of 3.25 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. To be eligible, the student must have been enrolled for at least credit hours and must have a cumulative average of at least 2.00.

Graduation honors are conferred upon those students who maintain outstanding academic records while attending Indiana Tech. These honors, based on the cumulative grade 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. The 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 appropriate dean 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.

- If the student wishes to continue the appeal, the dean will form a faculty review committee comprised of three full-time faculty to evaluate the problem.
- The dean will accept or reject the recommendations of the committee and communicate the decision to the student in writing.

If the dean issued the grade being appealed, the vice president of academic affairs will administer the appeal process.

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 F or D has been earned. The last grade earned is used to calculate the cumulative point average and degree major cumulative 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 shall 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 credit hours

Sophomore: 30 - 59 credit hours

Junior: 60 - 89 credit hours

Senior: 90 or more credit hours

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 received at Indiana Tech, or a course that has been audited at the university. Credit in the course is given based on pass/fail. 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 their 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 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, visit the Registrar's page at www.IndianaTech.edu. For more information, contact the Registr ar's Office.

Transfer Credit

Transfer credit may be granted for courses completed with grades of C or higher at other accredited colleges or universities. Courses completed at unaccredited institutions or programs will be reviewed on an individual basis, 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. You 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 semester hours can be transferred from non-regionally accredited schools for a bachelor's degree candidate.

If you wish to have previous university-level course work from international studies evaluated for transfer credit, you must have a course-by-course evaluation report completed by one of the following:

Global Credential Evaluators, Inc.
P.O. Box 36
28 Westhampton Way
Richmond, VA 23173
(804) 639-3660
www.gcevaluators.com

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/credential/index.htm

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 this university. 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 of academic affairs. At least 15 credit hours must be earned at this university 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 shall submit their courses and credits to the corresponding dean for reevaluation 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 as follows:

Fall Graduate	October 1
Spring/Summer Graduate	March 1

Second Baccalaureate Degree

Students who have received a degree from Indiana Tech or from another accredited college or university may receive 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

It is expected that each student will strive to maintain the highest academic record. If unable to maintain a cumulative grade average of at least 2.0 (average grade of C), the student is placed on academic probation.

Simple Probation

A student is placed on simple probation when his or her cumulative grade point average drops to less than 2.0 but is equal to or higher than the values in the following table:

Credit Hours Attempted	Cumulative Average
0 – 29	1.5
30 – 59	1.7
60 or more	1.8

Final Probation and Academic Dismissal

A student is placed on final probation if, during 12 credit hours or one semester, his or her cumulative grade point average falls below the values given above or one semester in which a student on simple probation earns a semester average of less than 2.0. A student on final probation earning a semester average of less than 2.0 during 12 credit hours will be academically dismissed from the university.

Academic Dismissal

A student may not be dismissed for academic reasons until he or she has been on final probation for one semester. During the first semester on final probation, the student must achieve a grade point average of at least 2.0 or be subject to academic dismissal. However, if the student continues to maintain a grade point average of 2.0, the student will remain on final probation–satisfactory progress until his or her cumulative grade point average exceeds 2.0.

A transfer student, accepted on probation because of low grades at the previous institution, will be placed on final probation following a term during which the cumulative average falls below 2.0.

A student who is placed on either probation or final probation will remain on such until such time as the cumulative grade point average exceeds 2.0. This status of being on probation of some sort, while maintaining 2.0 term averages, is known as probation/final probation-satisfactory progress. Students who maintain this status prior to reaching a 2.0 cumulative average will be exempt from dismissal due to grades.

A student on final probation will be dismissed following a term in which a semester grade point average is below 2.0. Academic dismissals are reviewed by the Academic Council, whose members are the vice president of academic affairs and the deans of each college. In certain cases, the Council may elect to offer a student immediate reinstatement without having to remain out of school for the normal period of one semester. Such a student will be informed of the required procedures to apply for readmission. A student on academic dismissal for the first time may normally apply for readmission after a period of one term, not including the summer term. Upon readmission, the student will be placed on final probation. A student dismissed for the second time may not apply to that academic major for readmission for at least one calendar year.

Students on final probation 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 Regulations {continued}

Academic Bankruptcy Policy

The academic bankruptcy policy forgives grades and credits for students who have not been enrolled at this university for more than five calendar years. By petitioning and receiving approval from the vice president of 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) would need to be retaken and the student would be unable to graduate with honors. The student would be conditionally admitted back into the university (a GPA of 3.0 or higher must be maintained during the first nine 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 the university. Implementation of academic bankruptcy at this university 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 rather than simply vocational training. 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. Our core of general education courses ensures that our graduates have this solid foundation on which to build a 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 (critical thinking skills, creativity, etc.). 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
- Two additional humanities electives

Computer Literacy (appropriate use of technology): One course required.

- College of Business and College of General Studies: IS 1100 Introduction to Information Systems
- College of Engineering: EGR 1500 Computer Programming for Engineers
- School of Computer Studies: CS 1250 Problem Solving for Programmers
- Quantitative Skills: One to five courses in mathematics depending on the program.

Understanding Ourselves and Society: Three courses required.

- PSY 1700 Introduction to Psychology
- SS 2200 Macroeconomics
- SS 2800 Introduction to Sociology or SS 2720 Group Dynamics.

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 institutional 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.

Commencement

Formal Commencement exercises are held at the close of the spring semester. Students who complete degree requirements during the fall semester will receive degrees at that time. However, these graduates are encouraged to return for commencement exercises the following spring.

Career Services

The Career Planning and Development Center provides a wide-range of career services to Indiana Tech students throughout the entire academic experience at Indiana Tech. A Four-Year Career Development Plan is the cornerstone to guide students on career growth while enrolled at Indiana Tech. Services include personal skills/interest inventory assessment and counseling, career exploration, internships, professional development guidance, job fairs, senior etiquette dinner, and an on-campus interviewing program. Employment opportunities are posted for full-time, internship, part-time, and summer job openings.

Both internship and senior job placement services provide 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 life-long career strategy skills.

Employment and career development assistance is also available to Indiana Tech alumni.

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. This 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. The main reading area includes three computer clusters enabling immediate electronic access to the online catalog, the Internet, and full-text databases. The open book stacks allow easy access to the 34,000 volumes of books and periodicals that make up the library's print collection.

During the school year McMillen Library is open seven days a week with reference service available at all times. Since it is impossible for any library to collect all information, the library operates an interlibrary loan service to enhance the research needs of the students and faculty at Indiana Tech. Other services at McMillen Library include individual and group orientation sessions, a photocopier, computers, laser and color inkjet printers, scanner, and a TV-VCR.

Information Technology Services

From 1985 when Indiana Tech first required incoming students to have a personal computer, the university began a commitment of making technology an integral part of instruction for our students, Since that time, Indiana Tech continues to commit

itself 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 computing technology, Indiana Tech provides a variety of computing facilities for its faculty and students. With over 230 public computers on multiple campuses, 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.

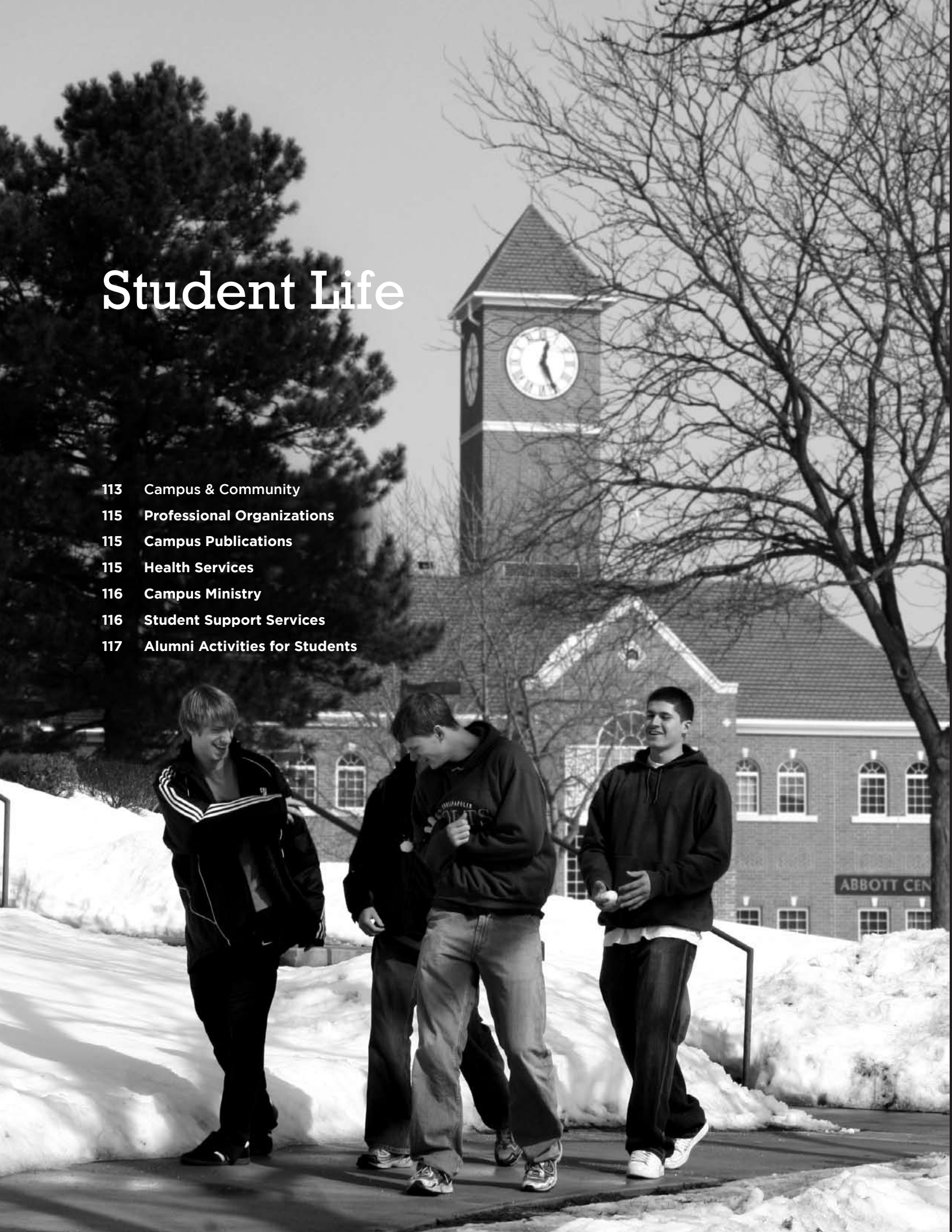
IndianaTech.net

IndianaTech.net is an ongoing initiative to provide important cutting-edge technology to all students of Indiana Tech. Some of the services provided through this initiative include (but are not limited to):

- E-mail address for all students
- File storage from on and off-campus
- Discounted software
- Web mail to retrieve e-mail on or off-campus
- Secure personal account to log into campus computers
- Classroom technology improved for instructional purposes
- Wireless access on many of our campuses
- 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 that enhance the academic opportunities for our students.

Student Life



Campus And Community

Indiana Tech occupies a campus of about 32 acres near the center of Indiana's second largest city.

Fort Wayne is a major industrial and commercial center with approximately 400 manufacturing plants in the area, and it offers a variety of recreational and cultural activities. The city is within easy driving distances to Chicago, Cincinnati, Cleveland, Detroit, Indianapolis, and Louisville. The city is served by national and regional airlines as well as passenger rail service and bus lines. It is less than an hour's drive from northeast Indiana's beautiful lake region.

Indiana Tech enjoys a relationship of mutual pride and cooperation with the City of Fort Wayne. This relationship extends to the many industrial and commercial firms in Fort Wayne that employ Indiana Tech graduates and provide a source of part-time employment for many students.

Facilities

Key facilities on campus include:

- Abbot Center (Administration)
- Andorfer Commons
- Buildings and Grounds
- Cunningham Business Center
- Zollner Engineering Center
- Fieldhouse
- Kalbfleisch Residence Hall
- McMillen Library
- Pierson Center Residence Hall
- Schaefer Center for Student Life
- Seitz Center
- Yergens-Rogers Residence Hall

Residence

On-campus housing is available for approximately 317 students, with the majority living in the Pierson Center, a four-story residence hall. Yergens-Rogers Hall and Kalbfleisch Hall are primarily used for upper-class students and provide apartment style living. All freshmen and sophomores are required to live on campus unless they are married, veterans, 21 years of age, or are commuting within a reasonable distance while living with a responsible relative (denoting parents, grandparents, or legal guardian). Exemption from housing requires submission of a housing release request which is available from the Director of Student Life located in the Pierson Center. Resident Assistants supervise life in the residence halls and are available for assistance. All students living in university housing are required to abide by the regulations published in the student handbook, "Techniques for Student Life", and by the stipulations outlined on the housing contract.

Dining

Indiana Tech offers dining services to all students, faculty, and staff. Freshmen students living on campus and those students living in the Pierson Center are required to take the full board plan. Dining services will assist students requiring special diets.

Recreation

Recreational facilities on campus include the Gymnasium, the Wellness Center, the Fieldhouse and the Andorfer Commons. The gymnasium contains basketball, badminton, volleyball courts, and a weight room. The Fieldhouse is an indoor facility for soccer, baseball, and softball and also includes a weight room. The Wellness Center contains numerous cardiovascular exercise machines as well as general weight lifting apparatus. The Wellness Center also offers various courses throughout the year to promote a healthy lifestyle. The Andorfer Commons includes the theatre, a conference center, and a student recreation area which contains a 6-lane bowling alley, pool tables, various electronic games, and student lounge.

Intramural athletics and other social and recreational activities take place throughout the school year, sponsored by either Indiana Tech or campus organizations.

Athletics

Indiana Tech is a member of the National Association of Intercollegiate Athletics (N.A.I.A.) and the Wolverine-Hoosier Athletic Conference. The university sponsors intercollegiate competition in men's and women's basketball, men's baseball, women's softball, women's volleyball, and men's and women's soccer, golf, and cross-country. Individual student and campus organizations compete in intramural activities including flag football, volleyball, basketball, bowling, soccer, golf, softball, and table tennis.

Spirit teams, which include a cheerleading squad, dance team, and pep band, are available to Indiana Tech students.

Recognition of athletic excellence is included in the annual awards ceremonies.

Student Ambassadors

Student Ambassadors are a select group of students at Indiana Tech who work with the Office of Institutional Advancement on special events with the community and media. Specific events where Student Ambassadors have served have been: new building dedications, new construction groundbreakings, special meetings and dinners, and homecoming. Specific duties that Student Ambassadors perform are: greet guests and media, distribute literature, serve refreshments, give tours of buildings and the entire campus, and generally host and mingle with event guests.

Student Life {continued}

Student Board

Our mission is to enhance and impact the overall university experience for the students of Indiana Tech. This will be accomplished through a variety of quality activities, student-focused service and peer-to-peer mentoring. We will revisit our processes regularly with the goal of improving systems to establish and grow a positive relationship with the student body of Indiana Tech.

Student Board members are a select group of Indiana Tech students who volunteer to assist the office of Student Life with special events, focus groups, recruitment of new board members, and an overall positive representation of the University.

Board members are expected to be representatives of Indiana Tech both on and off campus. The image this group should portray is one of energy, good character, and scholarliness. They must always be friendly, positive, punctual, and able to answer questions about the university. Appearance is important – always be neat and clean. Student Life office provides shirts for Board members. We depend on the Board members to represent Indiana Tech in a positive way. Showing enthusiasm for Indiana Tech is the most important quality Board members can convey.

The purpose of a Student Board member at Indiana Tech is to be a role model to others, and a positive reflection of this school to the community and all those they come in contact with.

Once selected to be a board member, a student may remain in the organization as long as he or she meets the minimum requirements and upholds the character standards of the group.

The office of Student Life sincerely appreciates the interest of the Board members. Each Student Board member's effort is vital to the success of the Development program and the university.

Greek Societies

The Greek system with its national or local affiliations makes significant contributions to college life. Each organization has its own purpose but the Greek system as a whole promotes cooperation among the Greeks at Indiana Tech in scholastic, social, and community affairs. National fraternities that have chapters at Indiana Tech include:

- ► Kappa Alpha Psi
- ► Phi Kappa Theta
- ► Sigma Phi Epsilon
- ► Sigma Pi

Professional Organizations

Alpha Chi

Alpha Chi is a coeducational, national college honor society. Founded in 1922, the society has over 300 chapters on college campuses throughout the United States. Only students enrolled in bachelor's programs are eligible for membership, and high standards of academic excellence and personal character are prerequisites for membership. Students of the Indiana Tech are invited to join the Indiana Lambda Chapter of Alpha Chi by the university faculty, and when joining, are recognized as outstanding representatives of their degree programs and the university.

American Society of Mechanical Engineers

ASME is an educational and technical organization for promoting the art, science, and practice of mechanical engineering throughout the world. The student section at Indiana Tech provides students with professional activities, field trips, and guest speakers. Students gain an understanding of contemporary issues that affect the mechanical engineering profession. Membership is open to all students in engineering.

Association for Computing Machinery

The objectives of the student branch of ACM are to educate its members in the sciences and arts of information processing, to orient the members to the computer systems on campus, and to organize and participate in computer competitions on and off campus.

Institute of Electrical and Electronics Engineers

The IEEE represents people active in electrical and electronics industries and allied fields. The IEEE student branch at Indiana Tech provides an opportunity for students to become familiar with members of the Fort Wayne Section of the IEEE and with the professional activities and aims of IEEE at the national level. Student branch activities are determined by the student members, and may include field trips, guest speakers, and social events.

Society of Automotive Engineers

The objective of the student branch of SAE is to provide its members opportunities to gain broader insight into the engineering profession by sponsoring meetings that will bring practicing engineers to the campus, arranging field trips to research and engineering establishments, sponsoring student projects of engineering interest, and participating in a close working relationship with the Fort Wayne Section of SAE. Membership is open to any engineering student in good standing and who is interested in the promotion of the arts and sciences and engineering practices connected with the design, construction, and utilization of automotive apparatus.

Society for Human Resource Management

The Society for Human Resource Management (SHRM®) is the world's largest association devoted to human resource management. Founded in 1948, it currently has more than 170,000 members.

SHRM's student program was created in 1965. Membership offers students the opportunity to supplement their classroom education with real-world knowledge and hands-on experience.

The SHRM student membership program now includes more than 370 affiliated student chapters and nearly 10,000 student members. Indiana Tech's SHRM Student Chapter was chartered in 1995. Our chapter and students have received numerous awards, including the Superior Merit Award.

Society of Manufacturing Engineers

SME provides information, resources, and opportunities for students to learn about manufacturing and the exciting, satisfying, lucrative career opportunities it offers. Students get manufacturing exposure, gain skills and knowledge, and establish professional contacts. Students develop leadership skills through involvement in regional conferences and by holding offices within the student chapter.

International Students

Several student organizations provide guidance for new foreign students as well as social and recreational activities for the entire campus.

Campus Publications

Warrior Legend

The Warrior Legend is the student newspaper. The newspaper publicizes information concerning students, faculty, administration, academic programs, and activities relating to Indiana Tech. The Warrior Legend is available to all students free of charge and distributed near the student mailboxes, dining hall, student lounge, library, and other focal points around campus. Students interested in submitting campus-related news for publication should relay the information to Dr. Robert Savage in the Cunningham Business Center.

Trends

Trends is a quarterly magazine published by the marketing and communications department for alumni, faculty, staff and students.

Health Services

The Indiana Tech Wellness Center and Clinic is available to all students and is located in the Schaefer Center. Hours are posted

in the Wellness Center and the clinic is staffed with a nurse practitioner in cooperation with a local hospital. The university recommends utilizing nearby hospitals and urgent care centers to provide treatment for Indiana Tech students in the event of an after-hours illness or injury. Indiana Tech students are charged on a per-call basis by these programs unless they carry some form of medical insurance.

Indiana tech requires that students insure themselves for accident and illness while at the university. During the annual registration process, each student must provide proof of insurance. If no other coverage is available, the university maintains a program of accident and illness insurance for all full-time students at a cost, which is billed to the student's account. Participating students will be covered 24 hours a day on campus and off (worldwide) form the start of fall semester to the end of summer semester. Students who enroll beginning with the spring semester will be covered from the start of the spring semester to the end of summer semester. A brochure explaining the plan is available in the business office.

If relying on a personal health insurance policy, be sure to check you policy to determine which Fort Wayne medical practitioners and facilities are covered under your plan. If your plan does not provide coverage for the Fort Wayne area, you may want to consider purchasing additional coverage through the program offered by the university or through an independent agent.

Campus Ministry

Campus ministry seeks to provide a safe and stimulating place for students, staff, and faculty at Indiana Tech to explore their spirituality, investigate the possibility of a relationship with God, and to nurture and nourish that relationship if one is established. We also seek to encourage the growth of community on campus among those who participate in our activities.

As a ministry to students, we offer Bible studies, special recreational and social events, opportunities to become involved in local and national service projects, ecumenical worship services on campus, special seminars, concerts on campus, and an annual spring break work trip. We constantly seek to provide programs and opportunities that are both helpful and hope-filled to all facets of the campus community.

The Campus Ministry Office is located on the second floor of Andorfer Commons.

Student Support Services

The office of Student Support Services is located on the lower level of the Cunningham Business Center. Its purpose is to help students maximize their potential for success by providing a variety of academic and personal support services. Students are welcome to visit for academic advising and personal or career counseling. All services are provided at no cost to qualified students.

A peer-tutoring program is available through Student Support Services. Successful students in the upper classes who have demonstrated academic excellence and have been recommended by faculty make up the tutoring staff. Tutoring can be arranged on a regular weekly schedule or on a drop-in basis. Other available services include academic skills development classes, a peer mentor program utilizing upper-class students for selected freshman students, computer access, cultural activities on and off campus, and informative seminars and speakers.

Alumni Activities For Students

Homecoming

This special fall event draws Indiana Tech alumni and friends back to campus from near and far. Old friendships are renewed, new friendships are made, memories are shared, and everyone gets a chance to reacquaint themselves with Indiana Tech. The weekend is packed with outdoor activities and games, music, picnics, and sporting events. While homecoming draws a large alumni crowd, the weekend is planned for both students and alumni. Stick around campus and make some lasting memories and valuable connections with alumni.

TWIST Golf Tournament

Alumni business leaders, faculty, and staff interact with students during a relaxed day on the links. Many alumni sponsor students so that they may experience this important social business culture of power lunches and deal making first-hand. Proceeds from the tournament benefit The Ed Moore/Walter Trask Scholarship fund. Teams for this September tournament fill up quickly so sign up early.

The Annual Fund Spring Phonathon

Students are afforded the opportunity each year in the early spring to call alumni across the country. The purpose of the phonathon is to seek continued support of The Annual Fund, which provides necessary funds for student financial aid and campus technology. While student callers are compensated for this three-week campus employment opportunity, very valuable connections with alumni are also made. Internships, employment, and mentoring have all resulted from positive and effective calling in years past.

Scholarships

Indiana Tech alumni and friends have endowed over 98 named scholarships for students. Their generosity provides for both merit and need-based financial support to students. Guidelines and applications are available in both the financial aid and alumni offices.

Senior Class Gift

A new tradition in philanthropy at Indiana Tech has begun. Graduating seniors want to assure that the departments that prepared them continue to thrive and educate following students. Thus, they come together their last year as students, as one class, to pledge their support of the university as young alumni. Each class has a select group of seniors who serve as class gift officers and oversee the project. The class gift and pledge-raising project will vary with each class.

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 of C or better.
An introduction to the principles of accounting. The complete accounting cycle is studied. Specifically included are preparation of journal entries, worksheets, financial statements, and a more detailed look at cash, receivables, and fixed assets. 3 credit hours (3 plus 0)

ACC 1040 Managerial Accounting
Prerequisite: ACC 1010 with grade of 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. Realistic business situations are discussed through the use of case studies and Web research. 3 credit hours (3 plus 0)

ACC 2200 Intermediate Accounting I
Prerequisite: ACC 1010 with grade of C or better; MA 1025; MIS 1300.
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 credit hours (3 plus 0)

ACC 2240 Intermediate Accounting II
Prerequisite: ACC 2200 with grade of 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 credit hours (3 plus 0)

ACC 2400 Cost Accounting
Prerequisite: ACC 2200 with grade of C or better; MA 1025. 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 credit hours (3 plus 0)

ACC 2430 Cost Accounting I
Prerequisite: ACC 1040; MA 1025. CPS students only.
An introduction to cost management systems. Topics include job order, process, and activity bases cost accounting. Cost Allocation for joint products and by-products is also covered. 3 credit hours (3 plus 0)

ACC 2440 Cost Accounting II
Prerequisite: ACC 2430. 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 credit hours (3 plus 0)

ACC 2500 Individual Income Tax
Prerequisite: ACC 1040 with grade of C or better; junior standing.
A study of the concepts of individual taxation and extensive practice in filling out individual Form 1040 and the complete back-up 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 credit hours (3 plus 0)

ACC 2990 Special Topics in Accounting
Prerequisite: Permission of the dean 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 concurrent enrollment.
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 standard standards, fraud and its detection, independence of the CPA, and presentation of the audit report by the CPA. 3 credit hours (3 plus 0)

ACC 3500 Corporate Income Tax
Prerequisite: Junior standing.
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 credit hours (3 plus 0)

ACC 3800 Investments
Prerequisite: ACC 1040.
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 credit hours (3 plus 0)

ACC 4700 Advanced Accounting I
Prerequisite: ACC 2240 with grade of 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 credit hours (3 plus 0)

ACC 4740 Advanced Accounting II
Prerequisite: ACC 4700 with grade of 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 credit hours (3 plus 0)

ACC 4990 Special Topics in Accounting
Prerequisite: Permission of the dean 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 1110 Anatomy and 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 credit hours (3 plus 0)

BIO 1140 Medical Terminology
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 credit hours (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 credit hours (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 credit hours. (3 plus 0)

BME 3250 Thermodynamics and Fluids Lab
Prerequisite BME 3200 or concurrent registration.
Experimental studies of fluids at rest and in motion. Experimental studies in the analysis of heat transfer equipment. 1 credit hour. (0 plus 3)

BME 3500 Bio-Kinematics
Prerequisite: EM2020.
Kinematic and dynamic analysis of mechanisms. Computer-aided kinematic design. Experimental studies of mechanical properties of structural elements and prosthetics. 3 credit hours. (2 plus 3)

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.

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 will also produce a formal written report.

BME 4990 Special Topics in Biomedical Engineering
Prerequisite: Permission of the department chair.
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 1400 Principles of Management
An introduction to the fundamentals of management, this course identifies, analyzes, and explains the basic principles underlying effective management. A how-to approach for the study of such management functions as planning, organizing, directing and controlling. 3 credit hours (3 plus 0)

BA 2000 Operations Management
Prerequisite: BA 1400.
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 credit hours (3 plus 0)

BA 2200 Personal Finance
Prerequisite: Grade of C or better in MA 1025.
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 versus buy decisions for autos and homes, insurance, and investment fundamentals.

BA 2410 Human Resource Management
Prerequisite: BA 1400.
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 credit hours (3 plus 0)

BA 2430 International Management
Prerequisite: BA 1400.
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, the organizing, the staffing, and the managerial control process of the multinational corporation. 3 credit hours (3 plus 0)

BA 2500 Marketing
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 credit hours (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 credit hours (3 plus 0)

BA 2600 Occupational Safety & Health
Prerequisite: BA 1400.
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 of related to providing a safe and healthful working environment for various occupations. 3 credit hours (3 plus 0)

BA 2650 Compensation Management
Prerequisite: BA 1400.
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 will also be included. 3 credit hours (3 plus 0)

BA 2700 Organizational Behavior
Prerequisite: BA 1400.
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 credit hours (3 plus 0)

BA 2800 E-Commerce
Prerequisite: BA 1400, 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 eCommerce trends will also be examined. 3 credit hours (3 plus 0)

BA 2850 Managing in a Legal Environment
Prerequisite: BA 1400.
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 credit hours (3 plus 0)

BA 2990 Special Topics in Business
Prerequisite: Permission of the dean 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 1400; MA 1025.
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 credit hours (3 plus 0)

BA 3150 Project Management II
Prerequisite: BA 3110.
A continuation of Project Management I in which students successfully complete and present a comprehensive project management activity. 3 credit hours (3 plus 0)

Undergraduate Course Descriptions {Continued}

BA 3200 Business Ethics
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.

BA 3300 Marketing Research and Decision Making
Prerequisite: MA 2025; BA 2500.
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 credit hours (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 credit hours (3 plus 0)

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 credit hours (3 plus 0)

BA 3560 Entrepreneurship
Prerequisites: BA 1400; BA 2500; ACC 1040.
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.

BA 3600 Corporate Finance
Prerequisite: ACC 1040.
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 credit hours (3 plus 0)

BA 3710 Leadership
Prerequisites: BA 1400; BA 2700 or SS2720.
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 credit hours (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 credit hours (3 plus 0)

BA 4000 Advanced Production Management
Prerequisite: BA 2000 and MA 2025.
Operation and control of production systems. Topics include aggregate planning, materials requirements planning, just-in-time systems, scheduling and supply chain management. 3 credit hours (3 plus 0)

BA 4010 Quality Management
Prerequisite: BA1400; MA2025; 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 credit hours (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 credit hours (3 plus 0)

BA 4510 Retailing
Prerequisite: BA 2500.
The course is designed for those who hope to become managers, owners of retail firms, or representatives of businesses that sell to retailers. Thus it considers the long-range problems of retailers. Cases and text material are used to develop an understanding of such problems related to establishing retail stores such as location, layout, buying, pricing, fashion, and retail research. 3 credit hours (3 plus 0)

BA 4700 Training and Development
Prerequisites: BA 2410.
Processes, methods, theories, and current practices of training and development activities in business and corporate settings. Human resources development practices which facilitate learning and change to enhance organizational objectives. 3 credit hours (3 plus 0)

BA 4800 Public Relations
Prerequisite: Junior standing.
Study of principles, cases, and problems to facilitate under-

standing 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 credit hours (3 plus 0)

BA 4820 Seminar in Human Resource Management
Prerequisite: BA 2410.
The students enrolling in this course will attend the National Convention for the Society of Human Resource Management (SHRM). This class is only offered in the summer sessions. Most conference issues that will be addressed will be globally related, including: sexual harassment, compensation planning, disabilities, flexible workplaces, global education, legal perspectives, along with approximately a hundred other topics. In addition, the networking and the trade show will be spectacular. This course is a capstone event that requires membership in the SHRM and the opportunity to become professionally certified. 3 credit hours

BA 4910 Business Policy and Strategic Planning
Prerequisite: BA 1400; BA 2500; ACC 1040; MA 2025; and Junior standing.
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 credit hours (3 plus 0)

BA 4950 Internship
Prerequisites: Senior standing or permission of the dean 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 will also participate in a seminar program discussing the relationship of principles and theories to actual operations in the industry. 1 to 6 credit hours

BA 4960 Project
Prerequisite: Senior standing and permission of the dean of business. Application of business principles to an extended project. 3 credit hours (1 plus 6)

BA 4990 Special Topics in Business
Prerequisite: Permission of the dean 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 credit hours (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 credit hours (3 plus 0)

CH 1220 General Chemistry & Lab I
Prerequisites: CH 1000 or equivalent; MA 1035 with a grade of C or higher or equivalent.
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 credit hours (2 plus 3)

CH 1230 General Chemistry II
Prerequisites: CH 1220.
Chemical kinetics; gaseous and solution equilibria; thermodynamics; metals and their properties, organic chemistry and nuclear chemistry; electrochemistry. 3 credit hours (3 plus 0)

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. (Same as EE 3510 and CS 2200) 3 credit hours.

CPE 3550 Computer Engineering Lab I
Prerequisites: CPE3500.
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. (Same as EE 3520 and CS 2250) 2 credit hours.

CPE 3600 Computer Architecture
Prerequisite: CS2100
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 credit hours.

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 hour (0 plus 2)

CPE 4150 Digital Signal Processing
Prerequisites: CPE 3550 and 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 credit hours

CPE 4500 Computer Engineering II
Prerequisites: CPE 3500.
Switching networks and sequential systems, design of synchronous systems, state reduction in incompletely specified systems, synthesis of asynchronous systems, clocked sequential systems. Use of the Viewlogic program for the design and verification of digital logic circuits. 3 credit hours.

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 credit hours.

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. Schedule and unscheduled lab. 3 credit hours (1 plus 3)

CPE 4710 Senior Project Proposal
Prerequisite: Senior standing
Development of a proposal for CPE 4710 Senior Project.
A complete proposal is properly documented and presented.
1 credit hour

CPE 4720 Senior Project
Prerequisite: CPE 4710
The proposal created in CPE4710 Senior Project Proposal is implemented, tested, and demonstrated. 3 credit hours

CPE 4990 Special Topics in Computer Engineering
Prerequisites: 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
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, applications, communications, and the limitations of computing. 3 credit hours.

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 credit hours.

CS 1300 Computer Science I
Prerequisite: CS 1200; 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 credit hours.

CS 1350 Computer Science II
Prerequisite: CS 1200.
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 credit hours.

CS 2100 Introduction to Computer Systems
Prerequisites: 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. 3 credit hours.

CS 2410 Discrete Structures
Prerequisite: CS 1300; Co-requisite: MA 1100 or MA 1200
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 credit hours.

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 credit hours.

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
Prerequisites: 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, disk management. 3 credit hours.

CS 3500 Numerical Methods I
Prerequisites: MA 1210; CS 1350 or EGR 1500.
Solution of nonlinear equations, solving sets of equations, interpolating polynomials, and numerical differentiation. Includes error analysis and application of numerical methods on the computer. 3 credit hours.

CS 3550 Numerical Methods II
Prerequisites: CS 3500.
Numerical integration, numerical solution of ordinary differential equations, boundary-value problems and characteristic-value problems, numerical solution of partial differential equations. Includes error analysis and application of numerical methods on the computer. 3 credit hours.

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 credit hours.

CS 3800 Data Structures & Algorithms
Prerequisite: CS 2410; CS 1350.
A study of methods for implementing data structures such as: lists, linked lists, n-ary trees, AVL-trees, b-trees, tries, and graphs. Study and analysis of well-known algorithms. 3 credit hours.

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 hour.

CS 4500 Software Engineering
Prerequisite: CS 3800.
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 credit hours.

CS 4600 Organization of Programming Languages
Prerequisites: CS 3800.
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. 3 credit hours.

CS 4800 Systems Software
Prerequisites: CS 4600.
Software design techniques. Organization and management of software development. Design of assemblers and microprocessors. 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. 3 credit hours.

CS 4900 Theory of Computation
Prerequisite: CS 3800.
Introductory course in theory of computation. Includes the study of finite state automata, context free languages, Turing machines, undecidability and computational complexity. 3 credit hours.

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 credit hours (3 plus 0)

CJ 2100 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 credit hours (3 plus 0)

CJ 2200 Corrections in America
Prerequisite: CJ 1100.
The correctional system in the United States has an interesting and varied evolution. Beginning with an historical overview of this component of the America criminal justice system, the learner will delve into 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, and future challenges and trends in the correctional environment will also be explored. 3 credit hours (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 credit hours (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 credit hours (3 plus 0)

CJ 3100 A System of Juvenile Justice
Prerequisite: CJ 1100.
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 credit hours (3 plus 0)

CJ 3200 Understanding Criminal Behavior
Prerequisite: CJ 1100.
This course allows the learner to view and understand numerous theories that have been offered over time to explain criminal behavior. The material will be presented from a sociological, economic and biological framework. Theory development, critical examination of theory, and describing how theory impacts policy will be a portion of the study of this topic. 3 credit hours (3 plus 0)

CJ 3400 Criminal Courts & Courtroom Demeanor
Prerequisites: CJ 2300, CJ 2400.
The role of the prosecutor, defense attorney, and the judge are examined in this detailed exploration of the court system in the American criminal justice system. In addition to these topics, the learner will understand the nature of courtroom operations and judicially related topics. Prosecutorial decision-making, plea negotiation, judicial selection, jury selection, the mechanics of the criminal trial, and sentencing will be topics of focus. Depending upon availability, the observation of a portion of a criminal trial may be a requirement in this class. 3 credit hours (3 plus 0)

CJ 3500 Applied Research Methods in the Criminal Justice Setting
Prerequisite: MA 2025.
Learners will become acquainted with basic sources of criminal justice data, learn to critically assess that data, and learn how that data is used in the research setting. Learners will also become familiar with basic research techniques, the systematic analysis of research in the field of criminal justice, and the use of that material in scholarly reports and essays. 3 credit hours (3 plus 0)

CJ 3600 Basics of Criminal Investigation
Prerequisite: CJ 2100.
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 of this class. 3 credit hours (3 plus 0)

CJ 4100 Technology in Criminal Justice
Prerequisite: CJ 3200, CJ 3600.
Those operating in the American criminal justice system are developing and using technology as never before. This course will focus on the development, application and policy implications of a variety of technology systems currently being utilized in the criminal justice environment. Forensic technology, informa-

tion based technology and less-than-lethal technology will be examined during the class. 3 credit hours (3 plus 0)

CJ 4200 Law Enforcement Planning Process
Prerequisites: CJ 2100, CJ 3200.
A focus on policy and planning issues in the law enforcement 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 credit hours (3 plus 0)

CJ 4300 Police Organization & Management
Prerequisite: CJ 2100 or BA 3710.
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 credit hours (3 plus 0)

CJ 4400 Fundamentals of Crime Analysis
Prerequisites: CJ 3600, MA 2025.
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. The learner will also be exposed 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 credit hours (3 plus 0)

CJ 4500 Crime Mapping & Spatial Analysis
Prerequisites: CJ 3200, CJ 3600.
Crime mapping and the spatial analysis of crime are some of the most powerful methods in use today that aid in the study and control of crime. In this course, learners will explore methods for automating the geographical analysis of crime data. The use of geographic information systems (GIS) in the spatial analysis of crime data is also a focus of this course. Learners may be exposed to one or more contemporary software programs that aid in crime mapping and/or spatial analysis. 3 credit hours (3 plus 0)

CJ 4600 Crime Prevention Through Environmental Design
Prerequisite: CJ 2100.
The architectural concepts, crime prevention concepts, and environmental concepts that address factors contributing to crime in physical space. The learner will be capable of identifying factors that contribute to criminality in a particular geographic area, develop recommendations to reduce that criminal activity, and implement those recommendations according to CPTED principles. 3 credit hours (3 plus 0)

Communication

COMM 1250 Foundations of Communication
Prerequisite: ENG 1250 (co-requisite).
Theoretical foundations of the communication discipline, as well as a survey of the communications field. 3 credit hours (3 plus 0)

COMM 1500 Rhetoric and Argumentation
Prerequisite: ENG1250, 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 credit hours (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 credit hours (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 credit hours (3 plus 0)

COMM 2000 Persuasion and Propaganda
Prerequisite: COMM 1500 or HUM 2730.
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 credit hours (3 plus 0)

COMM 2100 Introduction to Cinema
Prerequisite: HUM 2000.
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 credit hours (3 plus 0)

COMM 2200 On Television
Prerequisite: HUM 2000.
Introduction to the economics, social control and influence of the electronic broadcast media and its industry. Analysis and interpretation of media programs and the impact on our culture.
3 credit hours (3 plus 0)

COMM 2500 Public Communication
Prerequisite: ENG 2320.
Principles and practice of effective oral communication to include the analysis and evaluation of the speaking-listening

process. Preparation in selecting, organizing and delivering messages for various types of structured public communication settings. 3 credit hours (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. An in-depth study of Marshall McLuhan's seminal text, *Understanding Media: The Extensions of Man*. 3 credit hours (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. Throughout, emphasizes economy, clarity, and the development of voice for a given medium. 3 credit hours (3 plus 0)

COMM 3300 Information Gathering & Reporting Methods
Prerequisite: COMM 3200.
Methodology of inquiry using primary sources, critical thinking skills, fact discrimination, interviewing, listening skills, data collection including electronic methods. Writing of originally researched stories for newspaper organizations. 3 credit hours (3 plus 0)

COMM 3400 Writing for Public Relations
Prerequisite: ENG 1250, BA 4800.
Theory and practice of producing publicity tools for various media used in campaigns to promote and interpret personal, institutional and organizational objectives and activities. 3 credit hours (3 plus 0)

COMM 3500 Editing and Design
Prerequisite: COMM 3300 or COMM 3400.
Revision of manuscripts to satisfy editorial needs according to the intended purpose and audience while maintaining accuracy and readability. Design of publications and the tools of layout, including creating layouts to meet a variety of design requirements. 3 credit hours (3 plus 0)

COMM 4000 Communication Law & Ethics
Prerequisite: COMM 1600 or HUM 3710.
Major legal topics pertaining to the regulation of mass communication, as well relevant ethical issues 3 credit hours (3 plus 0)

COMM 4250 Crisis Communication
Prerequisite: BA 4800.
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 credit hours (3 plus 0)

COMM 4750 Applied Communication
Prerequisite: COMM 1250.
Practical experience in communication, such as applied communication research, internship or alternate communications related projects. 3 credit hours (3 plus 0)

Education

EDU 1200 Issues in American Education
This course provides a general introduction to the elementary teaching profession. Students will examine the historical, philosophical, and legal foundations of the American educational system. Class topics also include motivation, status, and preparation of teachers; the K-6 teacher job market; requirements for K-6 teacher certification; professional teaching organizations; governmental policies affecting elementary education; the organization and management of elementary schools; the effects of a growing multicultural society on elementary education; research-based best teaching practices; and the effective use of technology for teaching and learning. 3 credit hours (3 plus 0)

Electrical Engineering

EE 2050 Electrical Engineering
Prerequisites: MA 2100, PH 2300.
An introductory course in electrical science for engineers other than EE majors. The course extends the student's knowledge of electrical components and circuits, studied in physics, to include dynamic circuits in the steady state. This background is then used in an analytical study of transducer systems, electrical instruments, and electromechanical devices. Emphasis is placed on the measurement of mechanical parameters with electrical systems and electrical energy conversion in DC and single-phase AC motors. 3 credit hours.

EE 2100 Circuit Analysis I
Prerequisite: MA 1200 or concurrent registration; PH 2300.
Resistive linear networks are studied in depth, including dependent and independent sources. The principal topics of study are: node and mesh techniques, principles of duality and superposition, source theorems, shifting theorems, star-delta transformations, Millman's theorem, substitution theorem. Thevenin and Norton theorems, and the maximum power transfer theorem. Inductors and capacitors are introduced as circuit elements and the time response of first and second-order networks is developed using ordinary, linear, differential equations. The Electronics Workbench simulator is used for DC and transient circuit analysis. 3 credit hours.

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. The Electronics Workbench simulator is used for transient and AC steady-state circuit analysis. 3 credit hours.

EE 3150 Signals and Systems
Prerequisites: EE 3100.
Analysis of signals, both continuous and discrete time. Analysis of a system as a general relationship between input and output. Signals and systems are classified according to their properties. Mathematical techniques, such as difference and differential equations, block diagrams, convolution, Laplace transforms, Z transforms, Fourier transforms and Fourier series, are used to analyze responses of linear, time-invariant systems to various excitations. Examples are drawn from a variety of disciplines, with emphasis on electrical circuits and filters. Computer programs, such as MATLAB and Electronic Workbench, are used to implement the mathematical techniques studied. 3 credit hours.

EE 3200 Electronic Circuits I
Prerequisites: EE 3100 or concurrent registration.
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. The Electronics Workbench simulator is used to obtain the DC bias, steady-state behavior, and frequency response of transistor amplifiers. 3 credit hours.

EE 3220 Electronic Circuits II
Prerequisites: 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. The Electronics Workbench simulator is used to simulate transistor and operational amplifier circuits including tolerance and temperature effects on the designed circuits. 3 credit hours.

EE 3500 EM Fields and Waves
Prerequisites: MA 2200, EE 3100 or concurrent registration.
The study of electromagnetic fields emphasizing forms of Maxwell's equations of particular interest in engineering applications. The physical sources of electromagnetic fields and vector mathematics are reviewed. A review of static fields precedes the introduction of the concept of quasistatic fields. Quasistatic fields are related to lumped circuits. 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 credit hours.

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 credit hours.

EE 3650 Circuits Laboratory
Prerequisites: 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 credit hours.

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 subsystems. 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. 1 credit hour.

EE 4100 Circuit Synthesis
Prerequisites: EE 3100.
This course is an intermediate level treatment of passive and active circuit synthesis. The course material includes: scaling and response normalization, methods of approximation, filter network functions, realizability criteria and PR functions, driving-point synthesis of LC networks, realizability and 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 and their time and frequency-domain characterization with professional test equipment. 3 credit hours.

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 credit hours

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 (SCRs), bi-polar-junction transistors (BJTs), and metal-oxide-semiconductor field-effect transistors (MOSFETs). 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 credit hours.

EE 4300 Principles of Communication
Prerequisites: EE 3150, EGR 1500 or equivalent.
The basic principles of waveform representation and spectral analysis are developed through the use of Fourier theory and orthogonal functions. The principles of both analog and digital communications are covered with emphasis on digital techniques. Both baseband and bandpass signaling techniques are examined in detail. The MATLAB program is used for communication system analysis. Laboratory experiments in digital communication systems are performed in the concurrent Communications Laboratory. 3 credit hours.

EE 4350 Communications Laboratory
Co-requisites: EE 4300.
This laboratory provides experimental support for the material covered in the senior-year communications class. In the first series of experiments students conduct experimental work in the areas of digital signaling, pulse amplitude, pulse width, and pulse-code modulation. Then the digital modulation techniques: amplitude, frequency, phase, and quadrature-phase shift keying are investigated. Finally a digitally-modulated microwave communications link is implemented in the laboratory. The experimental apparatus used in this laboratory consists of modular units, which build in into a complete communication system allowing students to investigate the characteristics of each individual sub-system module. 1 credit hour.

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 including variable reluctance motors and induction motors. Laboratory experiments with rotating electrical machines are performed in the concurrent Machines and Controls Laboratory. 3 credit hours.

EE 4450 Machines and Controls Laboratory
Co-Requisites: EE 4400, EE 4800. Prerequisites: MA 2430; EGR 2000.
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, such as series DC or induction. 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 hour.

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 credit hours.

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. 1 credit hour.

EE 4974 EE Senior Project II
Prerequisites: 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. 3 credit hours.

EE 4990 Special Topics in Electrical Engineering
Prerequisite: Permission of the instructor and of the dean of engineering.
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.

Engineering

EGR 1500 Computer Programming for Engineers
Prerequisites: 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 credit hours.

EGR 1710 Engineering Graphics and Design
Prerequisite: MA 1035 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 credit hours.

EGR 2000 Engineering Communication
Prerequisite: ENG1270 with a grade of C or better.
This course concentrates on written communication in four topic areas: technical style, units and their usage, data and diagram presentation, and technical reports. In this last section experimental logbooks, experimental reports, review, research, and progress reports are considered. The course also introduces students to reporting standards adopted by the engineering programs at Indiana Tech. Oral presentation techniques are also covered leading to computer-based presentations by each student. 3 credit hours.

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 credit hours.

EGR 2650 Manufacturing Processes
Prerequisites: EGR 2600 or Advisor Approval
An introduction to the many processes used in manufacturing. 3 credit hours.

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.

EGR 3600 CAD I – Parametric Model
Prerequisites: EGR 1710 & MA 1035
This course is based on 3-D CAD modeling procedures including: layers, curves, entities, design features, surface features, and assemblies. Medical device design projects will be the focus.

EGR 3700 CAD II including FEA
Prerequisites: EM 3100 & EGR 2700
Develop a working knowledge of finite elements for the design modeling and analysis of engineering components. Students will be presented theory of finite elements and practical applications.

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 credit hours.

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 credit hours.

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; frames; machines; shear and bending moment diagrams; friction; moments of inertia. Computer applications. 3 credit hours.

EM 2020 Dynamics
Prerequisites: MA 1210; grade of C or higher in EM 2010.
This course is intended to give students an understanding of both the theory and applications of engineering mechanics. The topics which will be discussed 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 credit hours

EM 2030 Statics and Dynamics
Prerequisites: MA 1100 or concurrent registration; PH 1100.
Study of forces on bodied 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. Open to Industrial and Manufacturing students only. 3 credit hours

EM 3100 Mechanics of Materials
Prerequisites: MA 1210; Grade of C or higher in EM 2010.
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. Computer applications. 3 credit hours

EM 3150 Mechanics of Materials Laboratory
Prerequisite: EM 3100
Experimental studies of the mechanical properties of materials and structural elements. 1 credit hour (0 plus 3)

EM 3500 Fluid Mechanics
Prerequisites: EM 2020 or concurrent registration; MA 2100.
Fluid statics and dynamics. Laminar and turbulent flows. The 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 credit hours

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 hour (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 credit hours.

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 credit hours.

English

ENG 1000 Developmental Reading
Practice in the use of skills which increase accuracy and speed of comprehension in all types of reading. College credit awarded, but will not be applied toward degree requirements. 3 credit hours

ENG 1100 Basic English
This course teaches elements of standard written English, including grammar, punctuation, and sentence and paragraph building. Students write a number of short essays. College credit awarded, but will not be applied toward degree requirements. 3 credit hours

ENG 1245 English Composition
CPS students only.
This course introduces students to those skills necessary for writing lucid and sustained expository essays. The course will emphasize fundamental principals of expository and descriptive writing, with specific focus upon appropriate grammar, style, mechanics, and usage. 3 credit hours (3 plus 0)

ENG 1250 English Composition I
Prerequisite: Placement; grade of C or better in ENG 1000 (if required by placement); grade of C or better in ENG 1100 (if required by placement).
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 credit hours (3 plus 0)

ENG 1255 Intermediate Composition
Prerequisite: ENG1245 Grade of C or better. CPS students only.
Intermediate Composition advances the same writing skills stressed in English Composition but with emphasis on argumentation and persuasion. Students are introduced to research and documentation. 3 credit hours (3 plus 0)

ENG 1265 Advanced English Composition
Prerequisite: ENG 1255 Grade of C or better. CPS students only.
Advanced English Composition emphasizes critical thinking, reading, and writing in response to selected literary texts. It also involves additional instruction and practice in research methods and presentation of a formal research paper. 3 credit hours (3 plus 0)

ENG 1270 English Composition II
Prerequisite: Grade of C or better in ENG 1250.
This course is an introduction to the writing of researched es-

says for a variety of aims and audiences. Students analyze rhetorical style, structure, and argumentation, with an emphasis on building critical thinking skills. 3 credit hours (3 plus 0)

ENG 2220 Credit for Learning
Prerequisite: ENG 1255 grade of 'C' or better. CPS students only.
Details the process of preparing a portfolio of life and work experiences to be assessed for college credit. Emphasis will be placed on unity, support, organization, sentence skills, and style. 3 credit hours (3 plus 0)

ENG 2320 Professional Communication
Prerequisite: Grade of C or better in ENG 1265 or ENG 1270.
The refinement of verbal and written communication skills for the professional world, with emphasis on applications that develop and synthesize these skills. 3 credit hours (3 plus 0)

ENG 2400 Grantwriting
Prerequisite: ENG 1255 or 1270 Grade of 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. Learners will find out how to research corporations, private foundations and other funding organizations and will be required to develop an actual grant proposal. 3 credit hours (3 plus 0)

ENG 2990 Special Topics in English
Prerequisite: Permission of the dean of general studies.
Directed study of a special body of subject matter in the field of English. This course may be repeated for additional credit. Variable credit.

Health Care Administration

HCA 1100 Intro 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 credit hours (3 plus 0)

HCA 2100 Legal Aspects of Health Care Admin
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 credit hours (3 plus 0)

HCA 2990 HCA Special Topics
Prerequisite: Permission of the dean 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
Prerequisite: HCA 1100, ACC 1010.
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 credit hours (3 plus 0)

HCA 3200 Health Care Policy
Prerequisite: 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 credit hours (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 credit hours (3 plus 0)

HCA 4200 Long-term Care Administration
Prerequisite: HCA 1100.
Study of long-term care centers as they have come to exist. 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 credit hours (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.

Human Services

HS 1200 Introduction To Human Services
An overview of the program, philosophies, history, and economics of human and social service agencies. 3 credit hours (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 credit hours (3 plus 0)

HS 2600 Human Services Field Experience
Prerequisite: HS 2000, C or better in IIT 1100.
Actual leadership experience in a human services setting or by participation in an organized human services program. Theory is coordinated with practical experience. 3 credit hours (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 2600 Field Experience. Approved elective(s) may be substituted for this class. Theory is coordinated with practical experience. Variable credit with approval of the Dean.

Humanities

HUM 2000 Introduction to Humanities
Prerequisite: ENG 1270 or concurrent enrollment for day students, ENG 1265 for CPS students
Introduction to disciplines in the humanities, including visual art, music, philosophy, literature, and performing arts. 3 credit hours (3 plus 0)

HUM 2010 Origins of the Western World
Prerequisite: HUM 2000.
Developments in the fine arts and philosophy from the ancient world through the Middle Ages. 3 credit hours (3 plus 0)

HUM 2020 Achievements of the Modern Western
Prerequisite: HUM 2000.
Explorations of Western art, music, philosophy, and literature from the Renaissance to the present. 3 credit hours (3 plus 0)

HUM 2510 Music Appreciation
Prerequisite: HUM 2000.
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 credit hours (3 plus 0)

HUM 2730 Introduction to Philosophy
Prerequisite: HUM 2000.
The major philosophic orientations in the study of human culture emphasizing intellectual systems from Classical Greece through the twentieth 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 credit hours (3 plus 0)

HUM 2990 Special Topics in Humanities
Prerequisite: HUM 2000.
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: HUM 2000 or concurrent enrollment
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 credit hours (3 plus 0)

HUM 3310 Interpretation of Fiction
Prerequisite: HUM 2000.
Appreciation of great fiction with the techniques and skills used in writing and interpreting the novel and short story. 3 credit hours (3 plus 0)

HUM 3320 Major British Writers
Prerequisite: HUM 2000.
An introduction to selected poets, novelists, and dramatists in British Literature. 3 credit hours (3 plus 0)

HUM 3340 World Cultures
Prerequisite: HUM 2000.
Religious, philosophical, and artistic developments in the non-Western world, with an emphasis on Asia. 3 credit hours (3 plus 0)

HUM 3350 Great Books of the Western World
Prerequisite: HUM 2000.
Outstanding literature by such writers as Homer, Dante, Shakespeare, and several modern novelists. 3 credit hours (3 plus 0)

HUM 3360 African American Literature
Prerequisite: HUM 2000.
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 credit hours (3 plus 0)

HUM 3370 Horror in Film and Literature
Prerequisite: HUM 2000.
An exploration of the human fascination with horror and the uncanny through close viewing and reading of classic works of literature and film. 3 credit hours (3 plus 0)

HUM 3710 Ethics
Prerequisite: HUM 2000.
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 credit hours (3 plus 0)

HUM 3720 Advanced Critical Thinking
Prerequisite: HUM 2000.
Evaluation of forms of argument; recognition and detection of argumentative fallacies; deductive and inductive thinking; and an introduction to formal logic structures. 3 credit hours (3 plus 0)

Indiana Tech

IIT 1000 Freshman Seminar
Indiana Tech history, campus offices, student procedures, study skills, introduction to campus organizations, and scheduled activities with Freshmen Mentors. Pass/Fail format.

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.

IIT 1100 Professional Development
This course focuses on exploration of career development in students' respective majors. Students will study: career options and career ladders in their fields of study; be exposed to discipline conferences; certification requirements; commonly used journals; job opportunities; discipline controversies; resume development; professional standards; and leaders in their fields. University, local and national professional resources will be reviewed. This course must be completed prior to enrolling in a practicum or internship for psychology or human services.

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 credit hours (3 plus 0)

Industrial & Manufacturing Engineering

IME 2010 Safety Engineering
Prerequisites: BA 1400; EGR 1710.
Principles of safety engineering applied to industrial situations. Topics include job safety analysis, accident investigation, personal protective equipment, fire and electrical safety, facilities layout, and more. 3 credit hours

IME 2020 Work Design
Prerequisites: 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 credit hours

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 for variables, and process capability. Projects and computer applications. 3 credit hours

IME 3020 Computer Simulation of Manufacturing
Processes I Prerequisite: MA 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 credit hours

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 credit hours

IME 3060 Adv. Comp. Integrated Manufacturing
Prerequisites: IME 3005, 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 is frequently referred to as Automation, and 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, and by doing so, help them prepare themselves for a contemporary, high-tech, manufacturing workplace. 3 credit hours

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 credit hours

IME 3120 Design of Experiments
Prerequisite: MA 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 credit hours

IME 4010 Technical Computer Graphics
Prerequisites: EGR 1710; IME 3005 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 credit hours

IME 4020 Lean Manufacturing
Prerequisites: IME 2020, IME 3005.
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 credit hours

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 credit hours

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 credit hours

IME 4300 Integrated Resource Management
Prerequisites: IME 020, MA 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 plus 0) 3 Credit hours

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. 1 credit hours

IME 4974 IME Senior Project II
Prerequisite: IME 4973.
The implementation of the design solution prepared in Senior Project I. The project concludes with a written report and an oral presentation to engineering faculty. 3 credit hours

IME 4975 IME Senior Project
Prerequisite: 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 credit hours

IME 4990 Special Topics in Industrial and 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.

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 credit hours.

IS 1150 Principles of Information Systems
Prerequisite: CS 1250 or concurrent registration.
An overview of the field of Information Systems and the technology use 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 credit hours.

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 will also 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 credit hours

IS 1300 Programming I
Prerequisite: CS 1250 with grade of C or better.
Introduction to computer programming with a traditional business language. Emphasis on solving business problems with structured programming. Numerous small programming assignments, weekly scheduled laboratory and unscheduled laboratory. 4 credit hours.

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 will also 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 credit hours.

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 credit hours.

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 credit hours

IS 2000 Physical Forensics
Prerequisite: Sophomore standing.
This course is intended for students studying criminal justice or information security. An introduction of physical forensics focusing on the recovery and analysis of physical evidence commonly found in criminal investigations. Laboratory experiments will be included. 3 credit hours.

IS 2100 Internet Fundamentals
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 credit hours

IS 2200 Developing Business Solutions
Prerequisite: 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, business and marketing research, and competitive intelligence are covered. 3 credit hours.

IS 2300 Programming II
Prerequisite: IS 1300 or CS 1300.
Introduction to advanced programming techniques. Programs of increasing difficulty implementing business applications. Testing and documentation. 3 credit hours.

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 credit hours.

IS 2450 Digital Video Editing and Production
Prerequisite: IS 2400
This course uses Adobe Premiere non-linear software to provide a hands-on introduction to the many facets of digital video shooting and editing. While students will learn techniques that can be applied to any digital video editing program, the focus extends beyond basic editing into an exploration of the medium itself. Topics include shooting your own footage, essential editing techniques, special effects, audio, and how to output work to the Web and DVD. 3 credit hours.

Undergraduate Course Descriptions {Continued}

IS 2600 Web Site Design
Prerequisite: IS 1300 or CS 1300.
This course looks at the programming aspects of developing and interactive web site, such as storefront. Topics include password protection, session control, the HTTP protocol, cookies, web forms database access and shopping carts. This course will examine the theories necessary for a successful web-based storefront implementation and introduce students to a specific development platform (such as Java, ASP, Cold Fusion or PHP). Students will develop and test the components required to run a web application in scheduled and unscheduled labs. 3 credit hours.

IS 2900 Web Applications
Prerequisite course: IS 2100 or 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 credit hours

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 3000 Web Site Deployment
Prerequisite courses: IS 2100 and IS 2600
This course uses a hands-on approach to provide students with a detailed look into the process of deploying a web site on the Internet. Students will construct, deploy, and promote a completely functional web site. Unscheduled lab. 3 credit hours

IS 3100 Information Security
Prerequisite: Junior standing and pursuing a computer studies 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 credit hours.

IS 3200 Computer Forensics
Prerequisite: 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 an array of methods for discovering deleted, encrypted, or damaged file information. A major focus of this course will be on the computer forensics tools currently available in the investigator's laboratory, methods of processing crime and incident scenes, and reporting results of the investigations. 3 credit hours.

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. Using real life examples and case studies, students will examine the history, development, extent and types of digital crime and digital terrorism as well as current legislation and law enforcement practices designed to prevent, investigate and prosecute these crimes. 3 credit hours.

IS 4100 Systems Analysis and Design
Prerequisite: IS 2300 or NET 2300.
An overview of the systems development life cycle with emphasis on the techniques and tools of system documentation and logical systems specifications.
3 credit hours.

IS 4600 Disaster Recovery
Prerequisite: IS 3100
This course examines the strategies and activities for limiting the impact to and recovering 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 for disasters of varying severity. Risk identification and analysis are explored for assets, physical facilities and end-user functions with secure accessibility. Topics covered include data assurance, information security, project management disciplines, and business continuity planning. 3 credit hours.

IS 4700 IS Senior Project
Prerequisites: IS 3100.
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 credit hours.

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 credit hours.

IS 4900 Web Site Management
Prerequisite: IS 2900, IS 3000 and senior standing in BS WD
This course is the capstone for the web development degree. Students will examine the requirements that organizations face when developing an effective and successful Web presence.

They will apply their previous course experience to today's situation where the Web has matured, and the development and management of sites has become increasingly complex. In addition, students will become familiar with the management of Web sites development and its requirement of close collaboration of diverse professionals such as programmers, interactive designers and engineers, animators. videographers, writers, marketers, and business professionals-all working within a highly coordinated and structured development process. 3 credit hours.

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 will also 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.

Information Technology

IT 1010 The Electronic Work Environment I
This course provides a basic understanding of how technology is being used to improve patient care and allow a health care organization to run more effectively and efficiently if used correctly. The course will explore the vision of technology in health care and an overview of the components required to meet that vision. It includes a basic understanding of the network foundation, software application interactions, and regulatory requirements. 3 credit hours.

IT 1020 The Electronic Work Environment II
This is where patient care and technology meet. This course provides an understanding of how technology is changing the workflow of clinicians and how technology is providing a safer patient environment. Students will learn technology terms used in health care, different types of software applications and the need for interoperability of all. Students will see demonstrations of software applications that Clinicians use to document the care of the patients. Students will also learn through guest speakers and lecture how technology is impacting health care worker's lives. This course will also provide students with an understanding of Informatics, its history and how the specialty has evolved over the last twenty years. Finally, the course will discuss government initiatives for the Electronic Health Record and the impacts that we are seeing locally in an effort to meet those federal requirements. 3 credit hours.

IT 1030 Infrastructure and Systems
This course provides an understanding of infrastructures and systems being used today by industry leading health care organizations. The course provides students with an in-depth understanding of terminology, network infrastructures, server and workstation hardware/software, the Internet, security and an overview of how everything fits together. 3 credit hours.

IT 1040 Information Systems
This course examines the patient record and how technology affects this critical collection of information. From a brief historical perspective to remote access, the course looks at looks at how patient data has been documented through the years to how it is accessed in today in remote facilities such as clinics or physician offices. Relevant issues and opportunities are woven throughout the course. Other topics include regulatory issues and documentation standards. 3 credit hours.

IT 1050 Communications
This course provides a basic understanding of how technology is being used to improve patient care and allow a health care organization to run more effectively and efficiently if used correctly. The course will explore the Service Center its functions and an overview of the components required to meet the customer's needs. Students will see demonstrations of connecting basic hardware and how to do basic troubleshooting. Students will also learn through guest speakers and lecture about effective communication, customer service, teamwork, certification, information gathering process; complaints are opportunities and some software tips and tricks. 3 credit hours.

Life and Health Sciences

LHS 1100 Introduction to Dance
Fundamental principles and techniques of a variety of dance forms, including, but not limited to ballet, jazz, modern, African, improvisation, and hip-hop. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

LHS 2100 First Aid in Fitness Settings
Upon completion of the course, students will earn certification in American Red Cross CPR/AED for the Professional Rescuer and First Aid. Course concentrates on injuries that occur in the fitness realm. 3 credit hours (3 plus 0)

LHS 2110 Principles of Fitness and Nutrition
Course focuses on the values of physical activity, assessing fitness needs, measuring results, and the relationship between nutrition and health. Experience is gained through participation in vigorous physical activity including jogging. 3 credit hours (3 plus 0)

Undergraduate Course Descriptions {Continued}

LHS 2120 Care & Prevention of Athletic Injuries
Introductory course for athletic training minors. Topics include the prevention, evaluation, and initial care of athletic injuries. 3 credit hours (3 plus 0)

LHS 2500 Dance History
Focus on the history of dance since the 16th century. Emphasis on ballet, jazz, tap and modern dance. Enrollment preference will be given Dance Minors. 3 credit hours (3 plus 0)

LHS 2510 Modern Dance Technique
Through exploration and technical guidance, students will learn fundamental movement skills enhancing their ability to move with fluidity while developing a deeper awareness of expression through movement. Techniques are based on the Bill Evans Technique and influenced by Bartenieff Movement Fundamentals. Enrollment preference will be given to Dance Minors. 3 credit hours (3 plus 0)

LHS 2520 Ballet
Focus is on the vocabulary and principles of ballet. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

LHS 3100 Introduction to Physiology of Exercise
Prerequisite: BIO 1110.
Study of the major physiological systems of the human body and its acute and chronic responses to exercise. 3 credit hours (3 plus 0)

LHS 3200 Strength and Weight Training
Teaching and training methods, analysis of current training techniques, and error detection, physical adaptations related to strength and power training. Discussion on how to design comprehensive long term training based on scientific foundations. 3 credit hours (3 plus 0)

LHS 3210 Principles & Philosophy of Coaching
Focus on the philosophies, strategies, and tactics of coaching. Social and psychological issues of coaching are stressed. 3 credit hours (3 plus 0)

LHS 3300 Therapeutic Modality in Athletic Training
Prerequisite: LHS 2120.
An investigation of the theoretical and technological basis of sports injury management and therapeutic modality application. 3 credit hours (3 plus 0)

LHS 3400 Methods in Fitness Exercise Instruction
Teaching and evaluating a variety of group exercise sessions, including, slide, bench, and circuit training and use of resistance equipment. 3 credit hours (3 plus 0)

LHS 3410 Fitness Testing and Interpretation
Provides a knowledge base and practical experiences in fitness testing, assessment, and exercise programming. 3 credit hours (3 plus 0)

LHS 3500 Modern Dance Technique II
Prerequisite: LHS 2510.
Advance study of fundamental movement skills. Continued depth of development in the Bill Evans Technique and Bartenieff Movement Fundamentals. Technical skills are augmented with theoretical study of anatomy and kinesiology as related to dance and body movement. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

LHS 3510 Improvisation
Instruction and development of basic movement improvisation skills including contact improvisation, creative movement and action theatre. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

LHS 4200 Coaching Practicum
Prerequisite: Coaching minor.
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 credit hours (3 plus 0)

LHS 4300 Biomechanics of Physical Activity
Prerequisite: BIO 1110.
A study of human motions, noting bones, joints, and muscles that are involved and the mechanical conditions under which work is accomplished. 3 credit hours (3 plus 0)

LHS 4350 Athletic Training Practicum
Prerequisite: LHS 3300.
For students wishing to continue their study of athletic training at an entry-level curriculum. Course consists of structured, on and off campus clinical observation. Students will also be required to demonstrate proficiency on selected athletic training skills. 3 credit hours (3 plus 0)

LHS 4400 Certification Seminar
Guided study in the various certification processes. Students will study current topical issues and sit for appropriate certifications for their interest area.

LHS 4450 Personal Fitness Trainer Practicum
Prerequisites: Personal fitness coaching minor.
Students will receive practical supervision in all facets of fitness training at a gym or wellness center. Students must demonstrate a variety of typical functions of training. 3 credit hours (3 plus 0)

LHS 4500 Principles of Choreography
Prerequisites: LHS 2510 and LHS 3510.
Introduction of the compositional elements including repetition, and space design. Students will create and participate in creating and choreographing solo and small group dances. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

LHS 4510 Dance Pedagogy
Prerequisites: LHS 2510, LHS 3510 and LHS 4500.
Teaching methods and class planning for creative movement curriculum for a variety of ages. Enrollment preference will be given to dance minors. 3 credit hours (3 plus 0)

Management Information Systems

MIS 1300 Software Tools
Prerequisite: IS 1100.
This course exposes students to a variety of office suites packages which include word processing, spreadsheets, presentations and office automation features. Course emphasis is on document and spreadsheet usage and contrasting the various features of each platform. 3 credit hours (3 plus 0)

MIS 1500 Computer Systems and Hardware
Prerequisite: IS 1100.
This course prepares students to effectively manage a variety of hardware issues, such as installation, configuration, upgrading, diagnosing, troubleshooting, safety, and preventative maintenance, as well as the principles of motherboards, processors, and memory in microcomputer systems. 3 credit hours (3 plus 0)

MIS 2100 Networking and Infrastructure
Prerequisite: MIS 1300, MIS 1500.
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 credit hours (3 plus 0)

MIS 2150 Component Analysis and 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 credit hours (3 plus 0)

MIS 3000 Programming Logic
Prerequisites: MIS 2100 and MIS 2150.
Effective development and documentation of logic structures are reviewed for usage in file management utilizing perspectives of sequence, selection, iteration, and modular programming. 3 credit hours (3 plus 0)

MIS 3100 Database Management
Prerequisites: MIS 2100 and MIS 2150.
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 credit hours (3 plus 0)

MIS 3150 Database Applications Development
Prerequisite: 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 credit hours (3 plus 0)

MIS 3200 Web Applications and the Internet
Prerequisite: MIS 2100 and MIS 2150.
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 credit hours (3 plus 0)

MIS 4000 Enterprise Resource Planning
Prerequisite: MIS 3000, MIS 3100 and MIS 3200.
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 credit hours (3 plus 0)

MIS 4200 Systems Analysis and Design
Prerequisite: MIS 1300 and MIS 1500.
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 credit hours (3 plus 0)

MIS 4400 MIS Project Management
Prerequisite: MIS 3100.
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 credit hours (3 plus 0)

Mathematics

MA 1000 Foundations of Quantitative Methods
Topics include computation with integers and rational numbers using correct order of operations, ratio and proportions. The student also learns percent concepts and solving equations involving percentages. Other covered topics are perimeter, area, volume, exponents, simple roots, simplifying and solving equations and inequalities with one variable. Graphing lines using slope and y-intercept is taught as well as collecting, analyzing, and displaying data. Problem solving is integrated throughout and appropriate use of calculators is expected. 3 credit hours (3 plus 0)

Undergraduate Course Descriptions {Continued}

MA 1010 Basic Algebra
Prerequisites: MA 1000 with a grade of C or higher or equivalent.
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 (special products and factoring of polynomials), operations on rational expressions, and solving linear equations and inequalities (in one variable). This course may not be applied toward degree requirements. 3 credit hours (3 plus 0)

MA 1025 Quantitative Methods for Business
Prerequisite: MA 1000 with a grade of C or higher or equivalent.
Topics in algebra include addition, subtraction, multiplication, and division of variable expressions, solving equations, exponents, slope and equation of a line, and roots of integers. Solving and applying linear equations and simple exponential equations is studied. Solving simultaneous equations, systems of equations with multiple variables as they relate to business applications, and finance involving borrowing and saving money is also covered. Throughout the course, word problems and appropriate technology is emphasized. 3 credit hours (3 plus 0)

MA 1035 College Algebra
Prerequisites: MA 1010 with a grade of C or higher or equivalent.
Real numbers, and algebraic expressions, functions and graphs, equations and inequalities, systems of equations and inequalities, exponential and logarithmic functions, and complex numbers. 3 credit hours (3 plus 0)

MA 1040 Finite Mathematics
Prerequisite: MA 1035 with a grade of C or higher or equivalent.
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 credit hours (3 plus 0)

MA 1060 Trigonometry
Perquisite: MA 1035 with a grade of C or higher or equivalent.
Basic concepts of trigonometry, trigonometric functions, trigonometric identities and equations, and applications of trigonometry. 3 credit hours (3 plus 0)

MA 1100 Applied Calculus I
Prerequisite: MA 1035 with a grade of C or higher to equivalent.
Functions and graphs, limits, differentiation, curve sketching, exponential and logarithmic functions, antidifferentiation and integration. 3 credit hours (3 plus 0)

MA 1110 Applied Calculus II
Prerequisite: MA 1100 with grade of C or higher or equivalent.
Integration, series, multivariable calculus, differential equations. 3 credit hours (3 plus 0)

MA 1200 Calculus I
Prerequisites: MA 1035 and MA 1065 with grades of C or higher in both or equivalent.
Functions, limits, continuity, derivatives, inverse functions, derivatives of exponential and logarithmic functions, derivatives of inverse trigonometric functions, L'Hopital's rule and indeterminate forms, analysis of functions and their graphs, and applications of the derivative. (3 plus 0)

MA 1210 Calculus II
Prerequisite: MA1200 with a grade of C or higher or equivalent.
Integration, applications of the definite integral, principles of integral evaluation, mathematical modeling with differential equations, and infinite series. (3 plus 0)

MA 1300 Calculus & Numerical Methods I
Prerequisite: Open to software engineering students only.
Students will be introduced to the derivative and how I can be used to measure the rate of a dynamic process. Further applications of the derivative including optimization, linear approximations and related rates will be examined in some detail. Beginning topics of Numerical analysis will be covered in the form of root finding algorithms for non-linear equations. (3 plus 0)

MA 1310 Calculus & Numerical Methods II
Prerequisite: Open to software engineering students only.
Integral calculus will be covered in great detail. Topics will include evaluating indefinite and definite integral using basic rules, substitution techniques, tables of integral formulas and computer algebra systems. Various methods of numerical integration will be examined with particular emphasis being placed on the efficiency of these methods and when the only method to solving a problem is a numeric one. Infinite series, particularly the determination of convergence will be investigated. (3 plus 0)

MA 2025 Statistical Methods for Business
Prerequisite: MA 1025 with a grade of C or higher or equivalent.
This course will include basic statistical terminology, mean, median, and mode. In addition, standard deviation, variance, normal distribution, probabilities (permutations & combinations) is covered. Additional topics include regression analysis, confidence intervals, hypothesis testing, and solving applied problems. 3 credit hours (3 plus 0)

MA 2100 Differential Equations & Linear Algebra
Prerequisite: MA 1210.
First-order differential equations, second-order and higher-order linear differential equations, systems of differential equations, Laplace transforms, and Fourier series. Operations involving matrices: addition, multiplication, transposition and matrix

inversion. Systems of linear equations; Gauss elimination and Cramer's rule. (3 plus 0)

MA 2200 Calculus III
Prerequisite: MA1210.
Analytic geometry, coordinate systems in 3-dimensional space, lines, planes, and other surfaces in 3 dimensions, vectors, vector-valued functions, partial derivatives, multiple integrals, and topics in vector calculus. (3 plus 0)

MA 2430 Probability & Statistics for Engineers
Prerequisites: MA 1110 or MA 1210; EGR 1500.
Introduction to the theory and engineering application of probability and statistics. Topics include probability distribution functions, central limit theorem, hypothesis tests, least squares regression, design of experiments, and uncertainty determination in engineering experiments. Computer applications. (3 plus 0)

MA 2990 Special Topics in Mathematics
Prerequisite: Permission of the dean of computer studies.
Directed study of a special body of subject matter in the field of mathematics. This course may be repeated for additional credit. (3 plus 0)

MA 3150 Linear Algebra
Prerequisite: MA 1110 or MA 1210 with a grade of C or higher.
This course includes the study of matrices, systems of linear equations, determinants, vectors in the plane and space, vector spaces, linear transformations, inner products, eigenvalues and eigenvectors. Also, various application of linear algebra will be explored. (3 plus 0)

MA 3430 Applied Probability and 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 plus 0)

MA 4100 Introduction to Complex Variables
Prerequisite: MA 2200, MA 3150 with a grade of C or higher.
This course is a basic introduction to the study of complex-valued functions and their properties. It will also 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 plus 0)

Mechanical Engineering

ME 3110 Theory Of Machines
Prerequisite: EM 2020 or concurrent registration.
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 credit hours

ME 3200 Thermodynamics I
Prerequisites: MA 1210; CH 1220; PH 1300.
Macroscopic thermodynamics; State, energy, entrophy and equilibrium. First-law and second-law analysis for engineering applications. Computer applications. 3 credit hours

ME 3400 Mechanical Engineering Design I
Prerequisites: EM 3100, EGR 1500
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 discussed. 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 credit hours (3 plus 0)

ME 3410 Mechanical Engineering Design II
Prerequisites: ME 3400 and ME 3460 or concurrent registration.
This course is a continuation of Mechanical Engineering Design I (ME3400). This course 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 credit hours (2 plus 3)

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 the use of finite elements for the modeling, analysis and design of engineering components. The software programs Pro/Engineer and ANSYS 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
Prerequisites: 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.

ME 4210 Computational Thermal/ Fluids
Prerequisites: ME 4260.
Governing equations for fluid mechanics and heat transfer. Overview of solution methodologies of computational fluid dynamics and heat transfer. Introduction to philosophies of finite difference, finite volume and finite element methods. Hands on projects using commercial software packages. 2 credit hours (1 plus 3)

ME 4220 Energy Systems Design
Prerequisite: ME 4260 or concurrent registration.
Gas mixtures and Psychrometric chart. Combustion. Internal combustion engines, gas turbines, steam power plants and refrigeration and heat pumps. Renewable energy applications. 3 credit hours

ME 4260 Heat Transfer
Prerequisites: EM 3500; ME 3200.
Conduction, convection, and radiation. Empirical equations for convective heat transfer. Heat exchangers, condensation, and boiling. Computer iterative solutions. 3 credit hours

ME 4270 Heat Transfer Laboratory
Prerequisite: ME 4260 or concurrent registration.
Experimental studies in the analysis and design of heat transfer equipment. 1 credit hour (0 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.

ME 4820 Computer Integrated Manufacturing
Prerequisites: 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, computer networks, manpower, and materials. 2 credit hours (1 plus 3)

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. 1 credit hour

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 will also produce a formal written report. 3 credit hours

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.

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 credit hours.

NET 1200 Network Design I
Network terminology and protocols, network standards, LANs, WANs, OSI Model, cabling, cabling tools, routers, router programming, star topology, IP addressing. Emphasis is given to the use of decision making and problem solving techniques in applying science, mathematics, communication, and social studies concepts to solve network problems. Care, maintenance and use of proper equipment. Local, state and federal safety, building and environmental codes are studied. Independent scheduled laboratory. 4 credit hours.

NET 1250 Network Design II
Prerequisite: NET 1200 with a C or better.
Advanced router configurations. LAN switching theory and VLANs, Advanced LAN and LAN switch design. Novell IPX. WAN theory and design, WAN technology, PPP, Frame Relay, ISDN. Threaded case study. Independent scheduled laboratory. 4 credit hours.

NET 1500 Circuits and Signals
Prerequisite: MA 1035 or concurrent registration.
Fundamental circuits and signals course covering electrical components, circuit operation, electromagnetic spectrum and optics. This course explores the basics of AC and DC circuits, signal theory and practical usages in technology. 3 credit hours.

NET 2000 Windows Networking
Prerequisite: NET 1250.
Licensing, installing, managing and troubleshooting MS Windows networks. Topics include: configuring and securing network servers and workstations, installing and managing network and workstation software, using non-Windows operating systems on a Windows network. Scheduled and unscheduled laboratory. 3 credit hours.

NET 2300 Script Programming
Prerequisite course: IS 1300
An introductory programming course focusing 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 credit hours.

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 credit hours.

NET 2900 Network Design and 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 credit hours.

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 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 credit hours.

NET 3300 Network Security
Prerequisite: NET 1250.
Provides the fundamentals of network security; students learn and implement security solutions the will reduce the risk of revenue loss and vulnerability; combines hands-on experience, instructor-led and e-learning for students. Prepares students to take the MCNS(Managing Cisco Network Security) and CSPFA(Cisco Secure PIX Firewall Advanced) exams. 3 credit hours.

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 ten-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 ten years hence. Students will also select a topic of current interest that has some ethical component and write a research paper about that topic. 1 credit hour.

NET 4300 Voice and 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 credit hours.

NET 4900 Networking Project/Internship
Prerequisite: 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 credit hours.

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 credit hours
(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 will also analyze the forces that drive organizations to change and examine processes for planning and implementing effective organizational change. 3 credit hours (3 plus 0)

OL 3300 Quantitative Decision-Making
Prerequisite: OL 3200
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 credit hours (3 plus 0)

OL 3400 Financial Systems for Decision-Making
Prerequisite: OL 3300 for business majors; MA 2025 for IS 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 credit hours (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 tailored to leverage the company's internal and external resources. 3 credit hours (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 credit hours (3 plus 0)

OL 4900 Organizational Leadership Capstone
Prerequisite: OL 4100
A format of synthesis is implemented, bringing together the concepts and processes of the prior studies within the organizational leadership program. Emphasis is placed on viewing the organizational from a strategic management and integrated problem-solving perspective. 3 credit hours (3 plus 0)

Physics

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. Laboratory is incorporated into the course.

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.

PH 1310 General Physics I Laboratory
Prerequisite: PH1300 or concurrent registration.
Selected experiments in mechanics, including kinematics, Newton's Laws, energy, momentum, and rotation. Use of computers for data acquisition and analysis.

PH 2100 Fundamentals of Physics II
Prerequisite: PH 1100.
Rotational motion; basic electricity and magnetism, with emphasis on DC and AC circuits. Laboratory is incorporated into the course.

PH 2300 General Physics II
Prerequisites: MA 1210; PH 1300, PH 1310.
Basic electricity and magnetism. Coulomb's Law, electric fields, electric potential, capacitance, resistance, current, Ohm's Law, magnetic fields, inductance with an emphasis on circuits; also harmonic motion, waves.

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.

PH 3300 Optics
Prerequisite: PH 2300.
Basic phenomena of geometrical and physical optics; thick lenses, apertures, wave motion, interference, diffraction, polarization, double refraction, and the theory of selected optical instruments.

PH 3500 Modern Physics
Prerequisites: MA 2100; 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.

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 credit hours (3 plus 0)

PSY 1750 Human Growth and 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 credit hours (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 credit hours (3 plus 0)

PSY 2200 Seminar in Psychology
An interdisciplinary introduction to the foundations of psychology theory, psychological problems, and social problems which may affect personal growth and professional development. Topics include, but not limited to motivation, stress, learning, personality, and intelligence. Research methodology will be emphasized and a project will be designed, researched, and presented. 3 credit hours (3 plus 0)

PSY 2600 Psychology Field Experience
Prerequisites: PSY 1700; sophomore standingm,
C or better in IIT 1100.
Actual leadership experience in a work setting related to the field of psychology. The specific work setting and type of responsibilities are determined through consultation with the supervising instructor. Theory is coordinated with practical experience. 3 credit hours (3 plus 0)

PSY 2750 Psychology of Communication
Prerequisite: PSY 1700.
Basic principles and fundamental experiences in the field of interpersonal communication; understanding of language component of communication (linguistic and semantic), cultural diversity's effect on interpersonal relations; human developmental models. 3 credit hours (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 credit hours (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 credit hours (3 plus 0)

PSY 3200 Introduction to Psychotherapy
Prerequisite: PSY 1700.
Introduction to treatment of abnormal behavior using individual psychotherapy. Selected theories and techniques are surveyed. Emphasis is on ethical considerations, common practices used and implications of diversity. 3 credit hours (3 plus 0)

PSY 3720 Child and Adolescent Psychology
Prerequisite: PSY 1700.
Development of the child from birth through adolescence, emphasizing developmental and environmental factors which influence personality formation. 3 credit hours (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 credit hours (3 plus 0)

PSY 3740 Counseling Techniques
Prerequisite: PSY 1700.
Introduction to the techniques and strategies commonly used in counseling situations. 3 credit hours (3 plus 0)

PSY 3760 Abnormal Psychology
Prerequisite: PSY 1700.
Abnormal behavior including major psychological disorders. Emphasis on various contemporary approaches to their understanding and treatment. 3 credit hours (3 plus 0)

PSY 3770 Assessment in Psychology
Prerequisite: SS 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 credit hours (3 plus 0)

PSY 3780 Research Methods and Statistics
Prerequisite: SS 1025.
The principles, methods, and strategies useful in planning, designing, writing, and evaluating research studies in the behavioral sciences. Non-experimental research methods 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. Prerequisite: SS 1700, Junior standing required. 3 credit hours (3 plus 0)

PSY 4200 Senior Seminar in Psychology
Prerequisites: PSY 1750, PSY 3760, 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. A research paper and presentation is required. Emphasis on allowing students to research specific areas of interest in depth.

PSY 4950 Internship in Psychology
Prerequisite: PSY 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 2600 Field Experience. Approved elective(s) may be substituted for this class. Theory is coordinated with practical experience. Variable credit with approval of the Dean.

Recreation

REC 1200 Introduction To Recreation Service
An overview of recreational agencies, service, and theory of leisure studies and service. 3 credit hours (3 plus 0)

REC 1250 Introduction to Sports and Activities Programming
This course introduces the student to the philosophical and practical issues related to activities programming in higher education administration. Students will be required to attend class and program sports or cultural activities on this campus. Students will also be introduced to career opportunities in this area. 3 credit hours (3 plus 0)

REC 2000 Recreation Programming
Prerequisite: REC 1200.
Principles and techniques for recreation programming, including philosophical foundation, needs assessment, objective writing, program planning, and evaluating methods. 3 credit hours (3 plus 0)

REC 2600 Recreation Field Experience
Prerequisites: REC 2000, C or better in IIT 1100.
Actual leadership experience in a recreational setting or by participation in an organized recreation/leisure program. Theory is coordinated with practical experience. 3 credit hours (3 plus 0)

REC 3010 Nonprofit Management Practices
Prerequisites: REC 2600 or HS 2600 or TR 2600 or permission of the Dean.
This course covers legal, financial, funding and governance issues, practices, and controversies of nonprofit organizations and governmental agencies.

REC 4000 Recreation Seminar
Directed study in innovative programs and philosophies for selected populations.

REC 4950 Recreation Internship
Professional field experience with one or more approved cooperating leisure service of recreation agencies appropriate to the student's career choice. Full-time placement throughout the semester. 15 credit hours

REC 4990 Special Topics in Recreation
Prerequisite: Permission of the dean of general studies.
Directed study of a subject in the field of recreation. This course may be repeated for additional credit.

Science

SCI 3000 Contemporary Issues in Science
Prerequisites: MA 1025; ENG 1265.
This course looks at contemporary issues in science that impact business and industry. The basic science underlying each topic is presented and its implications for business and industry explored. Students will engage in critical thinking by evaluating information sources. 3 credit hours (3 plus 0)

Sports Management

SM 1400 Introduction to Sports Management
An introduction to the management and business principles of sport in both profit and non-profit organizations. Specific topics covered include career and internship opportunities, ethical considerations, the evolution of this career field, and future trends. 3 credit hours (3 plus 0)

SM 2600 Field Experience in Sports Management
Prerequisite: SM 1400, C or better in IIT 1100.
Actual leadership experience in a sports-related setting. Theory is coordinated with practical experience. 3 credit hours (3 plus 0)

SM 2990 Special Topics in Sports Management

SM 3100 Facilities Management
Prerequisites: BA 1400, SM 1400.
This course focuses on planning, maintaining, and managing multi-purpose sports, recreational, and leisure facilities. There is an emphasis upon special use facilities such as fitness centers, pools and ice rinks, water parks, as well as multi-functional buildings. Attention is paid design, maintenance, and utilization issues. 3 credit hours (3 plus 0)

SM 4200 Marketing Promotion and Fundraising in Sports Administration
Prerequisite: BA 2500, SM 1400
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 fund raising. 3 credit hours (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 2600 Field Experience. Approved elective(s) may be substituted for this class.Theory is coordinated with practical experience. Variable credit with approval of the Dean.

Social Science

SS 1025 Quantitative Methods for Social Sciences
Prerequisite: MA 1000 with a C or better or equivalent.
This course provides the mathematical foundation for upper level courses in the social sciences. The course will review the basic concepts of number theory and then utilize data in the social sciences as the springboard for learning the various ways to evaluate and describe data. Understanding some basic descriptive statistics leads to more formal relationships as represented by functions, linear equations, and systems of linear equations. The course then turns to more advanced functions and in particular looks at the importance, use, and properties of the exponential function, quadratics, and polynomials. 3 credit hours (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 credit hours (3 plus 0)

SS 2200 Macroeconomics
Prerequisite: Sophomore standing.
A study of the overall economic system with emphasis upon the gross national product, fiscal and monetary policy, the budget and banking. 3 credit hours (3 plus 0)

SS 2210 Microeconomics
Prerequisites: MA 1025 or equivalent.
Each part of the economic system is studied. Supply and demand, competition, pricing policies, wage and rent determination, and government regulation of business. 3 credit hours (3 plus 0)

SS 2410 World History
The study of human cultural development through a historic approach to pivotal periods, ideas, inventions and innovations in the evolution of civilization including both regional and planet-wide perspectives. 3 credit hours (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 credit hours (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 credit hours (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 credit hours (3 plus 0)

SS 2720 Group Dynamics
Prerequisite: PSY 1700 or BA 1400.
Psychology of groups; normal and developmental growth; development of leadership styles, emphasis on assessment of group change. 3 credit hours (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 credit hours (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 credit hours (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 credit hours (3 plus 0)

SS 2850 Conflict Resolution
A study of conflict resolution in both personal and professional settings. The course looks at the dynamics of conflict, why we have conflicts, and on what levels these conflicts occur. It 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 are also examined. 3 credit hours (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.

SS 3300 Sport in Society
Prerequisites: SS 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 are also addressed. 3 credit hours (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.

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 credit hours.

SE 2100 Software Engineering Project
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 credit hours.

SE 2110 Software Engineering Project
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 credit hours.

SE 2120 Software Engineering Project
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 credit hours.

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 credit hours.

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 credit hours.

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.

Therapeutic Recreation

TR 1230 Introduction to Therapeutic
The philosophy and psychology of recreation as therapy. The organization of treatment settings showing the contribution of recreation in treatment and rehabilitation processes. 3 credit hours (3 plus 0)

TR 2300 Therapeutic Programming & Adaptive Techniques
Prerequisite: TR 1230.
Techniques and processes used to assess and evaluate special populations in clinical and rehabilitation settings. 3 credit hours (3 plus 0)

TR 2600 Therapeutic Recreation Field
Prerequisite: REC 2000, C or better in IIT 1100
Actual leadership experience in a recreational setting or by participation in an organized recreation/leisure program. Theory is coordinated with practical experience.

TR 3100 Therapeutic Recreation for Special Populations
Prerequisite: TR 1230 or REC 1200.
An exploration of the role of therapeutic recreation services in the rehabilitation of individuals with a variety of disabilities and special issues. Topics include, but are not limited to: developmental disabilities, physical disabilities, visual and hearing impairments, individuals with mental illnesses, and life-span issues including children and the aging. 3 credit hours (3 plus 0)

TR 4010 Issues & Trends In Therapeutic Recreation
This course will be structured in a seminar format with directed study in the latest issues and trends related to the field of therapeutic recreation. Topics may include, but not be limited to, legal, financial, and programmatic trends. 3 credit hours (3 plus 0)

TR 4100 Client Assessment and Evaluation
Prerequisite: TR 2600.
An examination of a variety of assessment and evaluation techniques commonly used in working with special populations. 3 credit hours (3 plus 0)

TR 4950 Therapeutic Recreation Internship
Prerequisite: Senior standing, TR 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 2600 Field Experience. Theory is coordinated with practical experience. Variable credit with approval of the Dean.

Master in Business Administration

MBA 4100 Foundations of Management and Marketing
An introductory course for those who do not have the required background in management and marketing. The basic principles of management will be identified, analyzed, and explained. In addition, a general survey of the field of marketing including its scope and significance will be discussed. This course may not be applied toward degree requirements.

MBA 5000 Executive Management
Prerequisite: First graduate 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.

MBA 5110 Management Information Systems
Prerequisite: Core courses.
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.

MBA 5120 Managerial Economics
Prerequisite: Core courses.
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.

MBA 5130 Managerial Accounting
Prerequisite: MBA 5000 or MSE 5000.
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 of the organization.

MBA 5200 Financial Management
Prerequisite: Core courses.
A study of the business organization's financial planning, problems of working capital management, capital budgeting, dividend policy, and comprehensive problems.

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.

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.

MBA 5300 Organizational Behavior
Prerequisite: Core courses.
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.

MBA 5320 Quality Management
Prerequisite: Core Courses.
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.

MBA 5330 Business Law
Prerequisite: Core courses.
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.

MBA 5340 Operations Management
Prerequisite: Core courses.
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.

MBA 5600 Human Resource Management
Prerequisite: Core courses.
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.

MBA 6200 Performance Management
Prerequisite: Core courses
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 credit hours

MBA 6210 Labor Relations
Prerequisite: Core courses
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 credit hours

MBA 6220 Compensation Management
Prerequisite: Core courses
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 credit hours

MBA 6310 Project Management
Prerequisite: MBA/MSE 5000, MBA 5120 and 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.

MBA 6400 International Marketing
Prerequisite: Core courses.
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.

MBA 6420 Marketing Research
Prerequisite: Core courses.
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.

MBA 6430 Professional Selling and Sales Force Management
Prerequisite: Core courses.
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.

MBA 6440 Advertising & Promotion Management
Prerequisite: Core courses.
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 promoting 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.

MBA 6490 Special Topics in Marketing
Prerequisite: MBA varies.
Directed study of a special body of subject matter in the field of marketing. This course may be repeated for additional credit.

MBA 6500 Small Business Management
Prerequisite: Core courses.
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.

MBA 6600 Employment Law
Prerequisite: Core courses.
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.

Graduate Course Descriptions {Continued}

MBA 6610 Seminar in Human Resources
Prerequisite: Core courses.
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 one hundred other topics. In addition, the networking and the trade show are spectacular conference events.

MBA 6690 Special Topics in Human Resources
Prerequisite: Varies.
Directed study of a special body of subject matter in the field of human resources. This course may be repeated for additional credit.

MBA 6700 E-Business Technology
Prerequisite: Core courses.
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. The course will help managers confront the organizational issues of the e-business environment.

MBA 6800 Accounting Automation
Prerequisite: Core courses
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 credit hours

MBA 6810 Communication for Accountants
Prerequisite: Core courses.
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.

MBA 6820 Forensic Accounting
Prerequisite: Core courses.
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. Coverage extends to detection, investigation, and prevention of specific types of fraud committed against organizations and individuals.

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 new on-line CPA Exam. The four parts covered are:

- Financial Accounting & Reporting: This module covers general accounting concepts tested in this part of the CPA Exam. Coverage includes GAAP (Generally Accepted Accounting Principles) for business enterprises, not-for-profit organizations, and governmental entities. It also addresses the necessary application skills.
- Auditing & Attestation: This module covers auditing practices and the required attestation as tested on this part of the CPA Exam. Coverage includes auditing procedures, GAAS (Generally Accepted Auditing Standards), and other related attest engagements. It also addresses the skills needed for application to those engagements, thus moving from theory to practice.
- Business Environment & Concepts: This module covers general business related topics as tested in this part of the CPA Exam. Coverage includes 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. In addition, it also addresses the skills needed to apply that knowledge.
- Regulation: This module covers regulatory issues that are tested on this part of the CPA Exam. Coverage includes federal taxation, ethics, professional and legal responsibilities, and business law. It also addresses essential skills needed to apply this knowledge.

MBA 7000 Business Policy and Strategy
Prerequisite: At least 36 credits.
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.

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.

MSE 6010 Environmental Health and 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 if operations conform to the standards.

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.

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 three main topics: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change. Concepts introduced 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).

MSE 6040 Computer Integrated Manufacturing
Prerequisite: MBA 5000 or MSE 5000
Focuses on the integration of facilities (machines tools, robotics) and the automation protocols required in the implementation of computer integrated manufacturing. Specific concepts to be addressed will include concurrent engineering, rapid phototyping, interfaces 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.

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.

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.

MSE 7000 Advanced Topics in Engineering Management
Integrates the elements of engineering management in a capstone, project-based environment. Last course of the program.

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).

MSM 5125 Accounting and 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.

MSM 5310 Business Ethics
Prerequisite: Core courses.
A study of moral dilemmas commonly encountered in the functioning of business. Emphasis is placed upon managerial responses to those dilemmas which reflect an integrated, mature system of professional and personal ethics. Topics covered will include normative philosophy, moral reasoning, and selected business issues that present ethical dilemmas.

MSM 5350 Customer Relationship Management
Prerequisite: Core courses.
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.

MSM 5400 Negotiation Skills
Prerequisite: Core courses.
The Negotiations course introduces students to 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 make use of exercises and simulations.

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.

MSM 720 Applied Management Project
Prerequisites: At least 36 credits.
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. 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). Some students will work on case studies that are related to their career objectives. The second stage involves instrument design and data collection. Students will document each stage of the project and will make progress reports to the class.

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