

COURSE DESCRIPTIONS



Course	Abbreviation	Page	Course	Abbreviation	Page
Air Conditioning and Heating (see Heating, Ventilation, Air Conditioning and Refrigeration)			Information Technology – Office Skills	ITOFS	150
Anthropology	ANTHR	114	Information Technology – Programming	ITPRG	150
Applied Mathematics (see Mathematics)	AMATH		Information Technology – Web Development	ITWEB	152
Applied Physics (see Physics)	APHYS		Journalism	JRNLM	153
Art	ART	114	Library and Information Science	LIB	153
Astronomy	ASTRO	116	Manufacturing Technology	MT	153
Automotive Technology	AUTO	116	Mathematics (Applied)	AMATH	154
Biological Science	BIOL	117	Mathematics (Developmental & College-Level)	MATH	155
Business	BUS	119	Meteorology	METEO	158
CAD/Mechanical Design Technology	CADMD	121	Millwright (was APPMW)	MILL	158
Chemistry	CHEM	122	Music	MUSIC	158
College Skills	COL	123	Nursing	NURS	162
Communication	COMM	123	Philosophy	PHILO	163
Computer Electronics Technology	CET	124	Photographic Studies	PHOTO	164
Criminal Justice Services	CJ	125	Physical Education	PE	165
Dental Hygiene	DH	126	Physical Education: Exercise Science	PES	167
Drafting	DRAFT	128	Physical Science	PHYSC	168
Early Childhood Education	ECED	129	Physics (Applied Physics)	APHYS	168
Economics	ECON	131	Physics	PHYSI	168
Education	ED	132	Pipefitting	PIPE	169
Education – Paraprofessional	EDU	132	Political Science	POLSC	169
Electrician (was APPIE)	ELECT	133	Psychology	PSYCH	170
Emergency Medical Services	EMS	136	Reading	RDG	171
English/Literature	ENG	137	Registered Nursing	RN	171
Fire Science Technology	FST	139	Social Science	SOCS	171
First Responder (see Emergency Medical Services)	FRESP		Social Work	SWK	172
Geography	GEOG	142	Sociology	SOCIO	172
Geology	GEOLO	142	Spanish	SPAN	172
Graphic Communications	GC	142	Surgical Technology	SRT	173
Health	HLTH	144	Technology of Mathematics and Science	TECH	174
Heating, Ventilation, Air Conditioning & Refrigeration	HVACR	144	Theatre	THTRE	174
History	HIST	145	Tool and Die Making (was APPTD)	TOOL	174
Humanities	HUMAN	146	Welding (was APPW)	WELD	175
Hydraulics (was APPH)	HYDR	146			
Information Technology – Applications	ITAPP	147			
Information Technology – Networking	ITNET	149			

Illinois Articulation Initiative (IAI)

www.itransfer.org

Prairie State College participates in the Illinois Articulation Initiative (IAI), a statewide agreement that allows transfer of the completed Illinois Transferable General Education Core Curriculum between participating institutions. Completion of the Transferable General Education Core Curriculum at any participating college or university in Illinois assures transferring students that lower-division general education requirements for an associate or bachelor's degree have been satisfied. This agreement became effective statewide in the summer of 1998. It applies to students who enrolled in an associate or baccalaureate degree-granting institution as a first-time freshman in summer 1998 or later. More than 100 schools, including all community colleges and all public state universities in Illinois, as well as most independent colleges and universities in the state, participate in the IAI.

IAI Course Codes

IAI has its own course numbering sequence for the Illinois Transferable General Education Core Curriculum (GECC).

Here is an example of an IAI GECC course –

S7 903D: Racial and Ethnic Relations

This code would be noted for a PSC course listed in this catalog as follows:

SOCIO 220 (IAI: S7 903D)

Race Relations: A Multicultural Perspective

The first letter in the IAI GECC code indicates the discipline field for the course. The letter S, for example, indicates Social/Behavioral Sciences. IAI letter codes and their corresponding disciplines are as follows:

General Education Core Curriculum Course Codes:

IAI: C Communication

IAI: F Fine Arts

IAI: H Humanities

IAI: HF Interdisciplinary Humanities and Fine Arts

IAI: HS Interdisciplinary Humanities/Fine Arts and Social/Behavioral Sciences

IAI: L, LP Life Sciences

IAI: M Mathematics

IAI: P, LP Physical Sciences

IAI: S Social/Behavioral Sciences

The first number after the letter indicates the sub-area of the discipline. The S7 in this example represents the Sociology sub-area of Social/Behavioral Sciences. The next numbers represent the unique content category within this subdiscipline. Letters at the end of course numbers identify specific perspectives related to the course. The D in S7 903D, for example, represents courses that examine aspects of human diversity within the United States. Other end-of course letters include:

N for courses designed to examine aspects of human diversity from a non-U.S./non-European perspective

L for laboratory courses

R for research paper courses

Codes which represent the IAI Baccalaureate Majors recommendations have two parts: a letter code that represents the field of study and a unique number that represents the course content.

Baccalaureate Major Course Codes:

IAI:AG Agriculture

IAI: BIO Biological Sciences

IAI: BUS Business

IAI: CHM Chemistry

IAI: CS Computer Science

IAI: CRJ Criminal Justice

IAI: EGL English

IAI: EGR Engineering

IAI: HST History

IAI: IND Industrial Technology

IAI: MC Mass Communication

IAI: MTH Mathematics

IAI: PHY Physics

IAI: PLS Political Science

IAI: PSY Psychology

IAI: SOC Sociology

IAI: TA Theatre Arts

Anthropology

ANTHR 215 (IAI: SI 900N)

Introduction to Anthropology

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Introduction to the major areas: physical anthropology, cultural anthropology, ethnology, and archeology. Topics include race; language; prehistory; the culture and social organization of contemporary, primitive, or preliterate peoples; human origins; and basic research methods in anthropology.

ANTHR 222 (IAI: SI 901N)

Introduction to Cultural and Social Anthropology

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

The cultural and social systems of both simple and complex societies: technology, aesthetics, language, religion, family and kinship, and associational life. Basic theories and methods relevant to those topics are introduced. This course is especially valuable for students in education, the humanities, and the social sciences.

Applied Physics

(See Physics)

Art

(See also Graphic Communications and Photographic Studies)

ART 101

Two Dimensional Design

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This course introduces the theory and practice of the elements and principles of 2-D design. Students experiment with a variety of media as they develop an understanding of the visual elements and principles of 2-D design.

ART 102

Three Dimensional Design

Prerequisite: ART 101

6 lab hrs per week: 3 hrs transfer credit

This course introduces the theory and practice of 3-D design. Students work with a variety of three-dimensional media and techniques as they develop an understanding of form, mass, contour, space, and texture.

ART 104 (IAI: ART 904)

Drawing I

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This course is an introduction to the materials and techniques of drawing as an art form. Working in black and white and colored media, students explore the formal, conceptual, and expressive dimensions of drawing. Emphasis is placed upon the observation, interpretation, and rendering of visible form.

ART 106

Drawing II

Prerequisite: ART 104

6 lab hrs per week: 3 hrs transfer credit

ART 106 reinforces the formal and technical concepts introduced in Drawing I. Students work with a variety of subjects and materials, exploring a wide range of conceptual approaches culminating in a final series of related drawings.

ART 109

Ceramics

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This studio course introduces ceramic clay-forming techniques with emphasis placed on wheel-throwing and hand-building methods of construction. Procedures on glazing, surface decorations, and clay and glaze theory are examined.

ART 115

Introduction to Computer Art

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This studio course introduces students to the history and use of computer applications in the visual arts. Students learn to generate, combine, and manipulate traditional and contemporary visual ideas using both raster paint/photo retouching programs and professional quality vector drawing programs. (same as GC 115)

ART 121 (IAI: F2 901)

History of Western Art I

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course surveys the chronological development of the visual arts in Western society from prehistory through the Middle Ages. Emphasis is placed upon the analysis of form, style and content as well as the historical context in which works of art are created.

ART 122 (IAI: F2 902)

History of Western Art II

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course surveys the chronological development of the visual arts in Western society from the early Renaissance through the Modern period. Emphasis is placed upon the analysis of form, style, and content, as well as the historical context in which works of art are created.

ART 126 (IAI: F2 904)

History of Photography

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course surveys the history of photography as an art form from 1839 to the present, with an emphasis upon the medium's technological and aesthetic development. Students learn to examine photographs as expressions of ideas and beliefs of individual photographers within their social and cultural context.

ART 129 (IAI: F2 900)

Art Appreciation

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Art Appreciation serves as an introduction to the visual arts for non-art majors. Students examine selected works in painting, drawing, printmaking, sculpture, and architecture from various cultures and periods. Emphasis is placed upon historical, social, and technological factors that contribute to understanding the aesthetic form, function, and meaning of art. Field trips may be included.

ART 131 (IAI: F2 903N)

Survey of Non-Western Art

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course surveys the visual arts of non-Western societies, including, India, China, Japan, Oceania, Africa, and Native North and South America, and examines the influence of non-Western art on contemporary Western art.

ART 162

Life Drawing

Prerequisite: ART 101 & 104

6 lab hrs per week: 3 hrs transfer credit

This advanced course in drawing focuses upon the direct observation and interpretation of visual form, with an emphasis on the human figure. Students are expected to demonstrate competence with diverse drawing materials and various compositional strategies.

ART 201

Painting I

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This course introduces students to the technical and aesthetic dimensions of painting. Students address both formal and expressive qualities of painting as they observe and interpret a variety of subjects from life. A final portfolio is required.

ART 202

Painting II

Prerequisite: ART 201

6 lab hrs per week: 3 hrs transfer credit

This course is a continuation of ART 201 and introduces a wider range of both technical and conceptual approaches to painting. Students are encouraged to seek a more personal voice through exploring the expressive dimensions of painting and developing a final series of related works on a chosen theme.

ART 205

Printmaking

Prerequisite: ART 101 and 104

6 lab hrs per week: 3 hrs transfer credit

This course is an introduction to traditional and contemporary fine art printmaking practices. Students produce a portfolio that demonstrates a basic understanding of the technical and aesthetic dimensions of this art form.

ART 246

Independent Study

Prerequisite: None

1 lecture, 4 lab hrs per week: 3 hrs transfer credit

May be repeated two times.

The independent study in fine arts provides advanced students with the opportunity to pursue a specialized creative project that goes beyond the normal course offerings. Students contract a problem, present alternative directions to its solution and present a final portfolio of artwork accompanied by a written statement. Frequent critiques are conducted throughout the semester.

ART 295

Portfolio Seminar

Prerequisite: Consent of instructor

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course is an interdisciplinary arts seminar that is intended to expose students to a wide range of artistic concerns and practices through lectures, discussions, and critiques. Specific workshops focus on the development of a resume, an art portfolio, and a statement of artistic purpose.

Astronomy

ASTRO 101 (IAI: PI 906)

Guide to the Universe

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This non-lab course is a one semester conceptual study of the major topics and concepts of astronomy. Topics include basic cycles and motions of the sky, major stars and constellations, properties of electromagnetic radiation and astronomical telescopes, history of astronomy, characteristics of the solar system, comparative planetology, stellar and galactic evolution and formation, structure of the Milky Way galaxy, types of galaxies, Dark Matter, and cosmology.

ASTRO 104 (IAI: PI 906L)

The Solar System and Beyond

Prerequisite: Placement into ENG 099 or higher and MATH 090 or higher or completion of MATH 085 with a grade of C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This lab course is a one-semester conceptual study and investigation of astronomical phenomena. Topics include cycles of the sun and moon, the origin of modern astronomy, electromagnetic radiation and astronomical telescopes, characteristics of the solar system, comparative planetology, evolution and death of stars, structure of the Milky Way galaxy, types of galaxies, modern cosmology, and astrobiology.

Automotive Technology

AUTO 101

Basic Automobile Service and Systems

Prerequisite: Placement into RDG 098 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces automotive systems and service. It includes safety systems, drive lines, engines, transmissions, transaxles, heating and cooling systems, fuel systems, steering and brake systems, ignition systems, construction, and operating systems.

AUTO 102

Automotive Engines

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course focuses on automotive engine repair, disassembly, adjustments, assembly, and operation. Service units include block, cylinder heads, valve assembly, lubrication system, and cooling system.

AUTO 107

Automotive Electricity/Electronics I

Prerequisite: Placement into RDG 098 or higher

2 lectures, 4 lab hrs per week: 4 hrs credit

Specialized training is provided in the basic automotive electrical system, including the electrical circuits, storage batteries, cranking systems, charging systems, ignition systems, electrical system-circuit-component tests, and the testing equipment that pertains to the automotive diagnostic-service field.

AUTO 108

Suspension and Steering Systems

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers component repair operations, adjustments, and performance testing of front and rear suspension systems. Service units include control arm pivot shaft bushings, ball joints, springs, shocks, MacPherson struts, bearings, wheels, tires, steering linkages, and gears.

AUTO 202

Automatic Brake Systems

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers component repair operations, adjustments, and performance testing of drum and disk brake systems. Service units include wheel cylinders, master cylinders, power boosters, parking brakes, control devices, shoe drums, rotors, and fluid transfer lines. Students also are introduced to the computer systems that control the brake system.

AUTO 205

Manual Transmissions and Transaxles

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers operation and maintenance service of clutches, standard transmissions, overdrives, drive lines, differentials, and major manual transaxles.

AUTO 206

Automotive Engine Performance

Prerequisite: AUTO 102, 107

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers diagnosing and repairing complex engine and computer problems and drivability problems of the modern automobile.

AUTO 207

Automotive Heating/Air Conditioning

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course focuses on component repair operations and adjustments. Performance testing on heating, defrosting, and air conditioning systems is included. Retro fitting and alternative refrigerants also are studied.

AUTO 208

Automatic Transmissions and Transaxles

Prerequisite: AUTO 101

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers component repair operations, adjustments, and performance testing on automatic transmissions, transmission controls, auto transaxle transmissions, overdrives, and drive lines.

AUTO 210

Automotive Electricity/Electronics II

Prerequisite: AUTO 101 and 107

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers electrical circuit identification, isolation, testing repair, and component operation. Service units include batteries, starting system, ignition system, charging system, light circuits, gauges, and electrical accessories, and diagnosis on chassis electronics and all electrical components of the vehicle.

AUTO 211

Automotive Engine Performance II

Prerequisite: AUTO 206, 210

2 lectures, 4 lab hrs per week: 4 hrs credit

Student technicians cover the operational aspects of automotive computer output/input control systems, performance diagnosis procedures, repair, service, and OBD I, OBD II, readiness monitors, and IM-240.

AUTO 215

Advanced Automotive Service and Systems

Prerequisite: AUTO 206, 210

2 lectures, 4 lab hrs per week: 4 hrs credit

This course focuses on advanced automotive engine, engine performance, brake, electric/electronic, computer, and transmission system operation and diagnosis.

AUTO 223

Automotive Parts Management

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs credit

Parts training includes the use of parts, equipment and supply catalogs, descriptive nomenclature, stock familiarization, pricing procedures, and inventory control.

AUTO 224

Automotive Service Management

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs credit

This course covers automotive repair shop operations including the use of flat rate manuals, repair and order writing, familiarization with manufacturer and company policies and procedures, and existing labor agreements.

AUTO 298

Internship Seminar

Prerequisite: 12 hrs in AUTO courses

1 lecture per week: 1 hr credit

This course is structured to enable interns to participate in group discussions on current automotive repair practices and experiences related to their internship studies. A written report of work related activities is required.

AUTO 299

Internship: Automotive

Prerequisite: 12 hrs in AUTO and consent of program coordinator

20 lab hrs per week: 2 hrs credit (variable hrs of credit)

This course provides on-the-job experience combined with supervision. It is designed to present service technicians with a performance view of the automotive service professions.

Biological Science

BIOL 100 (IAI: LI 900L)

General Education Biology

Prerequisite: Placement into ENG 099 or higher; placement into

MATH 090 or higher or completion of MATH 085 with a C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This one-semester introductory course for non-science majors is designed to fill the general education requirement for life science with a laboratory. The course covers cell biology, genetics, evolution and diversity, plant and animal structure and functions, animal behavior, and ecology. Students cannot receive credit for both BIOL 100 and 112.

BIOL 103 (IAI: LI 901)

Plants and Society

Prerequisite: Placement into ENG 099 or higher; placement into

MATH 090 or higher or completion of MATH 085 with a C or better

3 lectures per week: 3 hrs transfer credit

This course emphasizes scientific inquiry through selected concepts in biology such as organization, function, heredity, evolution, and ecology. Topics include plant structure, growth, genetics, evolution, physiology, reproduction, and the economic importance and inter-relationships between plants and humans. This course is for non-majors.

BIOL 105 (IAI: LI 905)

Environmental Biology

Prerequisite: Placement into ENG 099 or higher; placement into

MATH 090 or higher or completion of MATH 085 with a C or better

3 lectures per week: 3 hrs transfer credit

A consideration of the timely and urgent problems of mankind of a biological nature: pollution of air and water, adverse effects of radiation and insecticides on the environment, overpopulation, food production, thermal pollution, noise pollution, and other related topics.

BIOL 106 (IAI: LI 906L)**Heredity and Society**

Prerequisite: Placement into ENG 099 or higher; placement into MATH 090 or higher or completion of MATH 085 with a C or better
3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This course is an introduction to basic genetic principles and contemporary issues in biotechnology. The ethical, political, and social implications of biological advances in genetics are addressed.

BIOL 107 (IAI: LI 903)**Microbes and Society**

Prerequisite: Placement into ENG 099 or higher
3 lectures per week; 3 hrs transfer credit

This course focuses on microorganisms and introduces students to scientific inquiry by examining such biological concepts as organization, heredity, evolution, and ecology. It emphasizes the role of microorganisms on health and disease and their relevance to biotechnology and industry. The course also addresses the social and economic impact of microorganisms and their effects on health, sanitation, and agriculture.

BIOL 108**Essentials of Anatomy Physiology**

Prerequisite: Placement into ENG 099 or higher
4 lectures per week: 4 hrs transfer credit

The course involves the basic structure and function of the organs and systems of the human body. This one-semester lecture class is recommended for students in the Surgical Technology and Personal Trainer programs.

BIOL 111 (IAI: BIO 910)**Cellular and Molecular Biology**

Prerequisite: High school biology or BIOL 100 or BIOL 108 or BIOL 112 within the past 5 years with a C or better; placement into MATH 090 or higher or completion of MATH 085 with a C or better; placement into ENG 099 or higher
3 lectures, 3 lab hrs per week: 4 hrs transfer credit

This is a course designed for science and health majors. It provides an introduction to biochemistry, molecular genetics, cell structure, cell function, cellular process, and cell division. This course also includes an introduction to Mendelian inheritance and gene activity.

BIOL 112 (IAI: LI 900L; BIO 910)**Organismal Biology**

Prerequisite: Placement into ENG 099 or higher; placement into MATH 090 or higher or completion of MATH 085 with a C or better
3 lectures, 3 lab hrs per week: 4 hrs transfer credit

This is a course designed for science and health majors. It provides an introduction to the structure and function of microorganisms, fungi, plants, and animals. This course also includes an introduction to evolutionary and ecological principles. Students cannot get credit for both BIOL 100 and 112.

BIOL 115**Microbiology for Surgical Technologists**

Prerequisite: Admission to Surgical Technology program
4 lectures per week: 4 hrs credit

Students learn the impact of microbiology on the practice of aseptic technique and how to apply those principles in controlling infection in the operating room. The immune response, hypersensitivity, vaccines, common pathogens, and the process of infection also are addressed.

BIOL 120**Independent Studies in Ecology**

Prerequisite: Consent of instructor

15 lab hrs per week: 3 hrs transfer credit (variable credit)
This course is designed to allow students to obtain hands-on experience in the various phases of ecosystem restoration and preservation as well as in monitoring the factors involved in ecosystem functioning. Students inventory flora and fauna of ecosystems, monitor water and soil quality, and perform activities needed to maintain viable ecosystems. The course includes field work and writing reports on activities carried out in the field.

BIOL 211**Microbiology**

Prerequisite: BIOL 111 or CHEM 105 within the past 5 years with a C or better

3 lectures, 3 lab hrs per week: 4 hrs transfer credit
This is an introduction to the study of microscopic organisms, with an emphasis on bacteria. Special attention is given to their structure, physiology, and ecology. This course also includes an introduction to virology, medical parasitology, medical mycology, and immunological concepts. This course is especially beneficial for health profession majors because of the emphasis on the microbial role in the disease process focusing on the epidemiology, clinical manifestation, and treatment of microbial diseases.

BIOL 221**Human Anatomy and Physiology I**

Prerequisite: BIOL 111 or CHEM 105 within the past 5 years with a C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit
This is part I of a two-semester sequence of study concerning anatomy and physiology of the human body. Part I includes the study of basic principles of chemistry, cell biology, cellular metabolism, and tissue histology. It also covers the integumentary system, skeletal system, muscle system, and the nervous system.

BIOL 222

Human Anatomy and Physiology II

Prerequisite: BIOL 221 within the past 5 years with a C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This is part II of a two-semester sequence of study on the anatomy and physiology of the human body. It also covers senses, endocrine system, digestive tract, nutrition, metabolism, respiratory system, cardiovascular system, lymphatic system, urinary system, water and electrolyte balance, reproductive system, human growth and development, and human genetics.

BIOL 252

Molecular Genetics

Prerequisite: BIOL 111 with a C or better (within the past 5 years); MATH 095 with a C or better or qualifying score on placement test; placement into ENG 099 or higher

3 lectures per week; 3 hrs transfer credit

This course provides an introduction to the principles of genetics including Mendelian genetics, population genetics, evolutionary genetics, and mechanisms of gene regulation. There is an emphasis on use of molecular biology and genetics in biotechnology including: comparative genomics, drug development, microarray analysis, RNAi, and use of computer prediction and modeling tools.

Business

(See also Economics)

BUS 101

Introduction to Modern Business

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is designed to provide an overview of business and the environment in which it operates. The topics studied include organization of business, business environment, management and organization of business, managing employees, marketing, financial management, information for business strategy, and special topics. Students develop a business plan.

BUS 103

Business Mathematics

Prerequisite: Math 085 with a C or better or qualifying score on the Math Placement Test

3 lectures per week: 3 hrs credit

This course emphasizes development of skill in handling the mathematics of business transactions in business and as consumers. Included are fundamental processes of percentage, discounts, profit and loss, net present value, annuities, simple and compound interest, and payroll taxes as well as depreciation and inventories.

BUS 105

Human Relations

Prerequisite: None

3 lectures per week: 3 hrs credit

This course teaches how to develop and maintain positive and productive relationships in the workplace. Students learn how, as managers, to provide a better quality of work life for employees. They also learn communication skills, how to conduct meetings, how to properly delegate, theories of motivation and leadership, and problem-solving skills.

BUS 107

Bookkeeping and Procedural Accounting

Prerequisite: None

3 lectures per week: 3 hrs credit

This course emphasizes how to keep records rather than how to analyze them. Work is devoted to developing procedures within the framework of acceptable accounting concepts. Students also acquire the vocabulary necessary to understand communications with others in the field.

BUS 109

Principles of Supervision

Prerequisite: None

3 lectures per week: 3 hrs credit

This course examines the principles of planning, organizing, directing and controlling the work of others by first-level managers. Real world applications and productivity are emphasized.

BUS 120

Sales

Prerequisite: None

3 lectures per week: 3 hrs credit

This course is a study of the sales process and the psychology involved in the sales process. Special emphasis is given to application of sales techniques and management of sales campaigns. Emphasis is also placed on student oral presentations and research.

BUS 127

Business Communications

Prerequisite: ENG 101 or consent of instructor

3 lectures per week: 3 hrs credit

This course offers a comprehensive study of the types of communications used in business with special emphasis on written communication. The course teaches how to write a business memo, letter, and report. Everything from layout to content is covered, as are such things as proper listening, semantics, and psychology of business communication, and tips which make writing easier and more professional.

BUS 131 (IAI: BUS 903)**Financial Accounting**

Prerequisite: Placement into ENG 099 or higher

4 lectures per week: 4 hrs transfer credit

This is an introduction to financial accounting and the communication of relevant information to external parties. It includes the development of the accounting model, internal control, measurement processes, data classification, and terminology. Interpretation and use of the resultant financial statements are emphasized. Sole proprietorships, corporations, service businesses, and merchandisers are covered. The additional feature of this course is the inclusion of computer applications.

BUS 132 (IAI: BUS 904)**Managerial Accounting**

Prerequisite: BUS 131

3 lectures per week: 3 hrs transfer credit

This is an introduction to managerial accounting emphasizing information required for internal decision making. The fundamentals of product costing, cost/volume/profit analysis, absorption costing, variable costing, budgeting, standard costs, variance analysis, cost control, responsibility accounting, short run decision analyses, capital budgeting, activity-based costing, just-in-time concepts, and quality management are included.

BUS 138**Accounting Software I**

Prerequisite: BUS 107 or BUS 131

1.5 lecture hrs per week: 1.5 hrs credit

This is an introductory course in the use of commercial microcomputer accounting software applications. General ledger, financial statements, customer, vendor, payroll, and inventory applications are included.

BUS 139**Accounting Software II**

Prerequisite: BUS 107 or 131

1.5 lecture hrs per week: 1.5 hrs credit

This course continues the study of commercial microcomputer accounting software applications. General ledger, financial statements, customer, vendor, payroll, and inventory applications are included.

BUS 165**Personal Asset Management**

Prerequisite: None

3 lectures per week: 3 hrs credit

This course is a study of investment vehicles and the securities market. The content includes a study of stocks, bonds, money market instruments, mutual funds, and real estate; what they are used for and how; why and when they should be traded; who should invest in them; how interest rates affect them; investment strategies; and how a portfolio should be managed. The course also informs students of their financial responsibilities, helps them to develop strategies for managing their debt, and explores skills for the wise use of credit.

BUS 170**Small Business Management**

Prerequisite: None

3 lectures per week: 3 hrs credit

This course provides a study of the steps in founding, organizing, financing, developing, operating, and managing a small business firm. The course also includes a study of the planning, budgeting, purchasing, inventory control, hiring, supervision, advertising, promotion, selling, record keeping, taxation, risk management, and other topics as they pertain to the small business firm.

BUS 201**Business Law**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course emphasizes the development of law and effects on transacting business. Specifically, it deals with settlement of disputes, torts, contract sales, product liability, and breach of contracts. Also included are agency and the duties and responsibilities of an agent contract.

BUS 209**Supervisors as Trainers**

Prerequisite: None

3 lectures per week: 3 hrs credit

This course presents principles, practices, and basic methods of instruction as related to business and industry. Emphasis is on the supervisor as a trainer.

BUS 210**Business Law and Its Environment**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides a broad and general overview of legal precepts concerning personal property and its liability, forms of business organization and the regulations governing them, and consumer protection as it affects business.

BUS 240 (IAI: MI 902; BUS 901)**Elementary Statistics**

Prerequisite: MATH 151 or qualifying score on Math Placement Test

4 lectures per week: 4 hrs transfer credit

This is an introductory course in probability and statistics. Topics covered include frequency distribution, percentiles, measures of central tendency, measures of dispersion, standard deviation, correlation, elementary probability, line of regression, statistical inference, the binomial distribution, the normal distribution, student t-distribution, and the chi-square distribution. Computer software such as MINITAB is used. A comprehensive project is assigned. Students who complete this course cannot also receive credit for BUS 240 or MATH 115. (same as MATH 153)

BUS 241

Principles of Management

Prerequisite: None

3 lectures per week: 3 hrs transfer credit

This course introduces the concept of the managerial functions in the modern business enterprise including the presentation and development of managerial principles in all activities, most specifically in the business enterprise. Basic management philosophies and theories are presented in relation to planning, organizing, staffing, directing, and controlling. Attention is given to basic management concepts and applications of motivation in the formal and informal organizational structures. Discussions and case studies are directed toward management theory and practice.

BUS 242

Human Resources Management

Prerequisite: None

3 lectures per week: 3 hrs transfer credit

Modern concepts of supervisory principles and practice are studied. Emphasis is on the human relations aspects of supervision, as well as on the functions of staffing, training, compensation, employee services, fringe benefits, health and safety, job evaluation, and industrial relations. Role playing and case studies supplement the course.

BUS 251

Principles of Marketing

Prerequisite: None

3 lectures per week: 3 hrs transfer credit

This survey course presents the concepts, principles and functions of marketing in the dynamic business and economic environment. Emphasis is on the understanding of channels of distribution, marketing costs, motivations, and pricing. Planning policies and strategies also are studied, and casework is used as a supplement.

BUS 261 (IAI: MC 912)

Advertising

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is a survey of social and economic aspects of advertising, the advertising cycle, kinds of advertising, selection of media, costs, analysis of copy and displays, format, layout, labels, trademarks, slogans, campaigns, and measurement of results. Students prepare magazine and advertising copy.

BUS 298

Seminar

Prerequisite: Consent of Coordinator

1 lecture per week: 1 hr credit

This seminar is taken in conjunction with BUS 299, Internship. The content of the seminar relates to internship work which is correlated with students' fields of study.

BUS 299

Internship

Prerequisite: Consent of Coordinator

15 lab hrs per week: 3 hrs credit (variable credit)

The student internship allows students to earn variable amounts of college credits for managerial responsibilities while working in commerce or industry. A formalized work training program is structured to allow supervision by both the employer and the College's coordinator. The internship work should be directly related to students' fields of study.

CAD/Mechanical Design Technology

CADMD 141

Technical Drafting I

Prerequisite: None

2 lectures, 2 lab hrs per week: 3 hrs credit

A beginning course in drafting for students who have little or no drafting experience. Principal objectives are basic understanding of orthographic, isometric, and assembly working drawings; understanding the principles and applications of descriptive geometry; experience in using handbooks and other resource materials; and use of simplified drafting practices in industry. ASA standards are stressed. Interpretation of industrial sketches and prints is introduced to emphasize accepted drawing practices.

CADMD 201

Mechanical Layout and Design I

Prerequisite: CADMD 141

2 lectures, 2 lab hrs per week: 3 hrs credit

An advanced course in graphics for all students taking the mechanical design curriculum. The instructional unit provides experience in mechanical layout and design. Design problems require solution by math, graphics, and creative imagination. Experience also is given in industrial filing systems, engineering specifications, blueprint corrections, manufacturing processes, and other products.

CADMD 203

Statics and Strength of Materials

Prerequisite: TECH 109

4 lectures per week: 4 hrs credit

A study of the stress and deformation of mechanical parts and structural members. The properties of materials, the geometry of parts, and the type of loading are considered for the design of shafts, beams, columns, and welded joints based on both strength and stiffness requirements. Methods of analyzing force systems, shear and moment diagrams, and the concepts of deflections and moments of inertia on an area are also covered by the course. This course is calculator based.

CADMD 243 (IAI: IND 911)**Introduction to AutoCAD***Prerequisite: CADMD 141*

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This is an introductory course in Computer Aided Drafting (CAD). Through lecture and hands-on experience, students learn to use the most popular microcomputer CAD software, AutoCAD. Students learn basic CAD skills that enable them to produce mechanical drawings. Topics include: setting up AutoCAD, utility commands, drawing construction techniques, editing, display controls, layers, drawing aids, dimensioning, and plotting. Although there are no specific prerequisites, prospective students should have a working knowledge of IBM-compatible PCs, an understanding of plane geometry, and be able to deal with both common and decimal fractions.

CADMD 244**Intermediate AutoCAD***Prerequisite: CADMD 243*

2 lecture, 2 lab hrs per week: 3 hrs credit

This course is a continuation of CADMD 243. Students learn to use advanced AutoCAD commands to create complex mechanical drawings. The topics to be covered include: attributes and polylines, AutoCAD 3-D, customizing AutoCAD, and a brief intro to AutoLisp.

CADMD 245 (IAI: EGR 941)**Computer Aided Design***Prerequisite: CADMD 244*

2 lecture, 2 lab hrs per week: 3 hrs transfer credit

This is a course in Computer Aided Design for the advanced CAD user. Students learn to use a typical CAD system to design and analyze mechanical mechanisms. The course content stresses reinforcement of CAD capabilities covered in previous courses, creating AutoLisp programs using AutoCAD commands in AutoLisp, conditional and loop statements, and programming logic. Design concepts such as design automation and product design analysis are covered.

CADMD 246**Architectural Desktop***Prerequisite: CADMD 243*

1 lecture, 2 lab hrs per week: 2 hrs credit

This course teaches advanced CAD students to use Architectural Desktop software to create architectural drawings. It is not a course in architectural design. Students are expected to have previous AutoCAD experience and have a working knowledge of conventional architectural drawing techniques. Topics include creating typical architectural drawings such as floor plans, elevations, sections, and site plans.

CADMD 247**Mechanical Desktop***Prerequisite: CADMD 244*

1 lecture, 2 lab hrs per week: 2 hrs credit

This course teaches students to create mechanical designs using Autodesk's Mechanical Desktop software. Students who are already proficient in 2-D CAD learn to convert rough sketches into working solid model mechanical drawings.

CADMD 248**Introduction to Inventor***Prerequisite: CADMD 244*

1 lecture, 2 lab hrs per week: 2 hrs credit

This course is an introduction to Autodesk Inventor, which is an advanced 3-D parametric solid modeling system with surface modeling capabilities. Students learn to create solid parts, assemblies of solid parts, exploded presentations of assemblies and engineering drawings.

Chemistry**CHEM 105** (IAI: PI 902L)**Survey of General Chemistry***Prerequisite: MATH 090 with a C or better or qualifying score on Math Placement Test*

3 lectures, 3 lab hrs per week: 4 hrs transfer credit

This course includes the basic concepts of general chemistry such as nomenclature, mass relationships, solutions, acids and bases, and bonding. Students cannot receive credit for both CHEM 105 and 110.

CHEM 110 (IAI: PI 902L; CHM 911)**General Chemistry I***Prerequisite: MATH 095 with a C or better or placement in MATH 151 and high school chemistry*

4 lectures, 3 lab hrs per week: 5 hrs transfer credit

This is the first course of a two-semester sequence and is strongly recommended for all science majors and pre-engineering students. It includes the mole concept, bonding theory, formulas and equations, periodic classification of the elements, and physical properties of gases, liquids, solids, and solutions. Students cannot receive credit for both CHEM 105 and 110.

CHEM 130 (IAI: CHM 912)**General Chemistry II***Prerequisite: CHEM 110 with a C or better*

4 lecture, 3 lab hrs per week: 5 hrs transfer credit

This is the second course of the two-semester sequence and is strongly recommended for all science majors and pre-engineering students. This class includes a study of acids and bases, general equilibria, qualitative analysis, electrochemistry, oxidation reduction, general descriptive chemistry, thermodynamics, molecular structure, coordination compounds, and introduction to organic chemistry.

CHEM 203 (IAI: CHM 913)

Organic Chemistry I

Prerequisite: CHEM 130 with a C or better

4 lectures, 3 lab hrs per week: 5 hrs transfer credit

This course covers the properties, preparation, and reactions of aliphatic and aromatic compounds, alkenes, alkynes, alkyl halides and alcohols, mechanism of reactions, stereochemistry, infrared, and nuclear magnetic resonance spectroscopy.

CHEM 204 (IAI: CHM 914)

Organic Chemistry II

Prerequisite: CHEM 203 with a C or better

4 lectures, 3 lab hrs per week: 5 hrs transfer credit

The course focuses on interpretation of NMR, IR, and mass spectra, heterocyclic compounds, polymers.

College Skills

COL 100

Computer Skills for College Writing

Prerequisite: None

1 lecture per week: 1 hr transfer credit

This course is designed to teach the basic computer skills necessary to become successful writers in the college environment. Topics covered include computer skills, beginning word processing functions, the fundamentals of composing on the computer, and computer terminology. In addition, students learn the basics of the Internet, including using the Prairie State College e-mail system and WebAdvisor.

COL 101

First Year Seminar

Prerequisite: None

1 lecture per week: 1 hr transfer credit

The purpose of this course is to provide an opportunity for students to learn and adopt methods that promote success in college. Students learn about the challenges and choices they face as college students as they set education and career goals, explore their values and decision-making skills, learn study strategies, and develop an appreciation for diversity. Students complete a master academic plan.

COL 102

Career Development Seminar

Prerequisite: None

1 lecture per week: 1 hr transfer credit

This course provides the opportunity to explore career interests, skills, abilities, and work-related values. Topics include the nature of various careers, labor market trends, job search strategies, education and training requirements, and diversity in the workplace. Students learn to develop a career and educational plan based upon informed career decisions.

COL 105

Personal Awareness

Prerequisite: None

1 lecture per week: 1 hr transfer credit

The focus of this course is to help each individual assess his or her personal resources and communication styles and then set realistic goals. Students examine their own values, interpersonal relationships, emotions, decision-making processes, motivations, etc. Various personal growth theories also are explored. Emphasis is placed on the application of these characteristics and theories to help students obtain and maintain positive control over their lives and lifestyles.

COL 106

Personal Wellness

Prerequisite: None

1 lecture per week: 1 hr transfer credit

This course is designed for those who want to improve their choice of lifestyle relative to personal responsibilities, balance, and personal enhancement of physical, mental, and spiritual health. The course also assists individuals in making voluntary behavior changes which reduce health risks and enhance individual productivity.

COL 107

More Brothers and Scholars

Prerequisite: COL 105 and instructor consent

2 lab hours per week; 1 hour transfer credit

This course provides students instruction and experience in the development and implementation of individual projects, including virtual, community and on-campus activities.

Communication

COMM 101 (IAI: C2 900)

Principles of Communication

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a course in the theory and practice of interpersonal, group, and public communication. Emphasis is placed on the speaker's confidence, audience adaptation, discovery of ideas, organization, and delivery. Students are given opportunities to improve their speaking and critical listening skills.

COMM 102

Persuasive Public Speaking

Prerequisite: COMM 101

3 lectures per week: 3 hrs transfer credit

This course develops one's ability to formulate, construct, deliver, receive, and analyze formal and informal persuasive messages. It is primarily a speaking course with an emphasis on the discovery of multiple methods for designing messages that evoke change in society.

COMM 103**Group Discussion**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course examines the nature of small group discussion. Topics include defining problems, preparation, process, leadership, participation, types and forms of discussion, and evaluation. Students practice techniques of effective group discussion.

COMM 108**Interpersonal Communication**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course explores one-to-one, face-to-face communication through experience, theory and skill application. Communication in family, work, and social contexts are examined. Stress is placed on satisfying individual needs, functioning in appropriate roles, resolving conflicts, and communicating effectively.

COMM 111 (IAI: MC 911)**Introduction to Mass Communication**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an overview of the nature, functions and responsibilities of the mass communications industry in a global environment with an emphasis on the media's role in American society.

COMM 115 (IAI: MC 914)**Introduction to Broadcasting**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a beginning course in broadcasting. An understanding of the historical development, theory, writing, broadcasting, and engineering is stressed.

COMM 196**Applied Forensics I**

Prerequisite: Placement into ENG 099 or higher

2 lab hrs per week: 1 hr transfer credit

This course provides instruction and experience on speech competition, including participation in a variety of competitive speech events. Students enrolled in this course are automatically part of the Forensics Team.

COMM 197**Applied Forensics II**

Prerequisite: COMM 196

2 lab hrs per week: 1 hr transfer credit

Continuation of COMM 196.

COMM 198**Applied Forensics III**

Prerequisite: COMM 197

2 lab hrs per week: 1 hr transfer credit

Continuation of COMM 197.

COMM 199**Applied Forensics IV**

Prerequisite: COMM 198

2 lab hrs per week: 1 hr transfer credit

Continuation of COMM 198.

Computer Electronics Technology

CET 101**Fundamentals of Electricity**

Prerequisite: None

2 lectures per week: 2 hrs credit

This is an introductory course in the fundamentals of electricity. The nature of voltage, current, resistance, and power are studied. Students analyze, calculate, measure, and wire parameters of electrical devices and circuits. Included are series, parallel, and combination circuits.

CET 103**Alternating Current**

Prerequisite: CET 101

2 lectures per week: 2 hrs credit

This is a fundamental course in alternating current theory and analysis. Students analyze, calculate, measure, and wire circuits and electrical parameters involving transformers, relays, inductors, capacitors, series and parallel alternating current circuits.

CET 114**Digital Fundamentals**

Prerequisite: None

4 lectures per week: 4 hrs credit

This is an introductory course in digital systems. Numbering systems and codes are introduced along with logic representation, and combination digital logic circuits. Logic gates, logic families, and interfacing of components are studied. Related circuitry is wired and analyzed.

CET 203**Instrumentation Fundamentals**

Prerequisite: CET 101

4 lectures per week: 4 hrs credit

This course is a study of electronic instrumentation with applications to the control of industrial processes. Topics include measuring instruments, an introduction to process control, transducers, controller principles, and control elements.

CET 211

Communication Electronics

Prerequisite: CET 103

4 lectures per week: 4 hrs credit

This course is a continuation of electronic studies extending into communications applications. Topics include feedback, oscillators, modulation, demodulation, R.F. amplification, wave propagation, wave transmission, and wave radiation. Analysis techniques are extended from the time domain to frequency domain.

Criminal Justice Services

CJ 101 (IAI: CRJ 901)

Introduction to Criminal Justice

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a survey and analysis of the criminal justice system, including an historical and philosophical overview of its development, with special emphasis on the system's primary components, and the relationship of these components in the administration of criminal justice in the United States.

CJ 102 (IAI: CRJ 912)

Introduction to Criminology

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is an introduction to the multidisciplinary study and analysis of the nature, causes and control of crime in America. The measurement of crime and the interactive roles of the system, victim, offender, and society also are covered.

CJ 103

Law Enforcement Organization and Administration

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course focuses on the principles of organization and management as applied to law enforcement agencies. Topics covered include concepts of organization behavior, formulation of policy and procedure, and coordination of operational units.

CJ 106 (IAI: CRJ 911)

Introduction to Corrections

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

An overview and analysis of the American correction system is presented, including the history, evolution, and philosophy of punishment and treatment. The operation and administration of criminal justice in both institutional and non-institutional settings is covered. Current issues in correctional law also are presented.

CJ 110

Community-Based Policing

Prerequisite: CJ 101

3 lectures per week: 3 hrs credit

The philosophical and practical applications of community based policing are presented.

CJ 120

Introduction to Homeland Security

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines the programs and activities that have been implemented to improve the safety of our country. Special emphasis is placed on the threat of terrorism and strategies to address that threat. (same as FST 121)

CJ 201

Introduction to Criminal Law

Prerequisite: CJ 101

3 lectures per week: 3 hrs transfer credit

This course examines and analyzes the structure and functions of substantive criminal law. The principles of criminal law are presented, including the acts, mental state, and attendant circumstances that are necessary elements of the crime.

CJ 203

Principles of Criminal Investigation

Prerequisite: CJ 101

3 lectures per week: 3 hrs credit

This course covers the fundamentals and procedures of investigation including applications of deductive and inductive reasoning, and other investigative techniques; collection, marking and preservation of evidence suitable for court presentation; due process; and techniques and procedures of follow-up investigation.

CJ 204 (IAI: CRJ 914)

Juvenile Justice

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

The history and philosophy of society's reaction to juvenile behavior and problems are covered. The interaction among the police, judiciary and corrections systems are examined within the context of cultural influences. Theoretical perspectives of causation and control are examined.

CJ 207**Street Law: Understanding Law and Legal Issues**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course will cover the evaluation, debate, and critical analysis of law and legal issues that affect individuals, their families, and their communities. Students will learn about practical aspects of civil, criminal, constitutional, family, immigration, and consumer law in a diverse society with an orientation toward civic involvement in the local community.

CJ 208**Principles of Criminalistics**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course covers the application of the natural and physical sciences to crime solutions in law enforcement. All aspects of crime scene processing including evidence recognition, collection, protection and transmission, examination and evaluation of physical evidence, and identification and comparison of crime laboratory procedures are included. The role of the crime laboratory in modern law enforcement also is studied.

CJ 270**Computer Forensics**

Prerequisite: CJ 101 or ITPRG 140

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides an introduction to computer forensics, preparing students to acquire and analyze digital crime evidence. Students learn tools and techniques for conducting digital investigations, preserving evidence, and preparing expert witness testimony. Topics include file structures, data recovery, forensic analysis, e-mail, and network investigations, and ethics.

CJ 299**Criminal Justice Internship**

Prerequisite: Consent of program coordinator.

1 lecture, 10 lab hrs per week: 3 hrs credit

Students are assigned to a criminal justice agency for supervised exposure to the various aspects of a working agency. Students spend a minimum of 10 hours per week on-site and one hour per week in a seminar setting.

Dental Hygiene**DH 101****Histology**

Prerequisite: Consent of program coordinator

2 lecture hrs per week: 2 hrs credit

A basic course in the minute structural and functional units of living tissue. This course provides sufficient knowledge of that part of the body whose healthful condition is the particular responsibility of the dental hygienist.

DH 103**Head and Neck Anatomy and Tooth Morphology**

Prerequisite: Consent of program coordinator

3 lectures, 4 lab hrs per week: 5 hrs credit

This course provides a detailed study of nomenclature, morphologic characteristics, and physiologic relationships of human primary and permanent teeth. The study of the anatomical structure of the head and neck region of the human body will serve as a foundation of anatomical knowledge that is essential for patient care, understanding function, oral pathology, local pain, and the administration of anesthesia.

DH 104**Dental Radiology**

Prerequisite: DH 103

2 lectures, 4 lab hrs per week: 4 hrs credit

This in-depth introduction to dental radiography concentrates on the history and characteristics of radiation in dentistry, technical aspects of radiation production, computerized digital radiography, and the components and functions of the dental X-ray machine. Hazards, safety precautions, and infection control are covered. Intraoral techniques, landmarks, processing of radiographs, and the mounting and viewing of films are emphasized. Regulations and management of clients with special needs are covered. Students assess clients, complete treatment plans, and perform a required number of examinations and radiographic surveys on manikins and selected clients in a laboratory setting. Students are responsible for client recruitment.

DH 105**Nutrition**

Prerequisite: DH 101

2 lectures per week: 2 hrs credit

This seminar provides a comprehensive review of the role of nutrients in the biological development of health and disease. Attention is given to process of assimilating nutritional information and making it applicable to the clinical setting. Special emphasis will be placed on methods of controlling dental disease.

DH 106**General and Oral Pathology**

Prerequisite: DH 101

2 lectures per week: 2 hrs credit

This course serves as an introduction to general pathology as it relates to oral pathological conditions. It discusses the pathogenesis, clinical appearance, and treatment of the more commonly seen conditions, as well as the sequence of events necessary for differential diagnosis. It discusses the role of the dental hygienist as part of the health care team in identifying, treating, and preventing oral diseases, as well as systemic diseases with oral complications.

DH 107

Fundamentals of Dental Hygiene

Prerequisite: Consent of program coordinator

1 lecture, 2 lab hrs per week: 2 hrs credit

This is the first in a series of five clinical dental hygiene courses. The fundamentals course is designed for entry-level, first year dental hygiene students. The role and function of the dental hygienist in preventative dentistry is included. The foundation of knowledge in the practice of dental hygiene, the Prairie State College Dental Hygiene conceptual framework and program competencies are introduced. This knowledge provides an introduction to the theory associated with clinical procedures and patient care. Students are introduced to the operation of the dental equipment, infection control, and basic instrumentation.

DH 108

Clinical Dental Hygiene I

Prerequisite: DH 107

2 lectures, 8 lab hrs per week: 4 hrs credit

This course offers an opportunity to develop competency in fundamental clinical skills in preparation for client treatment. The introduction of basic instrumentation principles and skills essential to assessment, planning, treatment, and evaluation of client care are emphasized. Focus on clinical procedures for patient assessment will include infection control, health history, extra and intraoral examination, gingival evaluation, and periodontal assessment. Students will practice on mannequins and partners in order to develop their skills.

DH 109

Clinical Dental Hygiene II

Prerequisite: DH 108

2 lectures, 8 lab hrs per week: 4 hrs credit

This course is a continuation of the emphasis of the role of the dental hygienist as a preventative oral health care provider. Lecture and clinical experience is devoted to analyzing assessment and the decision process in the implementation of the process of care. Students will begin utilizing their clinical skills in providing comprehensive care to clients in an ethical manner. Topics will include non-surgical periodontal supportive procedures such as documentation, calculus, instrumentation, and extrinsic stain removal and caries management.

DH 116

Periodontology

Prerequisite: DH 107

2 lectures per week: 2 hrs credit

This course emphasizes, but is not limited to, the study of periodontal tissues in relation to etiology, pathogenesis, disease classification, critical analysis of patient assessment and rationale for therapy, using current theories of treatment and prognosis possibilities in the content of clinical practice.

DH 120

Care of Special Populations

Prerequisite: DH 108

2 lectures per week: 2 hrs credit

This course emphasizes care of clients with special oral and general systemic conditions. Included are people with physical, mental, social/emotional, and selected medical conditions, as well as the elderly and medically compromised. An interdisciplinary, problem-solving teaching strategy provides a comprehensive, coordinated approach to dental care for individuals with special needs.

DH 201

Clinical Dental Hygiene III

Prerequisite: DH 109

1 lecture, 4 lab hrs per week: 3 hrs credit

Lecture and clinical experience focus on the implementation of the process of care on clinical clients in the dental hygiene clinic. Students are introduced to additional non-surgical periodontal procedures in order to provide comprehensive client centered care. These include ultrasonics, pain control and introduction to tobacco cessation. Portfolio development is introduced to document the achievement of the dental hygiene program competencies.

DH 202

Clinical Dental Hygiene IV

Prerequisite: DH 201

1 lecture, 16 lab hrs per week: 5 hrs credit

This course continues to build students' knowledge and competence in providing the process of care to clients in the dental hygiene clinic. Students will utilize didactic and previous clinical experience in order to provide comprehensive dental hygiene care to clients with simple to complex needs. Emphasis on the development of critical thinking skills will be encouraged in order to provide efficient and effective patient centered care. Additional non-surgical periodontal therapies will be introduced.

DH 203

Clinical Dental Hygiene V

Prerequisite: DH 202

1 lecture, 16 lab hrs per week: 5 hrs credit

This is a continuation of advanced didactic and clinical application of the process of care on clients in the dental hygiene clinic. Students will continue to refine their clinical skills to gain competency as they make the transition into the practice of dental hygiene. Advanced theory introduced will enable the student to expand dental hygiene care.

DH 204**Ethics, Law, and Administration***Prerequisite: DH 202*

2 lectures per week: 2 hrs credit

This course, in addition to the areas of ethics and jurisprudence, examines the economics of dentistry, dental office management, employment considerations, resume preparation, and job interviewing. Emphasis is placed on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment are included.

DH 205**Pharmacology***Prerequisite: DH 109*

2 lectures per week: 2 hrs credit

This course presents a study of drugs by groups, with special consideration of those used in dentistry, including their physical and chemical properties, dosage, and therapeutic effects.

DH 207**The Science and Application of Dental Material***Prerequisite: DH 201*

2 lectures, 4 lab hrs per week: 4 hrs credit

This course covers the basic science, clinical indications, manipulative variables and procedures, physical and mechanical characteristics and clinical performance of materials used in dentistry. Lecture and laboratory emphasizes an understanding of the science of dental materials, which is essential to assess patient needs, to plan for and treat those needs, and to evaluate treatment outcomes.

DH 220**Community Dental Health***Prerequisite: DH 201*

2 lectures per week: 2 hrs credit

Students learn the history and influence of public health concepts and practices on the dental hygiene profession. The theory, functions, services, and administration of public health organizations are summarized. Students use research tools and statistical analysis to review and interpret dental scientific literature. Field experience is emphasized in the form of dental health presentations that are developed by students and shared in diverse communities.

Drafting**DRAFT 101****Drafting Essentials***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course provides an introduction to blueprint reading and drafting which includes class exercises in interpreting lines, view positions, conventions, and standards found on prints; use of drawing tools, simple geometric construction, fundamentals of orthographic construction, use of finish symbols, and the application of scale and precision dimensioning.

DRAFT 102**Drafting Conventions and Symbols***Prerequisite: DRAFT 101*

2 lectures per week: 2 hrs credit

This course introduces the notation used on detail and assembly drawings. In addition, assembly and detail drawings are used to illustrate print identification, holes, sections, tapers, and castings. Emphasis is placed on reading shop prints.

DRAFT 103**Three Dimensional Shapes***Prerequisite: DRAFT 102*

2 lectures per week: 2 hrs credit

This course employs pictorial drawings to enable practice in three dimensional visualization interpretation, the accuracy of such interpretation being determined by the clay models students produce.

DRAFT 105**Design Applications for Mechanical Trades***Prerequisite: AMATH 101*

2 lectures per week: 2 hrs credit

This course deals with the application of geometry and trigonometry to fundamental design problems in the mechanical trades. The areas of instruction include such topics as: computing pulley distances, finding patch diameter, finding the chord length on a bolt hole pattern, determining diameter given part of a circle, and determining fillet radius.

DRAFT 115**Blueprint Reading for Mechanical Trades***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course in blueprint reading emphasizes the sketching and reading of mechanical drawings. Topics include sketching of machine parts, common notations, fits and finish marks, threads and tapers, sectioning, isometric, and oblique drawings.

DRAFT 116

GD&T Application and Interpretation

Prerequisite: Draft 115 with a C or better recommended

4 lab hours per week: 2 hrs credit

This course provides the student with all of the elements in order to apply geometric dimensioning and tolerance standards and practices for the interpretation of advanced manufacturing drawings.

Early Childhood Education

ECED 103

Health, Safety, and Nutrition

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course focuses on the personal health of the child and covers nutrition and safety issues. It meets the State of Illinois teacher certification requirement in health and general education.

ECED 104

Introduction to Early Childhood Education

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This overview of early childhood care and education includes basic values, structure, organization, and programming in early childhood education. A clinical component of 15 hours is required.

ECED 105

Creative Activities for Children

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course introduces the theoretical framework for creativity and creative activities in the early childhood classroom and provides an overview of the developmental stages in children's creative growth. Students explore art, music, creative movement and drama curriculum for young children.

ECED 108

Science and Math for the Young Child

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This is a methods course introducing the theory and practice of teaching science and mathematics to young children. It focuses on developing a curriculum that emphasizes discovery methods of teaching and learning. It also includes model activities and instructional materials.

ECED 110

Care and Education: Infants, Toddlers, Two Year Olds

Prerequisite: ED 101

3 lectures per week: 3 hrs credit

This course provides an overview of developmentally appropriate infant, toddler, and 2-year old programs. Students focus on practices that foster children's well-being, and on creating a curriculum and environment that supports physical and social growth and good communication with parents. Ten hours of supervised experience in a classroom for infants, toddlers or two year old children is required.

ECED 115

Observation and Assessment of Young Children

Prerequisite: ED 101

3 lectures per week: 3 hrs credit

This course explores developmentally appropriate, culturally responsive observation and assessment strategies for studying the physical, cognitive, social, and emotional development of young children. Students will develop skill in using systematic observation and documentation techniques and understand the relationship between careful observation, assessment, and effective interaction with children. Field observations are a critical component of this course.

ECED 120

Child, Family, and Community

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines ways in which the structure, values, and resources of family and community affect children. It explores the relationships between the child, family, community, and educators including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. (same as EDU 120)

ECED 130

Guidance and Classroom Management

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines guidance practices and classroom management techniques with the aim of analyzing and modifying classroom behavior. The relationships between observation and effective interaction, classroom arrangement and teaching techniques is explored so students have the chance to apply child development theory to practical situations. (same as EDU 130)

ECED 150**Introduction to Early Childhood Center Administration - Legal Requirements**

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hr credit

This course addresses legal responsibilities of a director of an early childhood center. Its focus is legal and licensing requirements of the Illinois Department of Children and Family Services.

ECED 151**Introduction to Early Childhood Center Administration - Program Operations**

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hr credit

This course provides an introduction to the daily operations of a child care center. It focuses on current early childhood administrative practices, including child attendance safety, fiscal responsibilities such as report development and cash flow management, and mechanisms for communicating with parents.

ECED 152**Introduction to Early Childhood Center Administration - Facilities Management**

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hr credit

This course provides an introduction to the daily management of child care center facilities. It focuses on current early childhood administrative practices including maintenance of a healthy facility, food service supervision, and organization of educational materials.

ECED 201**Sign Language I—Manual Communications I**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is an introduction to sign language and deaf culture covering basic American sign language skills, both receptive and expressive. Course focus is on building sign vocabulary, fingerspelling, grammar and syntax rules as well as developing awareness of the deaf community.

ECED 202**Sign Language II—Manual Communications II**

Prerequisite: ECED 201

3 lectures per week: 3 hrs transfer credit

This is a continuation of Sign Language I. It explores deaf culture, and introduces intermediate American sign language skills, both receptive and expressive. The course focuses on increasing sign language vocabulary, improving fingerspelling fluidity, and furthering knowledge of grammar and syntax.

ECED 205**Language Arts for Children**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course focuses on teaching methods that foster the development of language in the young child, and explores the role of the teacher in creating an effective language arts curriculum. Students learn how to incorporate activities and materials that enhance the development of language and literacy. (same as EDU 205)

ECED 213**Multicultural Education**

Prerequisite: Placement into ENG 099 or higher

3 lab hrs per week: 3 hrs credit

Multicultural education examines social factors that affect education decision-making and student achievement in United States schools. It addresses the need for intercultural competence, culturally informed instructional strategies, promotion of social justice, and reduction of racism in order to create democratic classrooms. (same as EDU 213)

ECED 214**Administration of Early Childhood Education Centers**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course is for teachers or directors of early childhood centers who wish to improve their skills in administration and supervision, and for those who want to become directors. Students explore licensing and accreditation standards, management processes including fiscal and legal guidelines, and staff management and supervision.

ECED 217**Administration of Early Childhood Education Centers - Personnel, Families and Children**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course is for teachers or directors of early childhood centers who wish to improve skills in center administration and for those who want to become directors. It focuses on the knowledge and skills needed to manage and provide mentoring and supervision for personnel and work effectively with diverse families and children. Early childhood leadership skills and child advocacy are an important part of the course.

ECED 218

Administration of Early Childhood Education Centers - Practices and Procedures

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course is for teachers or directors of early childhood centers who wish to improve their skills in center administration and for those who want to become directors. The course covers the management of early childhood centers, center fiscal and legal structures, space planning and development, and marketing.

ECED 219

Applied Early Childhood Center Administration

Prerequisite: ECED 217 with a grade of C or better; ECED 218 with a grade of C or better

3 lectures per week: 3 hrs credit

This course focuses on the management and leadership responsibilities of an early childhood administrator. Students are expected to apply knowledge and skills gained in prerequisite courses. Inquiry-based projects will allow students to find realistic solutions for meeting the challenges of an administrative position. Students will work closely with local child care centers.

ECED 251

Curriculum Design for Early Childhood Programs

Prerequisites: ED 101 and ECED 104 or instructor consent

3 lectures per week: 3 hrs credit

This course examines the principles that guide the planning, implementation, and evaluation of developmentally appropriate curriculum. It addresses goals and lesson plans; emerging curricula; scheduling; room arrangement and learning centers; materials and equipment; individual, small, and large group activities; and the teacher's role in developing curricula for an inclusive program that promotes cultural diversity. Ten hours of supervised experience in a program for young children is required.

ECED 297

Early Childhood Education Internship II

Prerequisite: ED 101 and ECED 104

2 lectures per week, 2 lab hrs: 3 hrs credit

Students in this class participate in an early childhood education and care job or special project under faculty supervision. Students use knowledge and practice skills gained in early childhood courses and training. Students may pursue a current educational topic or demonstrate understanding of early childhood education concepts. This course includes a combination of lecture and lab hours. It may be taken for variable credit, one to three credit hours. Students may enroll up to two times.

ECED 298

Administration of an Early Childhood Center Internship

Prerequisite: ECED 217 with a grade of C or better; ECED 218 with a grade of C or better

20 lab hrs per week: 3 hrs credit

Students participate in an approved early childhood education center where they gain knowledge and skills through hands-on participation with the center's administrative team. Students spend 20 hours per week at the internship site, and their work is evaluated by a faculty supervisor.

ECED 299

Early Childhood Education Internship

Prerequisite: ED 101 and ECED 104 and consent of instructor

1 lecture, 10 lab hrs per week: 3 hrs transfer credit

This course includes participation in the Prairie State College Children's Learning Center under faculty supervision.

Students use knowledge and practice skills gained in early childhood education courses as they spend a minimum of 10 hours per week in the center. The course includes a one hour per week seminar that gives students a chance to discuss and review the internship experience.

Economics

ECON 201 (IAI: S3 901)

Macroeconomic Principles

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an understanding of the structure, institutions, and general economic principles governing the operation of the American economy. Included are a study of the basic economic concepts and theories, and the forces which determine the level of production and employment in the economy. The basic principles of money and banking, economic growth and development and the world economy, and a study of the role that monetary and fiscal policy play in the determination of the economy's level of production, employment and income are presented.

ECON 202 (IAI: S3 902)

Microeconomic Principles

Prerequisite: ECON 201

3 lectures per week: 3 hrs transfer credit

This course examines factors that determine the structure of resource and product markets, consumer choice, the sources that determine the level of production and employment in individual industries, and the factors which govern the level of price and output at which individual firms choose to operate. Attention is given to a study of international economics and certain contemporary economic problems.

Education

ED 100

Foundations of American Public Education

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course is an overview of American education as both a profession and a public enterprise. The social, historical, and philosophical foundations are used to give perspective to an examination of current issues, policies and trends in the field of education, including cultural diversity and the standards movement. The organization and structure, financing, and curriculum issues in education are also discussed. A clinical component of 15 hours is required.

ED 101

Child Growth and Development

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a foundation course in the theories and principles of child growth and development from the prenatal through the adolescent years. It is an in-depth study of physical, cognitive, language, and social-emotional development. There is a special emphasis on the application of this knowledge in planning, implementing, and assessing student activities.

ED 160

Technology for Teachers

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course introduces educators to the use of the computer as an educational tool. The course focuses on a solid understanding of educational technology, and how to integrate computers into the classroom curriculum. Hands-on technology activities are an important part of the course. Students begin to develop their teaching portfolios. (same as ITAPP 160)

ED 212

Exceptional Child

Prerequisite: ED 101

3 lectures per week: 3 hrs transfer credit

This course provides an overview of children with exceptional cognitive, physical, social, and emotional characteristics. It includes an analysis of developmental and emotional needs imposed by exceptionality. Students consider identification protocols, intervention strategies, and teaching methods and programs designed to meet the needs of exceptional children (including but not limited to children with learning disabilities). Applicable federal and state laws and requirements are covered including the Individuals with Disabilities Education Act, Americans with Disabilities Act, Individualized Family Service Plan, Individualized Education Plan and inclusive programs. This course fulfills the requirements of School Code, Article 21-2a. A clinical component of 15 hours is required.

ED 220

Children's Literature

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course focuses on the importance of children's literature from preschool to adolescence and its enjoyment at home and in the classroom. Through reading a varied selection of books, students learn to evaluate, select, discuss, and use literature for children. It is recommended for teachers, aides, librarians and parents. (same as ENG 220)

Education – Paraprofessional

EDU 111

Mathematics for Paraprofessionals

Prerequisite: MATH 085 or placement into MATH 090

3 lectures per week: 3 hrs credit

This course is designed for the elementary school paraprofessional. This course strongly emphasizes hands-on learning; thus, manipulatives are used extensively. Topics covered include problem solving, sets, number theory, statistics, probability, geometry, and measurement. Students seeking general education mathematics credit for transfer are advised to register for the MATH 200/206 sequence. (same as MATH 111)

EDU 120

Child, Family, and Community

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines how the structure, values, and resources of family and community affect children. It explores the relationships between the child, family, community, and educators including parent education and involvement, lifestyles, child abuse, and current family life issues. (same as ECED 120)

EDU 130

Guidance and Classroom Management

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines guidance practices and classroom management techniques with the aim of analyzing and modifying classroom behavior. The relationships between observation and effective interaction, classroom arrangement and teaching techniques is explored so students have the chance to apply child development theory to practical situations. (same as ECED 130)

EDU 205

Language Arts for Children

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course deals with techniques and methods of encouraging the development of language in the young child. Methods for stimulating speech, discussion, and increasing vocabulary are included. (same as ECED 205)

EDU 213

Multicultural Education

Prerequisite: Placement into ENG 099 or higher

3 lab hrs per week: 3 hrs credit

Multicultural education examines social factors that affect education decision-making and student achievement in United States schools. It addresses the need for intercultural competence, culturally informed instructional strategies, promotion of social justice, and reduction of racism in order to create democratic classrooms. (same as ECED 213)

EDU 221

Clinical Experience

Prerequisite: Consent of program coordinator

5 lab hrs: 1 hr credit

This course provides documented clinical experiences involving observation of the interaction between children and practitioners according to specified guidelines, within the appropriate subject matter and age category. Clinical sites are arranged in a variety of educational settings, including those with diverse student populations. Student work is planned, guided, and evaluated by a mentor or supervisor.

Electrician

ELECT 101

Fundamentals of Electricity I

Prerequisite: COMPASS Reading score of 60 or above

2 lectures per week: 2 hrs credit

This is an introductory course in direct current electricity. Students analyze series, parallel, and combination circuits using Kirchoff's current and voltage laws, electrical measuring instruments, and measurement techniques. Students verify basic principles of electricity in the laboratory.

ELECT 102

Fundamentals of Electricity II

Prerequisite: ELECT 101 with a C or better; AMATH 101 or equivalent recommended

2 lectures per week: 2 hrs credit

This course is a more in-depth look at the fundamentals of electricity. Fundamental electric laws and relationships are studied. Electrical calculations and measurements are emphasized. Series, parallel, and combination circuits are analyzed.

ELECT 103

Alternating Current

Prerequisite: ELECT 101; AMATH 106 with a C or better or equivalent recommended

2 lectures per week: 2 hrs credit

This is a fundamental course in alternating current theory and analysis. Students analyze circuits that include series and parallel configuration of resistance, inductance, and capacitance. The analysis includes vector operations, complex impedance, phase angles, single- and three-phase representations, Delta circuits, and Wye circuits.

ELECT 105

Power, Transformers, Polyphase Circuits

Prerequisite: ELECT 101 with a C or better

2 lectures per week: 2 hrs credit

This course includes the study of the principles of transformer operation including on load conditions, efficiency, and testing. Polyphase principles are studied including calculation techniques, measurement, and power relationships.

ELECT 106

DC Motors and Generators

Prerequisite: ELECT 101 with a C or better

2 lectures per week: 2 hrs credit

This course is a study of DC generators and motors. Topics covered include the construction, basic principles, speed-voltage characteristics, and regulation of DC generators. Also covered are basic principles, speed-torque characteristics, types of field excitation, and starting procedures of motors.

ELECT 107

AC Motors and Generators

Prerequisite: ELECT 103 with a C or better

2 lectures per week: 2 hrs credit

This course is a study of AC generators and motors. The topics covered include the construction, basic principles, speed-voltage characteristics, and regulation of AC generators. Also covered are basic principles, speed-torque characteristics, types of field excitation, and starting procedures of motors. Single- and poly-phase generators, motors, and switching equipment are covered.

ELECT 108

Electrical Control for Machines I

Prerequisite: ELECT 101 with a C or better

2 lectures per week: 2 hrs credit

This is a course in industrial controls which are frequently used in industry to control motors. Single- and three-phase systems are covered. Industry standards and codes are presented throughout for promoting an understanding of safety and preventive maintenance. Practical experiences include wiring relays, motor starters, and controlling these with different control devices and sensors.

ELECT 109

Electrical Control For Machines II

Prerequisite: ELECT 108 with a C or better

2 lectures per week: 2 hrs credit

This course is a continuation of ELECT 108. Industry controls which are frequently used in industry to control motors are analyzed. Single- and three-phase systems are covered. Industry standards and codes are presented throughout for promoting an understanding of safety and preventive maintenance. Practical experiences include wiring motor starters, control transformers reversing and motor sequencing, and controlling these with various control devices and sensors.

ELECT 110**DC Crane Control**

Prerequisite: ELECT 101 or equivalent

2 lectures per week: 2 hrs credit

This course is designed to train and aid in the maintenance of overhead cranes powered by direct current motors. Servicing and troubleshooting techniques are taught by referring to the electrical diagrams provided by crane control manufacturers.

ELECT 111**Electronic Principles I**

Prerequisite: AMATH 101 or equivalent recommended

2 lectures per week: 2 hrs credit

This is a course in electronic devices covering the principles of how electronic devices work and how they are connected into basic electronic circuits. The content includes introductory analysis of device parameters and circuit application.

ELECT 112**Electronic Principles II**

Prerequisite: ELECT 111 with a C or better

2 lectures per week: 2 hrs credit

This is a course in electronic devices covering the bipolar and field effect basic theory, transistor biasing, and amplification. The SCR is also studied. The course includes an introduction to digital logic.

ELECT 113**Print Reading for Electricians**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course provides students with a background in reading and interpreting blueprints and wiring diagrams pertaining to single-family dwellings, commercial locations, industrial locations, special and hazardous locations. Students are exposed to the National Electrical code and the use of electrical tables.

ELECT 114**National Electrical Code**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course is a review of the National Electrical Code, and the areas to which it is most frequently applied are covered in detail. Topics covered include: maximum current for each wire size, overcurrent protection, wiring methods and materials, motor controllers, transformers, switchboards, and emergency systems.

ELECT 120**Electrical Safety**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the basic electrical dangers and safety precautions that should be observed when working with electricity or electrical circuits. Safety procedures are emphasized along with the purpose of fuses, circuit breakers, disconnect boxes, insulation, and grounding.

ELECT 141**Conduit Bending - Thinwall**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course teaches how to calculate and bend one-inch and 3/4-inch EMT conduit for electrical use.

ELECT 142**Conduit Bending and Threading**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course teaches how to calculate and bend and thread rigid conduit and how to thread thickwall conduit for electrical use.

ELECT 150**Preventive Maintenance - Electrical**

Prerequisite: ELECT 108 with a C or better

2 lectures per week: 2 hrs credit

This course in methods of preventive maintenance of electrical equipment includes insulation testing and evaluation, electronic testing, AC generator and motor checking, overcurrent protection, and system distribution problems.

ELECT 159**Electrical Wiring I**

Prerequisite: ELECT 101 with a C or better

2 lectures per week: 2 hrs credit

This course is an introduction to residential and commercial wiring and assumes no previous electrical wiring background. The course is designed to help develop a basic understanding of the electrical principles involved in wiring as well as physical wiring practices.

ELECT 160**Electrical Wiring II**

Prerequisite: ELECT 159 with a C or better

2 lectures per week: 2 hrs credit

This is a continuation of Electrical Wiring I. It focuses on the technical skills required to perform electrical installations, including calculating circuit sizes, voltage drops, ampacity, conductor/raceway sizing, and determining service entrance requirements, as well as grounding/bonding procedures to include physical wiring practices.

ELECT 201

Digital Fundamentals I

Prerequisite: ELECT 112 with a C or better

2 lectures per week: 2 hrs credit

This course in digital systems is an introduction to number systems and codes, logic gate representation, and combinatorial logic circuits.

ELECT 202

Digital Fundamentals II

Prerequisite: ELECT 201 with a C or better

2 lectures per week: 2 hrs credit

This course in digital systems is a continuation of ELECT 201 advancing into the study of counters, registers, integrated circuit logic, logic families, interfacing, and memory devices.

ELECT 203

Industrial Electronics I

Prerequisite: ELECT 101 and 112 with a C or better

2 lectures per week: 2 hrs credit

This course is a study of the underlying concepts and operation of electronic devices, circuits, and systems used in industrial control. Concepts instead of design topics are emphasized.

ELECT 204

Industrial Electronics II

Prerequisite: ELECT 203 with a C or better

2 lectures per week: 2 hrs credit

This course is a continuation of the study of underlying concepts and operation of electronic devices, circuits, and systems used in industrial control. Concepts instead of design topics are emphasized.

ELECT 206

Instrumentation Fundamentals I

Prerequisite: ELECT 101 with a C or better

2 lectures per week: 2 hrs credit

This course is a study of electronic instrumentation with applications to the control of the industrial processes. Topics covered include an introduction to process control, transducers, controller principles, and control elements.

ELECT 207

Instrumentation Fundamentals II

Prerequisite: ELECT 206 with a C or better

2 lectures per week: 2 hrs credit

This course is a continuation of ELECT 206 and covers instrumentation applications to the process control.

ELECT 208

Programmable Logic Controllers I

Prerequisite: None

2 lectures per week: 2 hrs credit

This is a course that studies programmable controller operations as used in industry. This course is based on the principle that the technician must understand programmable controller terminology as well as relationships of the input/output, processor section, programmable devices, memory, and interfacing sections of the programmable controller. The use of ladder diagrams and programming techniques are explained along with the programmable controller versatility to control integrated processes.

ELECT 209

Programmable Logic Controllers II

Prerequisite: ELECT 208 with a C or better

2 lectures per week: 2 hrs credit

This course is a continuation of Programmable Logic Controllers I. Students continue to learn more programming techniques as well as manipulation of data, such as data comparison, connection of peripheral devices, and controller logic and hardware troubleshooting. Certain brand-name programmable controllers are identified and used. Practical wiring, troubleshooting, and programming of a particular model programmable controller are emphasized.

ELECT 230

Alternative Small Energy Systems

Prerequisite: ELECT 105 and ELECT 106

2 lectures per week: 2 hrs credit

This course introduces nontraditional small electrical energy systems and develops an understanding of various alternative energy generation methods, principles and role of the technician.

ELECT 290

Special Topics in Electricity

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs credit (variable credit offered; may be repeated for credit 3 times with different topics)

Topics pertaining to current and emerging technology in electricity are covered. Content and format of this course is variable and may be initiated by company training needs, updates in technology in the electrical field, and the need to adhere to rules such as the revisions that occur in the National Electrical Code. Subject matter is indicated in the class schedule.

ELECT 298**Electrical Seminar**

Prerequisite: Completion of 24 credits of ELECT courses and the consent of program coordinator

1 lecture per week: 1 hr credit

This seminar is taken in conjunction with ELECT 299-Internship. The content of the seminar relates to the internship work which is correlated with students' fields of study.

ELECT 299**Electrical Internship**

Prerequisite: Completion of 24 credits of ELECT courses and the consent of program coordinator

10 lab hrs per week: 2 hrs credit

Student interns are assigned to an approved training site.

This is scheduled by joint agreement of the student, the site supervisor, and the program coordinator. Students must also register for ELECT 298 - Electrical Seminar.

Emergency Medical Services

(including First Responder)

EMS 101**Emergency Medical Technician**

Prerequisite: 18 years of age and COMPASS reading score of 78 or better or placement in ENG 101. Immunizations, CPR certification.

Obtain information packet from Prairie State College Nursing department prior to start of course. Must enroll in person

6 lectures, 2 lab hrs per week: 7 hrs credit

Care, handling, and extrication of the critically ill and injured is taught. Emphasis is on the development of student skills in recognition of symptoms of illnesses and injuries, and proper emergency care and procedures. Subjects covered include the human body, cardiac arrest, resuscitation, fractures, injuries, childbirth, lifting and moving patients, and extrication from automobiles.

EMS 200**Paramedicine I**

Prerequisite: BIOL 221, 222 with C or better; concurrent enrollment in EMS 205, 210, and 215; consent of instructor

12 lectures per week: 12 hrs credit

This course introduces the field of paramedicine. Students study the roles and responsibilities of the pre-hospital care provider; medical/legal issues, ethics, principles of pathophysiology, pharmacology, medication administration, airways management and ventilation, patient assessment, trauma, and gynecological and obstetrical emergencies. Skill acquisition is integrated into the course of study.

EMS 205**Paramedicine: Field Practicum I**

Prerequisite: Concurrent enrollment in EMS 200, 210, and 215

8 lab hrs per week: 2 hrs credit

This course allows students opportunities to perform or observe assessments and procedures learned in the classroom in a pre-hospital setting under the supervision of a licensed paramedic. Students focus on trauma, acute/chronic illness, and life threatening emergencies of various etiologies. They function as team members while riding with the assigned ALS unit.

EMS 210**Paramedicine: Hospital Practicum**

Prerequisite: Concurrent enrollment in EMS 200, 205, and 215

8 lab hrs per week: 2 hrs credit

This course allows students opportunities to perform or observe assessments and procedures learned in the classroom in various departments within a hospital setting. Students focus on trauma, acute/chronic illness, and obstetrics. They function as team members in the respective hospital units. Upon successful completion of the required activities and skill sets, students are able to advance to the Paramedicine II course and the final program practicums.

EMS 215**Paramedicine: Seminar I**

Prerequisite: Concurrent enrollment in EMS 200, 205, and 210

1 lecture hour per week: 1 hour credit

This course is designed to provide students with an opportunity to discuss their first-semester field and hospital-based experiences. It provides a forum to help insure the successful transition to the work world. Previously determined topics are discussed that go beyond the scope of the core curriculum. Students present small group projects based on real-world issues in pre-hospital care to the class that involve both written and oral communication skills.

EMS 220**Paramedicine II**

Prerequisite: EMS 200, 205, 210, 215 with a C or better

12 lectures per week: 12 hrs credit

This course is a continuation of Paramedicine I. Students study medical emergencies including, but not limited to: cardiac, neurology, endocrinology, allergies and anaphylaxis, gastrointestinal disorders, urinary and renal disorders, toxicology, hematology and environmental conditions, infectious and communicable diseases, and psychiatric disorders. Additionally, students focus on the use of the intravenous route of administration in all its forms, pharmacology, and life span considerations from neonatal, to pediatrics and through gerontological considerations.

EMS 225

Paramedicine: Field Practicum II

Prerequisite: Concurrent enrollment in EMS 200, 230, and 235

8 lab hrs per week: 2 hrs credit

This course is a continuation of Field Practicum I. Students perform or observe assessments and procedures learned in the classroom in a pre-hospital setting under the supervision of a licensed Paramedic. This practicum focuses more heavily on care of the cardiac client and the standard medical orders related to the treatment of cardiac conditions. Related to treatment of cardiac conditions, students function as team members while riding with the assigned advanced life support (ALS) unit. This course must be completed successfully in order to be eligible to write the state licensure exam.

EMS 230

Paramedicine: Leadership Practicum

Prerequisite: Concurrent enrollment in EMS 220, 225, and 235

8 lab hrs per week: 2 hrs credit

This course focuses on the management and leadership responsibilities of a professional paramedic. Students have a project based experience that introduces the paramedic to the role of instructor, EMS coordinator, quality assurance manager, and the like. Students observe and assist various individuals who function in a management or leadership role in emergency pre-hospital care or the education of pre-hospital care providers. Assignments reflect hands-on experience related to the preceptor's daily responsibilities. This experience also includes observational and hands-on experience with end-of-life and pastoral care.

EMS 235

Paramedicine: Seminar II

Prerequisites: Concurrent enrollment in EMS 220, 225, and 230

1 lecture hour per week: 1 hour credit

This course is designed to provide students with an opportunity to discuss field and hospital-based experiences they encounter during the final semester of their core curriculum. It provides a forum to help insure the successful transition to the work world. Previously determined topics are discussed that go beyond the scope of the core curriculum. Students present group projects to the class that deal with leadership or staff development topics. This presentation requires the use of several instructional methodologies that match the topic being presented.

FRESP 101

First Responder

Prerequisite: Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides students with the knowledge and skills necessary in an emergency to sustain life, reduce pain, and minimize the consequences of injury or of sudden illness until advanced medical help can arrive.

English

(including Literature)

ENG 098

Foundations of College Writing

Prerequisite: Qualifying score on English Placement Test (COMPASS)

4 lectures per week: 4 hrs non-degree, non-transfer credit
(may be repeated two times)

This course reviews basic writing and grammar. Emphasis is placed on generating, organizing, and supporting ideas in writing, and on communicating clearly by avoiding common errors with words and sentences. By writing short essays, students learn to combine clear, correct sentences into a coherent, organized whole.

ENG 099

Strategies for College Reading and Writing

Prerequisite: ENG 098 and RDG 098 with a C or better or qualifying score on English and Reading Placement Test

3-6 lectures per week depending on placement:
3-6 hrs non-degree, non-transfer credit depending on Reading placement score (may be repeated two times)

This course is designed to equip students with the critical inquiry and writing skills necessary to succeed in college-level courses. Through prewriting, writing, and rewriting essays, students learn to combine clear, correct sentences into a coherent, organized whole, reflecting critical understanding of assigned texts.

ENG 100

Academic English Review

Prerequisite: Placement into ENG 099 or higher

1 lecture per week; 1 hour non-degree, non-transfer credit
This course provides a review of sentence-level skills necessary for academic writing and other correspondence. Discussions concentrate on detecting and editing grammatical issues in short and long forms of traditional academic writing. Each lesson focuses on common errors, and gives examples of and suggests strategies for these errors. The course is ideal for all students wishing to update their technical writing skills.

ENG 101 (IAI: CI 900)

Composition I

Prerequisite: ENG 099 with a C or better or qualifying score on English Placement Test

3 lectures per week: 3 hrs transfer credit

This is the first course in the composition sequence. It provides an introduction to college writing, emphasizing how students can incorporate and respond to texts in their own essays. Students will develop strategies for creating, organizing, and revising their writing, and explore the range of ways language is used in the academic and professional worlds. Students will also practice identifying aspects of effective writing in professional and peer essays. Students write a minimum of five essays with extensive revisions.

Note: Students must produce a passing portfolio and receive a course grade of "C" or better in order to pass the course.

ENG 102 (IAI: CI 901R)**Composition II**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This is the second course in the composition sequence. It builds on skills acquired in English 101 and gives special attention to the research paper. Writing activities include both short forms and longer forms of traditional academic writing, including critical essays and a documented research paper.

ENG 110**Creative Writing: Poetry**

Prerequisite: ENG 101 with a C or better or consent of instructor

3 lectures per week: 3 hrs transfer credit

Students write poetry in a variety of genres, learn the structure and elements of poetry and the writing process, and demonstrate an understanding of the critical terminology of the creative writer.

ENG 111**Creative Writing: Nonfiction Prose**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

Students study the elements of nonfiction and the critical terminology of the creative writer, and produce fully developed works of nonfiction. Students explore themselves, their identity, and their world through writing autobiography, family history, and observations on culture, places, and time periods.

ENG 211 (IAI: H3 914)**American Literature I**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course studies American literature from the pre-colonial period to the Civil War and includes the style, techniques, and themes of the major writers responsible for shaping the traditions of American literature. Emphasis is on understanding major literary movements in their intellectual, social, and political contexts.

ENG 212 (IAI: H3 915)**American Literature II**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course is a study of American literature from the Civil War to the present. Emphasis is placed on the peculiarly American as well as universal themes which recur throughout poetry, drama, short stories, and novels of major American writers. Major literary movements are studied in relation to intellectual, social, and political contexts.

ENG 215 (IAI: H3 910D)**African-American Literature**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This survey course examines the varieties of the Black experience in America as it is found in poetry, the novel, the short story, and drama. Particular emphasis is placed on trends and themes as revealed in changes in style and content.

ENG 220**Children's Literature**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course focuses on the importance of children's literature from preschool to adolescence and its enjoyment at home and in the classroom. Through reading a varied selection of books, students learn to evaluate, select, discuss, and use literature for children. It is recommended for teachers, aides, librarians, and parents. (same as ED 220)

ENG 221 (IAI: H3 903)**Introduction to Poetry**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

Students read and enjoy poetry of various types and periods. Through close reading of selected poems, students learn to appreciate the beauty and art of poetry and its relevance to their own lives and emotions.

ENG 231 (IAI: H3 912)**British Literature I**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course surveys British literature from its Anglo-Saxon beginnings through 18th-century Neoclassicism. Writers and their works are studied in relation to their intellectual, social, and political contexts.

ENG 232 (IAI: H3 913)**British Literature II**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course surveys British literature from 1800 to the present with an emphasis on major literary movements understood in relation to their intellectual, social, and political contexts.

ENG 240 (IAI: H3 901)**Introduction to Fiction**

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course is an introduction to fiction with special emphasis on understanding and appreciation of the short story. The primary focus is on developing students' ability to read critically, to learn about the principal literary elements of fiction, and to improve writing skills through the use of literature as subject matter.

ENG 243 (IAI: H3 908N)

Non-Western Literature In English

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course examines non-Western literature written during the twentieth century. Emphasis is placed on understanding the works both as part of local and global aesthetic traditions and within their intellectual, political, social, and historical contexts.

ENG 252 (IAI: H3 902)

Introduction to Drama

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course emphasizes drama as literature and studies plays of various genres from a variety of literary periods. Eight to ten plays are analyzed in terms of meaning, form, and value.

ENG 256 (IAI: HF 908)

Film and Literature

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course examines the formal, thematic, and historical relationships between literature and film, and includes an examination of the adaptations and influences that demonstrate the strengths of each artistic medium.

ENG 261 (IAI: H3 906)

Western/World Literature I

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course surveys masterpieces of Western/World literature from the beginnings in the ancient world through the 16th century. Themes of major writers are explored through consideration of their lives and work in the context of their times.

ENG 262 (IAI: H3 907)

Western/World Literature II

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course surveys masterpieces of Western/World literature from the 17th, 18th, 19th, 20th, and early 21st centuries. Writers and their works are discussed within the context of their times.

ENG 271 (IAI: H3 905)

Introduction to Shakespeare

Prerequisite: ENG 101 with a C or better

3 lectures per week: 3 hrs transfer credit

This course includes selected sonnets of Shakespeare and six-eight of his plays: representative selections from the comedies, tragedies, historical dramas, and romances. Emphasis is on the dramatic and literary qualities of the works, but attention also is given to film versions of the plays.

Engineering

ENGR 210 (IAI: EGR 942)

Engineering Statics

Prerequisite: PHYSI 210 with a grade of C or better

3 lectures per week: 3 hrs transfer credit

This is a course in theory and applications of mechanics to engineering problems. The course studies rigid bodies at rest or moving with a constant velocity. Topics include vector operations, particle statics, rigid body equilibrium, distributed forces and centroids, analysis of structures, moments of inertia, virtual work, and friction.

ENGR 211 (IAI: EGR 943)

Engineering Dynamics

Prerequisite: ENGR 210 with a grade of C or better

3 lectures per week; 3 hrs transfer credit

This is a course in theory and application of mechanics to engineering problems. The course studies rigid bodies in an accelerated motion. Topics include particle kinematics, kinetics, work, energy, momentum, planar rigid-body kinematics, and vibration.

Fire Science Technology

FST 101

Introduction to Fire Science Technology

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course is an introduction to fire science technology programs. Topics covered include the history of fire service; objectives, roles, and responsibilities of the fire service and its personnel; accountability and liability. An overview of the educational requirements of EMS certification and recertification systems, and the role of the Office of the State Fire Marshal and National Fire Protection Association are discussed.

FST 102

Fire Prevention Principles I

Prerequisite: FST 101 or FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

The emphasis of this course is on objectives and techniques of fire prevention programs. Included among the topics are building and electrical codes, zoning controls and other prevention standards, evaluation of fire hazards, and techniques for inspecting various types of buildings. Basic blueprint reading and sketching are also covered.

FST 104**Fire Tactics and Strategy I**

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is an introduction to the basic principles and methods associated with fireground tactics and strategy as required by the company officer. It emphasizes size-up, fireground operations, prefire planning, and basic engine and truck company operations. Included are a survey of fire apparatus and equipment, its operation, the distribution of equipment and personnel, and preplanning of fireground operations.

FST 105**Construction and Fire Systems**

Prerequisite: Placement into ENG 099 or higher; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is an analysis of various methods of building design, construction, and materials. Fire-resistant features of materials, life safety methods of construction, and an introduction to building codes are included. An in-depth study of automatic extinguishing and detection systems with emphasis on automatic sprinkler equipment is covered. Also included are water spray, foam, carbon dioxide, and dry chemicals, stand pipe systems, and protection systems for special hazards.

FST 106**Hazardous Materials Operations**

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course identifies the competencies required of the first responder at the operational level responding to hazardous materials incidents. Included are the skills and techniques required to reduce and prevent the possibility of accidents, injuries, disabilities, and fatalities during response to hazardous materials.

FST 119**Basic Firefighter Operations**

Prerequisite: 18 years of age and COMPASS reading score of 78 or better or placement into ENG 101; and documented affiliation with a fire department. Students must enroll in person.

6 lectures, 2 lab hrs per week: 7 hrs credit

This course equips students with basic knowledge and skills in areas such as fire behavior, equipment use, firefighter safety, rescue, and prevention. After successful completion of this course, students are eligible to write the State Fire Marshal Certification Exam. This program meets National Fire Protection Association (NFPA) standards.

FST 120**Firefighter III**

Prerequisite: Current Illinois Firefighter II certification. Coordinator consent required; and documented affiliation with a fire department.

5 lectures, 2 lab hours per week; 6 hours credit

This course builds on the foundation material learned in FST 119 Firefighter II and provides students with more in-depth understanding of topics such as fire department organization, fire behavior, safety issues, rescue techniques, public education and inspections. This course prepares students to sit for the State Fire Marshal's exam for Firefighter III and Rescue Awareness certification.

FST 121**Introduction to Homeland Security**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines the programs and activities that have been implemented to improve the safety of our country. Special emphasis is placed on the threat of terrorism and strategies to address that threat. (same as CJ 120)

FST 201**Arson Investigation**

Prerequisite: FST 101 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course acquaints students with basic investigative techniques used in examining an arson case from its origin to a successful conclusion in the court system. It covers such topics as motives for arson, determining origin, scientific aids in investigation, interviews, statements, reports, interrogation, and presentation of the case in court. The course is of particular significance for firefighters, police, and insurance investigators.

FST 202**Vehicle and Machinery Operations**

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides information on extrication and rescue of victims from vehicles involved in accidents. Emphasis is placed on equipment and techniques used in hazardous rescue operations.

FST 204**Fire Tactics and Strategy II**

Prerequisite: FST 104 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course covers advanced principles and methods associated with the fire ground strategies, and tactics required of the multi-company officer or chief officer. It emphasizes multi-company alarm assignments, handling disasters, and major fire incidents by occupancy classification.

FST 205

Hazardous Materials Technician A

Prerequisite: FST 106 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

Methods of developing preplans for use by local departments are covered. Identification of hazards in communities and the designing of functional highway, rail, and industrial preplans to fit community needs are discussed.

FST 207

Fire Department Management I

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course covers responsibilities of fire service of various ranks. Included are qualifications and sources of authority, role of the company officer, and basic management theories, practices, and functions. This is one of two management courses required of eligible candidates pursuing Illinois Fire Marshal certification as a Fire Officer I.

FST 208

Fire Department Management II

Prerequisite: FST 207 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is an introduction to the elements of management as they apply to fire department administration. Included are principles of management, communication, and group dynamics as they relate to the company officer. This is the second of two management courses required of eligible candidates pursuing Illinois State Fire Marshal certification as a Fire Officer I.

FST 209

Fire Prevention Principles II

Prerequisite: FST 102 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

The emphasis of this course is on public relations and inspection techniques and procedures. The course covers evaluation of fire hazards, inspection techniques, procedures for conducting inspection, record-keeping procedures, arson investigation, and on-site field inspections.

FST 210

Fire Apparatus Engineer

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is designed to train Illinois fire service personnel to the Certified Fire Apparatus Engineer level. Based on State Fire Marshal standards, this course emphasizes terminology, preventive maintenance, pumps, pump controls, water supply, calculations, operations, supply and support of sprinklers and standpipe systems, foam and specialized equipment, pumping apparatus tests, and troubleshooting problems that occur during pump operations.

FST 212

Fire Service - Instructor I

Prerequisite: FST 119 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is designed to meet the needs of firefighters wishing to expand their fire science knowledge in the area of instruction. It provides basic information about human relations in the teaching-learning environment, instructional methodologies, and techniques used in developing lesson plans.

FST 213

Fire Service - Instructor II

Prerequisite: FST 212 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course is a continuation of Fire Service - Instructor I. It provides basic information on program management, program development, lesson plan development, instructional development, and techniques used to create evaluation instruments.

FST 218

Fire Department Management III

Prerequisite: FST 208 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course covers principles and techniques used by mid-level managers and chief officers in fire service. Principles of time management, decision-making, motivation, and delegation are emphasized. This is one of two management courses required of eligible candidates pursuing Illinois certification as a Fire Officer II.

FST 219

Fire Department Management IV

Prerequisite: FST 218 with a C or better; and documented affiliation with a fire department.

3 lectures per week: 3 hrs credit

This course covers the techniques used by mid-level managers and chief officers in fire service. Principles of time management, decision-making, motivation, and delegation are emphasized. This is the second of two management courses required of eligible candidates pursuing Illinois certification as a Fire Officer II.

First Responder

(See Emergency Medical Services)

Geography

GEOG 101 (IAI: S4 900N)

Cultural Geography

Prerequisite: Placement into ENG 099 or higher

3 lectures per week; 3 hrs transfer credit

This social sciences course explores the global diversity of cultures and the fundamental role played by place in shaping human behavior. Course topics include: globalization, population, environment, cultural identity, landscapes, economic development, political geography, and urbanization.

GEOG 105 (IAI: PI 909)

Introduction to Physical Geography

Prerequisite: Placement into ENG 099 or higher

3 lectures per week; 3 hrs transfer credit

This is a non-lab physical science course emphasizing the physical aspects of the Earth's environment. Topics surveyed include weather, climate, water, and geologic processes. The distribution of geographic features around the world is studied. Emphasis is on the relationships between human society and the physical environment.

Geology

GEOLO 101 (IAI: PI 907L)

Physical Geology

Prerequisite: Placement into ENG 099 or higher

3 lectures, 2 lab hrs per week; 4 hrs transfer credit

Physical geology is a general education course which introduces basic geologic principles. It examines processes that have shaped the Earth including plate tectonics, earthquakes, volcanoes, mountain building, minerals, rocks, water, and glaciers. Laboratory work and field trips emphasize these topics and the scientific method.

GEOLO 201

Earth Science Research

Prerequisite: Completion of at least 1 college-level science course; instructor consent; placement into ENG 099 or higher.

10-20 lab hrs per week; 1-2 cr transfer hrs (variable credit)

This course will allow students to conduct independent research in a variety of Earth Science fields including geology, climatology, meteorology, and environmental science. Students will make field observations and develop and test related hypotheses. The course includes field work, writing professional reports, and presenting results at appropriate venues.

Graphic Communications

(See also Art and Photographic Studies)

GC 115

Introduction to Computer Art

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week; 3 hrs transfer credit

This studio course introduces students to the history and use of computer applications in the visual arts. Students learn to generate, combine, and manipulate traditional and contemporary visual ideas using both raster paint/photo retouching programs and professional quality vector drawing programs. (same as ART 115)

GC 151

Principles of Graphic Design

Prerequisite: GC 115 or ART 115 or concurrent registration

6 lab hrs per week; 3 hrs transfer credit

Students are introduced to theoretical and practical aspects of visual communication. Techniques, processes, and terminology of graphic design are covered.

GC 154

Typography

Prerequisite: GC 151

1 lecture, 2 lab hrs per week; 2 hrs credit

This course investigates the effective use of type in visual design. Students experiment with the creation of original fonts using digital applications along with some traditional methods.

GC 156

Design Software Workshop: Special Topics

Prerequisite: Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week; 2 hrs credit (may be repeated 3 times)

This course provides orientation, concentration, and practical application of a specific computer imaging software programs. Each workshop features one of six leading software packages identified by graphic design professionals.

GC 160

Design for Publishing

Prerequisite: GC 115 or ART 115

1 lecture, 4 lab hrs per week; 3 hrs credit

This course focuses on design opportunities in publishing and teaches students how to develop newsletters, ads, catalogs, and presentations.

GC 162

Introduction to Web Site Development

Prerequisite: Placement into ENG 099 or higher

1 lecture, 4 lab hrs per week: 3 hrs transfer credit

This course introduces professional Web site creation and management using basic features of Web design software. Students apply basic principles of mass communication; translate copy, sound, and still and moving images into the Web environment; use design principles to develop story boards, site maps, and navigation structures; and upload and maintain a Web site. Web-related legal and ethical issues are covered.

GC 171

Illustration

Prerequisite: GC 151 (recommended)

1 lecture, 4 lab hrs per week: 3 hrs credit

Offered fall term only

In this studio environment students learn to draw controlled illustrations with confidence. Emphasis is placed on perception and rendering ability, with a variety of techniques and media. Digital and traditional media are used.

GC 175

2D Animation

Prerequisite: GC 115 or ART 115

1 lecture, 4 lab hrs per week: 3 hrs transfer credit

This course introduces the concepts, processes, and history of animation and covers both traditional and two-dimensional computer-based animation techniques. It incorporates the use of drawn, vector and bit-mapped formats as a means of generating animated sequences.

GC 177

3D Animation

Prerequisite: ART 101 or GC 115 or ART 115

1 lecture, 4 lab hrs per week: 3 hrs credit

This course teaches the fundamental techniques of computer animation in a 3D environment. Specific animation features and functions of the software will be discussed and applied to the creation of short 3D animation sequences.

GC 262

Flash/Interface Design

Prerequisite: GC 151 and ITWEB 103 or GC 162; placement into ENG 099 or higher

1 lecture, 4 lab hrs per week: 3 hrs credit

This studio course develops students' understanding of interactive Web and interface design with an understanding of graphic design and interface design principles. Students develop an integrated and consistent interface for a Web site using graphic programs including, but not limited to, Dreamweaver, Flash, and Photoshop. Students practice extensive use of scripting and programming with an emphasis on using professional design techniques and standards. Sound, video, animation, and interactivity are combined in interactive work. The primary emphasis of this course is development of students' portfolios. Writing appropriate to the profession is required.

GC 265

Interactive Design Project

Prerequisite: GC 162

1 lecture, 4 lab hrs per week: 3 hrs credit

This course develops students' ability to work as part of a creative team. Students develop a group multimedia project using professional management techniques and standards. Sound, video, animation, and interactivity are used to create an interactive work. This is a studio course in which the primary emphasis is development of a student's portfolio.

GC 270

Advanced Web Site Development

Prerequisite: GC 162 or ITWEB 103

2 lecture, 2 lab hrs per week: 3 hrs credit

This course teaches students advanced Web site development techniques including CSS layout techniques, interactivity with AJAX and the Spry framework, advanced navigation and dropdown menus, image manipulation, and Web site development deployment and management.

GC 287

Professional Design

Prerequisite: GC 160

1 lecture, 4 lab hrs per week: 3 hrs credit

This course concentrates on advanced projects in computer image manipulation and design with emphasis on quality print output, film recording, and other methods of production. Use of flatbed and film scanner techniques are also covered.

GC 298

Independent Visual Study

Prerequisite: GC 151; consent of instructor

1 lecture, 4 lab hrs per week: 3 hrs credit

This course is an investigation of independent visual problems as they relate to student-generated projects which require advanced research and development.

GC 299

Internship/Seminar

Prerequisite: Minimum 12 credit hrs in ART, GC; consent of instructor

1 lecture, 15 lab hrs per week: 4 hrs credit (variable credit)

This internship and seminar provides an opportunity for students to earn credit while working in a graphic design related area. Formalized student-employer agreements identify objectives, work plan, and guidelines for evaluation.

Health

HLTH 100

Orientation to Health Careers

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

Students will learn about health care systems and the various health care careers available as well as qualities needed to be a health care worker. Medical terminology, anatomy and physiology, health promotion, and disease prevention are stressed.

HLTH 101

Health and Wellness

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs transfer credit

This course offers a study of the physical and mental workings of the body in sickness and in health. It provides information on topics related to mental and physical health such as holistic health, stress management, fitness, nutrition, lifestyle choices, diseases, and related issues.

HLTH 102

Workplace Issues for Allied Health

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hr credit

Workplace issues in Allied Health are examined. Emphasis is on communication, stress management, negotiating within organizational structures, power, and dealing with life/death situations.

HLTH 105

General Medical Terminology

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hour credit

This course provides a foundation in the structure of common medical terms, relating word elements to specific organs of the body, and identifying commonly used medical abbreviations. It is designed for students seeking admission to health career programs or working in medical settings. Applicants for surgical technology and paramedicine programs should take SRT 100.

Heating, Ventilation, Air-Conditioning, and Refrigeration

HVACR 101

Fundamentals of Refrigeration

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the basic principles and theory of refrigeration. Topics include refrigeration cycle, compressors, condensers, evaporators, and metering devices. Safe and efficient use of tools and brazing techniques in the installation of copper tubing and piping are also introduced.

HVACR 102

Advanced Refrigeration

Prerequisite: HVACR 101

2 lectures per week: 2 hrs credit

This course focuses on the basic refrigeration cycle, system components, and applications. Special emphasis is given to temperature controls, installation techniques, testing, servicing, charging, and location of refrigeration troubles.

HVACR 103

Air Conditioning

Prerequisite: HVACR 102, 107, 108

2 lectures per week: 2 hrs credit

Topics covered in this course include basic air conditioning theory and principle, air conditioning systems, psychrometric properties of air, process and human comfort load analysis, load calculation, and equipment selection.

HVACR 104

Advanced Air Conditioning

Prerequisite: HVACR 103, 108

2 lectures per week: 2 hrs credit

This course provides an in-depth understanding of the air conditioning system, components and their applications. Special emphasis is given to maximizing system operations which includes mechanical and electrical installation, service repair, and troubleshooting.

HVACR 105

Heating System Applications

Prerequisite: HVACR 104, 108

2 lectures per week: 2 hrs credit

This course is an introduction to gas heating equipment which includes theory of gas combustion, venting, operation and efficiency of heating units; servicing and repairing mechanical and electrical components; and proper installation of units.

HVACR 107

Electrical Control Applications

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the practical study of electricity as it applies to the servicing and installation of refrigeration, air conditioning, and heating equipment, with emphasis on electrical safety, meters, and circuits.

HVACR 108

Advanced Controls

Prerequisite: HVACR 107

2 lectures per week: 2 hrs credit

This course covers the installation, diagnosis and servicing of the electrical systems used in split residential and small commercial air conditioning, heating and refrigeration systems. Emphasis is placed on the advanced control system needed to achieve total comfort and safety.

HVACR 109

Installation and Service of HVACR Systems

Prerequisite: HVACR 104, 105, 108

2 lectures per week: 2 hrs credit

This course covers the proper procedures used during the installation and servicing of residential and commercial air conditioning, heating, and refrigeration equipment. Emphasis is placed on weekly examinations on how to diagnose both electrical and mechanical service problems.

HVACR 110

Troubleshooting HVACR Systems

Prerequisite: HVACR 104, 105, 108

2 lectures per week: 2 hrs credit

This course covers the systematic evaluation of air conditioning, heating, and refrigeration systems. Troubleshooting topics include system pressures, temperature, compressor efficiency, mechanical, and electrical components.

HVACR 112

Sheet Metal Layout and Fabrication

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the introduction to heating, ventilation, and air conditioning sheet metal duct systems. Basic fitting layout is covered. Emphasis is placed on various types of seams, edges, elbows, and ducts. Drawing and actual fabrication are done.

HVACR 114

Special Topics in HVACR

Prerequisite: Instructor consent

2 lectures per week: 2 hrs credit (may be repeated for credit 3 times with different topics)

Topics pertaining to current and emerging technology in the heating, ventilation, air conditioning, and refrigeration industry are covered. Content and format of this course is variable and may be initiated by updates in technology in the HVACR field.

History

HIST 111 (IAI: S2 912N)

World History: Origins to 1714

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course covers the political, social, and economic history of the world to 1714, including the origins and developments of its peoples and societies. Equal emphasis is placed on the development of Western and non-Western civilizations.

HIST 112 (IAI: S2 913 N)

World History: 1714 to Present

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course covers the political, social, economic, and cultural history of the world including the origins and development of its peoples and societies from 1714 to the present. Equal emphasis is placed on the development of Western and non-Western civilizations.

HIST 115 (IAI: S2 906N)

African Civilizations I

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course examines the roots of African civilizations, with a focus on the development of major African societies prior to the period of European imperialism.

HIST 116 (IAI: S2 907N)

African Civilizations II

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

A continuation of HIST 115 with major emphasis on the development of modern African societies as they react to the twin forces of imperialism and nationalism.

HIST 140 (IAI: S2 910N)

History of Latin America

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Students study the growth and development of Hispanic America from the Age of Discovery to the present day. Special emphasis is placed on the success and failure of democratic procedures, and the relationship between Latin America and the United States. The influences of the Roman Catholic Church, the military, and the business community on the development of society and government are also described.

HIST 151 (IAI: S2 902)

History of Western Civilization I

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course examines the political, social, and economic history of the Western world, including the origins and development of cultures from human origins to the Age of Exploration.

HIST 152 (IAI: S2 903)

History of Western Civilization II

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course explores the political, social, cultural, and economic history of the Western world from the Age of Exploration to modern times.

HIST 201 (IAI: S2 900)**U.S. History: 1492 to 1877**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is a study of the political, economic, and social factors in the growth of the United States from the Age of Discovery through the Civil War and Reconstruction.

HIST 202 (IAI: S2 901)**U.S. History: 1877 to Present**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course looks at the political, social, and economic history of the United States from 1877 to the present, including the development and origins of its peoples and society.

HIST 240 (IAI: H2 909D)**African American History**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course will focus on African American history from its pre-slavery roots in Africa through the present. Using primary and secondary sources, we will examine the political, economic, social, and cultural contributions of African Americans to the history of the United States from 1619 to the present, as well as the changing definition of freedom in America.

Humanities

(See also Philosophy)

HUMAN 101 (IAI: H5 904N)**Comparative Religions**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

The goal of the course is to enhance the understanding of what religion is through a study of some of the forms it takes.

HUMAN 102 (IAI: H5 901)**Foundational Religious Texts**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a humanistic study of one or more of the foundational documents of the world's religions such as the Hebrew Bible, the New Testament, the Qur'an, or the Vedas.

HUMAN 201 (IAI: H9 900)**Humanities Themes: Myth, Reason, and God**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course deepens students' understanding of their own moral, political, and religious beliefs through examining the major humanities themes in Greek and Hebrew texts basic to Western culture. Literary, historical, and philosophical perspectives are explored in readings which include Homer, Plato, and the Bible.

HUMAN 202 (IAI: HF 900)**Form and Structure in the Arts**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Coursework is divided among literature, painting, and music.

Emphasis is on formal structure of these works, and on analysis rather than appreciation.

Hydraulics

HYDR 101**Fundamentals of Hydraulics**

Prerequisite: None

2 lectures per week: 2 hrs credit

This is a general course covering the basic components of hydraulic systems, and the basic laws and formulas involved in simple fluid power calculations. Topics include pumps, control valves, actuators, the use of ASAS symbols, and maintenance procedures.

HYDR 102**Hydraulic Pumps**

Prerequisite: HYDR 101

2 lectures per week: 2 hrs credit

This is a study of various fluid power pumps and their principles of operation, construction, and maintenance. Fixed gear, vane, axial, and radial piston, and variable delivery pumps are covered in addition to combination pumps and self-contained power units.

HYDR 103**Hydraulic Controls**

Prerequisite: HYDR 101

2 lectures per week: 2 hrs credit

This course provides a study of the various controls used in fluid power. Topics covered: pressure and volume theory, operation and construction of valves, and circuit applications. Also covered are valves and their assemblies, the relief, pressure reducing sequence, counterbalance, brake, volume and control and directional, in addition to various types of valve controls.

HYDR 104**Basic Hydraulic Circuits**

Prerequisite: HYDR 103

2 lectures per week: 2 hrs credit

This is a study of fluid power circuit fundamentals, calculations and design. Circuits studied: pump-unloading, speed, pressure, volume, deceleration, sequence, servo, oil conditioning, and transfer line.

HYDR 106

Pneumatics

Prerequisite: AMATH 101

2 lectures per week: 2 hrs credit

This course offers a study of fundamental pneumatic principles, gas laws, calculations, ASAS symbols and terminology. Also considered are the way air is compressed, the compressed air system, controlling pneumatic power, and the introduction of fluidics.

Industrial Electrician

(see Electrician)

Information Technology

Course prefixes indicate the content emphasis of each course. Information Technology will accept returning student courses that are 5 to 7 years old if the student received a grade of "A" or "B" for the course. If the student did not receive a grade of "A" or "B" for the course and the course is older than 5 years, the course will not be accepted for completion of any degree or program. Courses beyond 7 years, with any grade, will not be accepted for completion of any degree or program.

IT 106

Mathematics for Computers

Prerequisite: MATH 090 or qualifying score on Math Placement Test

3 lectures per week: 3 hrs credit

This course is designed to provide an understanding of the numerical concepts required for data processing. Included in the course are the following topics: binary, octal and hexadecimal number systems, set theory, logic, floating and fixed point numbers, problem solving, and algebra as it relates to data processing.

IT 140

Introduction to Operating Systems

Prerequisite: ITAPP 101 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lecture, 2 lab hrs per week: 3 hrs credit

This course describes the purpose of operating systems and how they work from a business, personal, and PC support perspective. This course provides hands-on experience in file maintenance, configurations, Windows customization, file systems, basic trouble-shooting, and running applications with Windows operating systems. Other operating systems (command prompt, Linux, and networking) are reviewed, compared and discussed.

IT 201

Systems Design and Development

Prerequisite: ITAPP 101 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides an analysis of the information flow within the business organization. The systems development life cycle is studied with both physical and logical design considerations. Case studies are used to illustrate the steps of a system study.

IT 205

Ethics in Information Technology

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs credit

This course explores the legal, ethical, and societal issues in the information technology (IT) world. Students examine various ethical situations that arise in IT and formulate ideas for addressing these issues. Topics include computer and Internet crime, privacy rights, freedom of expression, intellectual property, and employer/employee issues.

IT 240

Linux Operating System

Prerequisite: IT 140 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides an in-depth study of and hands-on experience with the primary functions of the Linux operating system. The major essential command-line commands, as well as use of the graphical user interface are covered. This course provides theoretical and practical concepts including file systems, elementary shell scripting, and other end-use knowledge necessary to move to the next level of basic system administration. Basic administrative tasks that are necessary for maintaining a working system are explored.

Applications - ITAPP

ITAPP 100

Basic Computing Skills

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hour transfer credit

This course is designed for students who have little or no computer experience. Topics covered include using e-mail, searching for and evaluating Internet sites, creating basic documents using Word, creating basic presentations using PowerPoint, using basic operating system functions, using textbook supplemental materials such as CDs and online resources, and using WebAdvisor and Blackboard.

ITAPP 101 (IAI: BUS 902)**Introduction to Computers**

Prerequisite: Keyboarding (recommended); Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an overview of current computer technology and trends. Topics include computer terminology, hardware, application software, networks, and the Internet. Students are also introduced to the latest business software – word processing, spreadsheets, database management, and presentation graphics. Students with little or no computer experience are strongly encouraged to enroll in ITAPP 100 Basic Computing Skills before taking this course.

ITAPP 109**Introduction to the Internet**

Prerequisite: Placement into ENG 099 or higher; ITAPP 100 or equivalent knowledge/skills (recommended)

2 lab hrs per week: 1 hr credit

This course is a comprehensive study of the Internet through hands-on experience. All of the basic Internet applications are covered, including e-mail, the World Wide Web, search strategies, file protocol, Web security, and social issues.

ITAPP 121**Word Processing Applications - Level 1**

Prerequisite: ITOFS 100 (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit (may be repeated three times)

This course prepares students to work with the latest word processing software in a career setting or for personal use. Students develop a mastery-level competence in word processing by creating and editing business documents.

ITAPP 122**Word Processing Applications - Level 2**

Prerequisite: ITAPP 121 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 labs per week: 3 hrs credit (may be repeated three times)

This course is a continuation of hands-on skill development using the latest word processing software. Topics covered include creating and modifying styles, creating templates, preparing reference documents, and customizing documents.

ITAPP 125**Spreadsheet Applications - Level 1**

Prerequisite: Keyboarding (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course teaches students to use the latest spreadsheet software. Topics covered include creating and editing worksheets, creating formulas and functions, maintaining and enhancing worksheets and workbooks, and creating charts.

ITAPP 126**Spreadsheet Applications - Level 2**

Prerequisite: ITAPP 125 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides further hands-on study into the capabilities of the current spreadsheet software. Topics covered include advanced formatting, formulas, functions, and data management; managing and integrating data; protecting and sharing workbooks; automating repetitive tasks; importing and exporting data.

ITAPP 128**Database Applications - Level 1**

Prerequisite: Keyboarding (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides hands-on experience with the most current and widely used database software. Topics covered include creating and editing database files, queries, and forms; grouping data for reports; indexing; creating labels and menu structures; importing and exporting data.

ITAPP 129**Database Applications - Level 2**

Prerequisite: ITAPP 128 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides further hands-on study into the capabilities of the current database software. Topics covered include creating advanced tables, relationships, queries, and forms; using advanced reporting features and tools; customizing the database.

ITAPP 130**Software Integration and Application**

Prerequisite: ITAPP 121, 125, 128; Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs credit

This course explores the powerful merging capabilities of word processing, database and spreadsheet software packages. Students import data and graphics, explore mail merge, write macros, and create integrated software systems for business applications.

ITAPP 132**Desktop Publishing**

Prerequisite: ITOFS 100; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This desktop publishing course utilizes a personal computer to create high-quality publications by using an advanced page layout software package to combine text and graphics to produce master copy. Text and graphics can be combined to produce brochures, newsletters, magazines, technical documents, and books. Students completing this course are expected to demonstrate their knowledge of desktop publishing by producing assigned and personal projects.

ITAPP 133

Presentation Applications

Prerequisite: Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs credit

This course teaches students to use current desktop presentation software to plan, construct, and produce effective desktop presentations. Students complete assigned projects using special predefined layout features in the software to produce slide presentations.

ITAPP 232

Advanced Desktop Publishing

Prerequisite: ITAPP 132 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

Students use current hardware and software to apply knowledge gained in previous Desktop Publishing courses to complete assigned projects. Emphasis is placed on job specifications and reproduction requirement.

ITAPP 240

Application Development in Database

Prerequisite: ITAPP 129; Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs credit

Students develop and prepare tables, queries, forms, and reports using database software. Programming is used to develop database applications. Students are challenged to use critical thinking and analysis to find efficient solutions to real-life situations.

Networking - ITNET

ITNET 160

Computer Repair

Prerequisite: IT 140 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 4 lab hrs per week: 4 hrs credit

This course is an introduction to personal computer upgrades, maintenance, and repair. Topics include computer hardware, software, operating systems, troubleshooting, and how to fix, upgrade, and build a computer. This course covers the latest technologies and objectives of the CompTIA A+ certification exams.

ITNET 165

Introduction to Networking

Prerequisite: IT 140 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course covers the skills and concepts needed to configure and operate a variety of networking products, including a wide range of vendor and product neutral networking technologies. Topics include networking theory, protocols, connectivity devices, Internet addressing, internetworking servers, security, and troubleshooting. Successful completion prepares students to pass CompTIA's entry-level networking certification exam.

ITNET 250

Introduction to LAN Administration

Prerequisite: IT 140 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

Topics include local area network (LAN) terminology, hardware and software components required in a networked environment, and administration of common network operating systems. Hands-on activities include creating and managing user accounts, file sharing, printing, and other tasks related to network administration.

ITNET 260

Network Security Fundamentals

Prerequisite: ITNET 165 with a grade of C or better or Network+ certification; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course covers the fundamentals of network security including communication security, infrastructure security, cryptography, access control, authentication, external attack, and operational and organization security. Successful completion prepares students for the CompTIA Security+ certification exam.

ITNET 280

Ethical Hacking

Prerequisite: ITNET 260 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces students to the art of ethical hacking and network defense, preparing students to be efficient security professionals. Topics include computer ethics, penetration testing, network and computer attacks, social engineering, operating system vulnerabilities, cryptography, and network intrusion issues regarding Web servers and wireless networks.

ITNET 299**Internship**

Prerequisite: 12 credit hours minimum IT courses successfully completed with a grade of C or better and consent of instructor; Placement into ENG 099 or higher

10 lab hrs per week: 2 hrs credit

This is a capstone course. Students must have completed the minimum requirement of IT hours in their designated IT program concentration courses. Student interns will be employed at an approved training site. This is scheduled by joint agreement of the student, the site supervisor, and the program coordinator.

Office Skills- ITOFS**ITOFs 100****Keyboarding**

Prerequisite: Placement into ENG 099 or higher

2 lab hrs per week: 1 hr credit

Keyboarding is inputting information through the use of the computer keyboard. The purpose of this course is to teach students to develop basic touch keyboarding skills on a computer.

ITOFs 111**Business Document Formatting**

Prerequisite: ITOFS 100 with a grade of C or better or touch keyboarding skill of at least 25 wpm; Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs credit

This course is a continuation of skill development in touch keyboarding. The purpose of this course is to enable students to develop keyboarding skill at a minimum of 30 wpm within four errors. Students create business applications such as letters, memorandums, tables, and manuscripts.

ITOFs 112**Advanced Document Production**

Prerequisite: ITOFS 111, ITAPP 121; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

The skills required for creating advanced business documents are presented in this class. Using voice processing equipment, working as part of a team, employing problem solving techniques, and developing keyboarding skill at a minimum of 50 wpm are covered.

ITOFs 117**Keyboarding Skill Development**

Prerequisite: ITOFS 100; Placement into ENG 099 or higher
2 lab hrs per week: 1 hr credit

This course is designed to improve keyboarding speed and accuracy skills. Students analyze his/her own error patterns and then practice specific drills to correct those particular weaknesses. Anyone who can use the touch method of keyboarding and is interested in improving that skill will benefit from the course.

ITOFs 119**Office Procedures and Management**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

The many techniques, skills, routines, and procedures which are relevant to and identified with office support positions are included in this course. Topics include effective business communication; records management; meeting and travel arrangements. Decision making and working as part of a team are emphasized.

ITOFs 199**Office Assistant Practicum**

Prerequisite: Completion of 15 credit hours required IT courses and consent of coordinator; Placement into ENG 099 or higher

2 lab hrs per week: 1 hour credit

This practicum provides an opportunity for students to work within a simulated office environment and to perform duties relevant to office support personnel.

ITOFs 299**Internship**

Prerequisite: Consent of instructor and successful completion of a minimum of 12 credit hours in IT concentration courses.

10 lab hrs per week: 2 hrs credit

In this capstone course, student interns will be employed at an approved training site. This is scheduled by joint agreement of the student, the site supervisor, and the program coordinator. Students must have completed the minimum requirement of hours in their designated IT program concentration courses.

Programming - ITPRG**ITPRG 103****Introduction to Programming Logic**

Prerequisite: Placement into ENG 099 or higher; IT 140 with a grade of C or better (recommended).

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces structured programming logic and includes reports, control breaks, extracts, tables, input validation, updates, and file handling concepts. Standard logic charts include flowcharting, pseudo-code, and other charting methods. Solutions to programming projects are in QuickBasic and Visual Basic.

ITPRG 142

Visual Basic Programming I

Prerequisite: IT 140 and ITPRG 103 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

In this introduction to the Visual Basic programming language, object-oriented and event-driven programming essentials, techniques, and applications are stressed. Topics include control objects, decisions and conditions, menus, procedures, looping structures, and array manipulations.

ITPRG 144

C++ Programming I

Prerequisite: IT 140 and ITPRG 103 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course provides an introduction to the capabilities of the C++ programming language. Topics covered include variables, operators, control structures, input and output, functions, simple data types, arrays, and strings.

ITPRG 147 (IAI: CS 91 I)

Java Programming I

Prerequisite: IT 140 and ITPRG 103 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lecture, 2 lab hrs per week: 3 hrs transfer credit

This course provides JAVA programming basics. Object-oriented programming fundamentals are covered as they apply to stand-alone JAVA programs.

ITPRG 154

C#.Net Programming

Prerequisite: IT 140 and ITPRG 103 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course covers C#.NET programming concepts. C#.NET was introduced as part of the .NET platform designed to accommodate Internet and Windows applications. Topics covered include writing C#.NET programs using OOP, declaring variables, manipulating data types, creating methods, performing procedures, creating graphical user interfaces, using XML Web Services, developing standalone class libraries, and programming event-driven applications.

ITPRG 157

Javascript Programming

Prerequisite: IT 140 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This introductory course in JavaScript programming provides basic programming concepts for designing, developing and integrating scripts into Web pages. The focus includes the use of tags, HTML, objects, event-handling, writing JavaScript functions, and calling JavaScript functions. JavaScript prepares students with a universally accepted scripting language, used for creating dynamic and interactive Web pages.

ITPRG 171

Game Design

Prerequisite: Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces students to basic game theory (including game play and strategy) as well as the historical development of all types of games. Games used for education, training, and entertainment are explored. Strong focus is on the design process, from developing a basic concept, to selling the proposal, to production and marketing.

ITPRG 173

Digital Storytelling

Prerequisite: Placement into ENG 101 or higher.

2 lectures, 2 lab hrs per week: 3 hrs credit

This course focuses on the planning, storyboard design, and scripting of interactive digital productions, such as text, audio, and still and moving images, with a focus on video games. Narrative scripts and design are developed with an emphasis on scene design, characterization, plotting, target audience, messages, and script format. Topics include the advantages and limitations of multimedia as conduit for mediated messages, and the nuances between writing for multimedia and stand-alone text, audio, and video.

ITPRG 242

Visual Basic Programming II

Prerequisite: ITPRG 142 with a grade of C or better (recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This is a continuation of ITPRG 142. Advanced topics in Visual Basic are explored including arrays, multiple forms, data files, and databases, grids, SQL, graphics, OLE, DLL's, and custom objects. Emphasis is on finding creative solutions to application problems. During the last several weeks of the semester, the class works on a group project for an outside company.

ITPRG 244 (IAI: CS 912)**C++ Programming II**

Prerequisite: ITPRG 144 with a grade of C or better

(recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course is a continuation of the C++ introduction. After a review of the introductory topics, study focuses on pointers, arrays, structs, linked lists, recursion, operator overloading, inheritance, and polymorphism.

ITPRG 247**Java Programming II**

Prerequisite: ITPRG 147 with a grade of C or better

(recommended); Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course is a continuation of ITPRG 147 and provides broader JAVA programming concepts. Object oriented programming concepts are covered as they apply to building event-driven JAVA applets, stand-alone JAVA programs, and GUI programming.

ITPRG 299**Internship**

Prerequisite: 12 credit hrs minimum IT courses successfully completed with C or better, and consent of instructor; Placement into ENG 099 or higher

10 lab hrs per week: 2 hrs credit

This is a capstone course. Students must have completed the minimum requirement of IT hours in their designated IT program concentration courses. Student interns will be employed at an approved training site. This is scheduled by joint agreement of the student, the site supervisor, and the program coordinator.

Web Development - ITWEB**ITWEB 101****Web Page Fundamentals**

Prerequisite: Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course is for students interested in developing specific Internet skills as a Web designer, developer or administrator. Topics include Internet fundamentals, Web page authoring with XHTML and CSS, and networking concepts. Successful completion prepares students to pass exams leading to various Certified Internet Webmaster (CIW) credentials.

ITWEB 103**Web Site Design - Level I**

Prerequisite: Placement into ENG 099 or higher; ITWEB 101 with a C or better (recommended)

1 lecture, 4 lab hrs per week: 3 hrs credit

This course teaches students how to create and manage Web sites with current Web authoring tools and languages using various multimedia and industry style standards. Topics include design strategies and techniques, tools, future Web standards, and the incompatibility issues surrounding current browsers. Successful completion prepares students to pass exams leading to various Certified Internet Webmaster (CIW) credentials.

ITWEB 105**Multimedia Writing**

Prerequisite: Placement into ENG 101

3 lectures per week: 3 hrs transfer credit

This course provides an introduction to basic writing skills necessary to create messages for the multimedia environment such as Web sites, graphics, animations, and digital audio. Upon successful completion, students will be able to write multimedia scripts; demonstrate an understanding of the nuances between writing for multimedia and writing for standalone text, audio and video; describe the advantages and limitations of multimedia as a conduit for mediated messages; and integrate standard expectations of writing including style, grammar, spelling, and punctuation.

ITWEB 201**Technology of E-Commerce**

Prerequisite: ITWEB 101 or 103 with a grade of C or better;

Placement into ENG 099 or higher

2 lecture, 2 lab hrs per week: 3 hrs credit

This course teaches students how to conduct business online and how to manage the technological issues associated with constructing an e-commerce Web site. Students implement a genuine transaction-enabled business-to-consumer Web site, examine strategies and products available for building E-commerce sites, examine how such sites are managed, and explore how they can complement an existing business infrastructure. Successful completion prepares students to pass exams leading to various Certified Internet Webmaster (CIW) credentials.

ITWEB 203

Web Site Design - Level 2

Prerequisite: ITWEB 103 with a grade of C or better (recommended); Placement into ENG 099 or higher

1 lecture, 4 lab hrs per week: 3 hrs credit

This course develops students' understanding of interactive Web and design principles. Students will discover how to take the creation and management of Web sites to the next level, using techniques that include CSS layouts, image manipulation, dropdown menus, and advanced navigation. Students will develop an integrated interface for a Web site using programs including, but not limited to, Dreamweaver, Flash and JavaScript. Students will practice scripting and programming with an emphasis on using professional design techniques and standards. Sound, video, animation and interactivity are combined in interactive work. The primary emphasis of this course is development of the students' portfolio. Writing appropriate to the profession is required.

ITWEB 205

Web Languages

Prerequisite: ITWEB 101 with a grade of C or better; Placement into ENG 099 or higher

2 lectures, 2 lab hrs per week: 3 hrs credit

This course teaches students to use advanced Web programming languages to create interactive Web sites. Topics include form processing, file access and manipulation, and database connectivity. Both client and server side programming techniques are emphasized. Upon successful completion, students are prepared to take various Certified Internet Webmaster (CIW) exams.

ITWEB 299

Internship

Prerequisite: 12 credit hours minimum IT courses successfully completed with a C or better and consent of instructor;

Placement into ENG 099 or higher

10 lab hrs per week: 2 hrs credit

This is a capstone course. Students must have completed the minimum requirements of IT hours in their designated IT program concentration courses. Student interns will be employed at an approved training site. This is scheduled by joint agreement of the student, the site coordinator, and the program coordinator.

Journalism

JRNLM 101 (IAI: MC 919)

Introduction to Journalism

Prerequisite: ENG 101 with C or better

3 lectures per week: 3 hrs credit

This course introduces students to the journalism industry and its practices, including techniques of news gathering, reporting, and interviewing. Students learn to use the library and do online database research. Students write basic stories under real-time constraints.

Languages

(See Spanish)

Library and Information Science

LIB 101

Foundations of Information

Prerequisite: Placement into ENG 099 or higher

1 lecture per week; 1 hour transfer credit

This introductory course addresses the production, dissemination, and evaluation of information and knowledge. Students will gain the skills needed to effectively identify, gather, organize, and evaluate information from a variety of sources, both print and digital. The course will look at the research process as a whole, the ethical use of information, and citation practices.

Literature

(See English)

Manufacturing Technology

MT 101

Manufacturing Basics – Measurement, Materials, and Safety

Prerequisite: None

2 lectures, 4 lab hrs per week: 4 hrs credit

This course provides an exploration of the basics in machining, raw materials, use of hand tools, safety, and maintenance. Topics include an overview of measurement techniques, materials, safety, machine tool math, quality control, and maintenance. Teamwork, critical thinking, and problem solving are emphasized. Hands-on experience and practical applications are included.

MT 102

Manufacturing Job Planning, Benchwork, and Layout

Prerequisite: MT 101 with a C or better

2 lectures, 4 lab hrs per week: 4 hrs credit

This course provides an exploration of the basics of hand tools, understanding drawings, manual machines, and layout. Upon completion of this course the student will be able to interpret drawing information, describe basic symbols and notation, and interpret basic GD & T feature control frames. Teamwork, critical thinking, and problem solving are emphasized. Hands-on experience and practical applications are included.

MT 105**Metal Working Processes III***Prerequisite: MT 102*

2 lectures, 2 lab hrs per week: 3 hrs credit

This course provides students with information on horizontal milling, boring, drilling machines, and their operations.

Coursework consists of lectures and demonstrations on the construction of the different types of horizontal machines, the type of work done, the workpiece setup, the tools used and safety practices.

MT 120**Industrial Safety***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course provides safety training for those in industrial plant situations. Topics include tool and machine safety, lock out/tag out procedures, fire protection, eye safety, basic electrical safety, ladder safety, and government safety regulations as well as general safety practices.

MT 210**CNC Programming I***Prerequisite: MT 102*

2 lectures, 2 lab hrs per week: 3 hrs credit

This is an introductory course in computer numerical control programming. It covers CNC system operations; machine tool setup and tooling; G-code and M-code utilization; and 2 and 3-axis lineal and circular interpolation programming. Emphasis is placed on part programming and machine tool operation for CNC vertical milling and lathe work.

MT 211**CNC Programming II***Prerequisite: MT 210*

2 lecture, 2 lab hrs per week: 3 hrs credit

This course is a continuation of MT 210. It covers such topics as cutter compensation, fixed and variable canned cycles, subroutine programming, and the calculation of machining process. Part programs are written for the lathe, the vertical mill, and the horizontal mill.

MT 212**Introduction to Robotics***Prerequisite: None*

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces students to the use of robotic devices in various manufacturing environments. It covers topics ranging from the development of robotics, to robotic systems and the operation and programming of robotic devices. Students receive hands-on instruction in the use of the teach-pendant and computer-based robotic language programming.

MT 214**CAD/CAM Systems***Prerequisite: MT 210; CADMD 243 recommended*

2 lectures, 2 lab hrs per week: 3 hrs credit

This course introduces students to the relationship, use, and operations of CAD and CAM systems to generate CNC programs. Students learn to create CAD files for use with a CAM system; to use a CAM system to create geometry, tooling, and post-processor files; and to transmit CAM-generated programs to CNC equipment.

MT 215**Manufacturing Systems***Prerequisite: MT 210 and 212*

3 lectures, 2 lab hrs per week: 4 hrs credit

This course covers the identification, operation, and application of both basic industrial processes and various systems that can be integrated into a computer integrated manufacturing system (CIM). These include CNC, CAD, CAM, and robotics. Students design, program, and implement workcells that include material handling, manufacturing and assembly operations. Emphasis is placed on fully automated production system design and operation.

MT 220**Metallurgy – Ferrous***Prerequisite: None*

2 lectures per week: 2 hrs credit

Iron, steel and their alloys, standard classification systems, properties, and methods of testing are considered. Heat treatment processes, critical temperatures, crystalline structure changes, and standard physical tests and welding metallurgy are studied.

MT 221**Metallurgy – Nonferrous***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course studies types of nonferrous metals and their applications. Standard classification systems, properties, and methods of testing properties are discussed. In addition, development of new nonferrous metals and their applications are studied.

Applied Mathematics**AMATH 100****Basic Mathematics for the Skilled Trades***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course is for those students who have little or no skill in the operations of numbers. It includes topics on whole numbers, fractions, decimals, percents, powers, and square roots, measurement systems, and commonly used formulas.

AMATH 101

Algebra for the Skilled Trades

Prerequisite: AMATH 100 with a C or better or placement into MATH 090 or higher

2 lectures per week: 2 hrs credit

This course is for those students who have a knowledge of the arithmetic operations but have little or no background in algebra. It includes basic algebraic operations, factoring, solving equations, ratio and proportion, exponents, and radicals.

AMATH 103

Geometry for the Skilled Trades

Prerequisite: AMATH 101

2 lectures per week: 2 hrs credit

An introduction to geometry which includes definitions and descriptions of geometric terms, axioms and theorems; explanations regarding dispositions dealing with straight lines, triangles, and circles; and application to practical shop problems.

AMATH 106

Applied Trigonometry for the Skilled Trades

Prerequisite: AMATH 101 with a C or better

2 lectures per week: 2 hrs credit

Topics in this course include definitions of trigonometric functions, fundamental trigonometric identities, solution of triangle problems and applications of trigonometry to practical shop problems.

AMATH 107

Trigonometry and Shop Applications I

Prerequisite: AMATH 106

2 lectures per week: 2 hrs credit

This course covers the solution of oblique triangles by use of altitude construction method, law of sines and cosines, cotangents, $t/2$ angle formula, and tangent law. Emphasis is placed upon standardized types of shop and drafting problems using above methods.

AMATH 108

Compound Angles for the Skilled Trades

Prerequisite: AMATH 107

2 lectures per week: 2 hrs credit

The principles of trigonometry are used to determine plane, base and base angles in solid figures for the purpose of classifying the solid geometric figures into basic types for analysis and recognition. Practice in solving shop problems is emphasized and includes determining angles of tilt and rotation for mounding paste on adjustable plates and methods of checking angular tapered dovetails.

AMATH 110

Gearing and Cams for the Skilled Trades

Prerequisite: AMATH 106

2 lectures per week: 2 hrs credit

This course covers the mathematics of standard screw threads such as American National, United States v. Acme and Worm. Standard notations and formulas for spur gears, bevel gears, worm, and worm wheels and helical gears. Replacement of spur gears with helical gears and use of an idler gear, and the calculations for plain and differential indexing. Charts, gear models, and gears are used as aids in visualizing the problems.

Developmental Mathematics

MATH 080

Computational Skills I

Prerequisite: Qualifying score on Math Placement Test

4 lectures per week: 4 hrs non-degree, non-transfer credit (may be repeated three times)

This course provides a background in mathematics for students who do not feel confident in the mastery of arithmetic skills. Topics covered include operations on whole numbers, fractions and decimals, percents, and ratio and proportions.

MATH 085

Computational Skills II

Prerequisite: MATH 080 with a C or better or qualifying score on Math Placement Test

4 lectures per week: 4 hrs non-degree, non-transfer credit (variable credit; may be repeated three times)

This course provides a background in mathematics for students who do not feel confident in the mastery of skills at the pre-algebra level. Topics covered include operations on integers, fractions, and decimals; percents; ratio and proportion; graphs; and measurement. Emphasis is placed on the development of algebraic skills.

MATH 090

Elementary Algebra

Prerequisite: MATH 085 with a C or better or qualifying score on the Math Placement Test

5 lectures per week: 4 hrs non-degree, non-transfer credit
This is a course in elementary algebra. Topics covered include linear equations and inequalities, graphs of linear equations, polynomials, factoring, rational expressions, and rational equations. Problem solving is emphasized throughout the course.

MATH 095**Intermediate Algebra**

Prerequisite: MATH 090 with a C or better or qualifying score on the Math Placement Test

4 lectures per week: 4 hrs non-degree, non-transfer credit
This is a course in intermediate algebra. It is a prerequisite for transferable college mathematics courses. Topics covered include functions and graphs, systems of linear equations, one- and two-variable inequalities, roots and radicals, complex numbers, and quadratic equations. Emphasis is placed on the development of algebraic skills.

MATH 096**Geometry**

Prerequisite: MATH 090 with C or better or qualifying score on a placement test

3 lectures per week: 3 hrs non-degree, non-transfer credit
This is a course covering the fundamental concepts of geometry. It is intended for students who lack credit in one year of high school geometry or need review in the subject matter. Emphasis is placed on learning geometric facts as well as the development of deductive reasoning. Topics covered include plane and solid geometry, properties of congruence, similarity, area, perimeter, and volume.

College-Level Mathematics

Prerequisites for MATH 112, 115, 151, and 200 may be met by one of the following options:

Option 1 – MATH 095 and MATH 096, both with at least a C

Option 2 – MATH 095 and one year of high school geometry, both with at least a C

Option 3 – A qualifying score on the Math Placement Test

MATH 111**Mathematics For Paraprofessionals**

Prerequisite: MATH 085 or placement into MATH 090

3 lectures per week: 3 hrs credit
This course is designed for the elementary school paraprofessional. This course strongly emphasizes hands-on learning; thus, manipulatives are used extensively. Topics covered include problem solving, sets, number theory, statistics, probability, geometry, and measurement. Students seeking general education mathematics credit for transfer are advised to register for the MATH 200/206 sequence. (same as EDU 111)

MATH 112 (IAI: MI 904)**General Education Mathematics**

Prerequisite: Option 1, 2, or 3 above

3 lectures per week: 3 hrs transfer credit
This course is designed for the liberal arts student who is not a mathematics, science, or business major. The course focuses on mathematical reasoning and the solving of real-life problems. The following topics are studied in depth: set theory and logic, the mathematics of finance, probability, and statistics. The use of calculators or computers is a component of the course.

MATH 115 (IAI: MI 902)**General Education Statistics**

Prerequisite: Option 1, 2, or 3 as noted at beginning of section

3 lectures per week: 3 hrs transfer credit
The general education statistics course provides students with an opportunity to acquire a reasonable level of statistical literacy and thus expand their base for understanding a variety of work-related, societal, and personal problems, and statistical approaches to the solution of these problems. The main objective of the course is statistical reasoning. Detailed techniques of statistical analysis and the mathematical development of statistical analysis of statistical procedures are not emphasized. The course is intended to meet the general education requirement. It is not intended to be a prerequisite to nor a replacement for courses in statistical methods for business, social science or mathematical statistics. Students who complete this course cannot also receive credit for BUS 240 or MATH 153.

MATH 151**College Algebra**

Prerequisite: Option 1, 2, or 3 as noted at beginning of section

4 lectures per week: 4 hrs transfer credit
This course extends on the concepts previously studied in intermediate algebra. Course material is approached both algebraically and graphically. The graphing calculator is used extensively. Topics covered include linear, quadratic, polynomial, rational, exponential, and logarithmic functions and their applications. Matrices, matrix operation, and matrix equations are also introduced.

MATH 153 (IAI: MI 902)**Probability and Statistics**

Prerequisite: MATH 151 or qualifying score on the Math Placement Test

4 lectures per week: 4 hrs transfer credit
This is an introductory course in probability and statistics. Topics covered include frequency distribution, percentiles, measures of central tendency, measures of dispersion, standard deviation, correlation, elementary probability, line of regression, statistical inference, the binomial distribution, the normal distribution, student t-distribution, and the chi-square distribution. Computer software such as MINITAB is used. A comprehensive project is assigned. Students who complete this course cannot also receive credit for BUS 240 or MATH 115. (same as BUS 240)

MATH 155 (IAI: MI 906)

Finite Mathematics

Prerequisite: MATH 151 with a C or better or qualifying score on Math Placement Test

4 lectures per week: 4 hrs transfer credit

This course is an introduction to finite mathematics to meet the needs of business, social science, and liberal arts students. Topics covered include compound interest, annuities, systems of equations and inequalities, matrices, linear programming and its applications, probability, game theory, and logic. Throughout the course, emphasis is placed on concepts and applications.

MATH 157 (IAI: MI 900-B)

Calculus for Business and Social Science

Prerequisite: MATH 151 with a C or better or qualifying score on Math Placement Test

4 lectures per week: 4 hrs transfer credit

This is a one-semester calculus course for business and social science majors. Topics covered include equations of lines, limits, differentiation and integration of algebraic, exponential and logarithmic functions. Throughout the course, emphasis is placed on the applications of the basic concepts of calculus. This course does not count for credit toward a mathematics major or minor.

MATH 165

Pre-Calculus

Prerequisite: MATH 151 with a C or better

5 lectures per week: 5 hrs transfer credit

This pre-calculus course covers trigonometry, polar and parametric equations, conic sections, sequences, and series. It is a preparatory course designed to provide students with the essential skills needed for success in the sequence of courses covering calculus for scientists and engineers.

MATH 171 (IAI: MI 900-1; MTH 901)

Calculus with Analytic Geometry I

Prerequisite: MATH 165 with a C or better, or qualifying score on the Math Placement Test

5 lectures per week: 5 hrs transfer credit

This is the first course in a three semester sequence of courses covering calculus for scientists and engineers. Topics covered include lines, derivatives, applications of derivatives, antiderivatives and definite integrals, and applications of integrals.

MATH 172 (IAI: MI 900-2; MTH 902)

Calculus with Analytic Geometry II

Prerequisite: MATH 171

5 lectures per week: 5 hrs transfer credit

This is the second course in the three-semester sequence of courses covering calculus for scientists and engineers. Topics covered include applications of integrals, transcendental functions, integration techniques, L'Hopital's rules, improper integrals, infinite sequences and series, and polar coordinates.

MATH 173 (IAI: MI 900-3; MTH 903)

Calculus with Analytic Geometry III

Prerequisite: MATH 172

5 lectures per week: 5 hrs transfer credit

This is the final course in the three-semester sequence of courses covering calculus for scientists and engineers. Topics covered include basic operations on vectors, vector-valued functions, functions of several variables, partial derivatives, multiple integrals, and vector calculus.

MATH 200

Mathematics for Elementary Teaching I

Prerequisite: Option 1, 2 or, 3 as noted at beginning of section

4 lectures per week: 4 hrs transfer credit

This course covers the fundamental ideas and theories of mathematics beginning with arithmetic. It is designed for prospective and present elementary school teachers. Topics include sets, functions, whole numbers, integers, rational numbers, and irrational numbers to complete the real number system. This course is recommended to meet the requirements for teacher certification in Illinois. This is not a methods course in teaching mathematics.

MATH 201

Engineering Computer Programming

Prerequisite: MATH 171

3 lectures per week: 3 hrs transfer credit

This course is designed to use the computer in the study of problems in engineering, mathematics, or physical sciences. The emphasis is on problem analysis and problem solving.

MATH 206 (IAI: MI 903)

Mathematics for Elementary Teaching II

Prerequisite: MATH 200 with a C or better

4 lectures per week: 4 hrs transfer credit

This course is a continuation of Mathematics for Elementary Teaching I. The topics studied include geometry, probability, statistics, and measurement. Mathematical reasoning and problem solving are emphasized. This course is the second in a two course sequence recommended to meet the requirements for teacher certification in Illinois. It is not a methods course in teaching mathematics. This course provides general education credit for elementary education majors only.

MATH 210 (IAI: MI 905; CS 915)

Discrete Mathematics

Prerequisite: MATH 151 with a C or better or qualifying score on the Math Placement Test

3 lectures per week: 3 hrs transfer credit

This beginning course in the mathematics of computer science introduces mathematical analysis of finite collections and mathematical analysis of sequential machines, computer system design, data structures, and algorithms. Topics include sets, counting, recursion, graph theory, trees, networks, Boolean algebra, and formal grammars.

MATH 216 (IAI: MTH 912)**Differential Equations***Prerequisite: MATH 172*

3 lectures per week: 3 hrs transfer credit

Offered spring semester only.

This is a first course in ordinary differential equations with applications to the physical sciences. Topics covered include recognition, classification and solution of differential equations, as well as the expression of applied problems as differential equations. This course is designed to prepare students for more advanced study in mathematics, science, and engineering.

MATH 220**Linear Algebra***Prerequisite: MATH 172*

3 lectures per week: 3 hrs transfer credit

This course is intended as a transition between the calculus sequence and upper level courses in mathematics. Topics covered include vectors, vector spaces, matrices, determinants, matrix algebra, linear independence, linear transformations, eigenvalues, and eigenvectors. A significant portion of the course is devoted to theory and proof construction.

Mechanical Design Technology

(See CAD/Mechanical Design Technology)

Meteorology**METEO 150** (IAI: PI 905)**Introduction to Meteorology***Prerequisite: Placement into ENG 099 or higher*

3 lectures per week: 3 hrs transfer credit

This is a non-lab physical science course surveying topics related to weather, climate, and the atmosphere. Studies include air masses and fronts, global circulation, severe weather, and climate. Students examine weather's impact on humans, and humans' impact on weather and climate.

Millwright**MILL 101****Industrial Maintenance Techniques I***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course teaches reading and use of micrometers, vernier calipers, dial indicators, and other measuring tools. Other topics include hand and power tools used by the millwright, fastener identification, layout and drilling operations, as well as reaming and taping drilled holes.

MILL 102**Industrial Maintenance Techniques II***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course covers the installation of machinery coupled with the principles of steel construction. Also covered are friction bearings, non-friction bearings, couplings, gearing, and reduction build-up.

MILL 103**Lubrication***Prerequisite: None*

2 lectures per week: 2 hrs credit

This unit of study introduces students to the theories of lubrication, lubrication oils, greases, and solid lubricants, as well as the principles of lubrication, lubricating machine parts, lubrication storage, and safety. Other topics include lubricant application and its history, as well as centralized lubricating systems, system components, conductors, and connectors.

MILL 105**Rigging***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course familiarizes students with the safe and accepted industry practices as applied to rigging, rigging equipment, and its proper maintenance.

MILL 106**Power Train Elements***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course introduces the installation and alignment of component parts found in industrial equipment and machinery. Topics include the mounting of bearings, gearings, couplings, pulley clutches, and belts. Conveyors and chain drives are also covered. Equipment and coaxial alignment are stressed.

MILL 107**Machine Vibration Analysis I***Prerequisite: None*

2 lectures per week: 2 hrs credit

This course provides industrial maintenance technicians with an understanding of vibration analysis, rotating machine monitoring techniques, data collection, and analysis techniques.

Music**MUSIC 100****Fundamentals of Music Theory***Prerequisite: Placement into ENG 099 or higher*

3 lectures per week: 3 hrs transfer credit

This course introduces the basic principles of interpreting and understanding the language of music. It includes the study of notation, rhythm, scales, intervals, basic forms, musical terms, and introduction to the keyboard.

MUSIC 101

Musicianship I

Prerequisite: MUSIC 100 (or equivalent)

4 lecture hrs per week: 4 hrs transfer credit

This course is the first in a sequence of four that provides extensive training in Western music theory and aural skills. Common structures and organization of music is examined through written and aural analysis of chord progressions, melodies, metric and rhythmic patterns, tonal centers, dynamics, and instrumentation with an emphasis on development of sight-singing, dictation, and transcription skills. It is required for all degree programs in music.

MUSIC 102

Musicianship II

Prerequisite: MUSIC 101

4 lecture hrs per week: 4 hrs transfer credit

This course is the second in a sequence of four that provides extensive training in the fundamentals of music theory and ear training. It deals with the notational and aural aspects of Western music including scales, intervals, meter, rhythm, melody, and chords, using 4-part chorale writing for a basis for the study of chord progressions. It provides training in sight-singing, melodic and rhythmic dictation, and chord recognition. It is required for all music majors and minors.

MUSIC 110

Concert Choir

Prerequisite: None

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This ensemble is open to music majors and all students interested in singing with a large concert choir. An audition may be required. The course may be repeated up to three times for credit.

MUSIC 115

Orchestral String Ensemble

Prerequisite: None

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This ensemble provides an opportunity for musicians who play traditional orchestral string instruments (violin, viola, cello, double bass) to study and perform significant string literature in an ensemble. Students must know how to read music and have at least an intermediate playing ability to participate. The course may be repeated up to three times for credit.

MUSIC 120

Wind Ensemble

Prerequisite: None

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This course is open to music majors and all students interested in the opportunity to study and perform significant concert band literature in an ensemble. Students may need to demonstrate an intermediate level or higher playing skill through audition. May be repeated up to three times for credit.

MUSIC 125

Latin Music Ensemble

Prerequisite: None

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This ensemble explores a variety of styles of Latin American music through the arranging and performance of masterpieces from both the commercial and conservatory repertoire. Students are introduced to the foundational rhythms and performance techniques of various percussion instruments. In addition to percussion, instrumentation can include horns, bass, guitar, and piano.

MUSIC 130 (IAI: FI 900)

Music Appreciation

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course uses representative masterpieces to help students develop an appreciation for different kinds of music. Emphasis is placed on improving listening skills in order to identify and analyze elements and structures in music. Historical and societal influences, styles, and functions of music are considered through the study of great composers and performers.

MUSIC 132 (IAI: FI 904)

American Music

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is an historical survey of the development and major cultural contributions of American music and composers including symphonic, jazz, and popular forms within the context of American culture and society.

MUSIC 143

Class Voice I

Prerequisite: Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs transfer credit

Group instruction in fundamentals of singing, voice production, breathing, diction, vocalizing, and technical exercises; elementary song literature is introduced as progress is made.

MUSIC 144

Class Voice II

Prerequisite: MUSIC 143

1 lecture, 2 lab hrs per week: 2 hrs transfer credit

A continuation of MUSIC 143, this course provides group instruction at a more advanced level. In addition to correct vocal production, breathing, diction, and technical exercises, learning of songs is emphasized.

MUSIC 152**Jazz Ensemble I**

Prerequisite: Consent of instructor

1 lecture, 2 lab hrs per week: 1 hr transfer credit
Instrumental ensemble performance. Open to intermediate level or higher students of piano and band or orchestral instruments.

MUSIC 153**Jazz Ensemble II**

Prerequisite: MUSIC 152

1 lecture, 2 lab hrs per week: 1 hr transfer credit
This course is a continuation of MUSIC 152. It provides instrumental ensemble experience with an emphasis on improvisation.

MUSIC 162**Vocal Jazz Ensemble I**

Prerequisite: Consent of instructor

1 lecture, 2 lab hrs per week: 1 hr transfer credit
This course provides rehearsal and performance experience in a vocal jazz ensemble.

MUSIC 163**Vocal Jazz Ensemble II**

Prerequisite: MUSIC 162

1 lecture, 2 lab hrs per week: 1 hr transfer credit
This course provides continuing rehearsal and performance experience in a vocal jazz ensemble.

MUSIC 171**Fundamentals of Music Production**

Prerequisite: Placement into ENG 099 or higher

1 lecture, 2 lab hrs per week: 2 hrs transfer credit
This course provides an introduction to computer assisted music production concepts, technology (including MIDI and/or other current), and techniques. In addition, basic piano keyboarding skills are covered. It is a required course for students in music technology or production.

MUSIC 172**Music in Film and Television**

Prerequisite: MUSIC 130 or 132

3 lectures per week: 3 hrs credit
This course examines the uses of music in film and television and provides an overview of the industry. The breadth of music is explored through critical analysis of significant works and consideration of aesthetic, technical, historical, psychological and social tools, and trends.

MUSIC 173**Introduction to Digital Sound**

Prerequisite: None

2 lectures, 1 lab hr per week: 2 hrs credit
Students are introduced to the concepts and tools for developing soundtracks for use in video, film, games and multimedia applications. Collecting, processing, editing, and synchronizing the sounds to video are explored.

MUSIC 174**Computer-Assisted Music Production**

Prerequisite: Placement into ENG 099 or higher; MUSIC 171

4 lectures per week: 4 hrs credit
This course is the second in a sequence of courses that teaches technical and aesthetic concepts of digital music production. Students advance their skills of MIDI (Musical Instrument Digital Interface), computer sequencing, and multitrack recording using software applications and tools. Through a series of projects, each student will produce an audio CD using Sonar 8.

MUSIC 176**Sound Recording Techniques**

Prerequisite: PHYSI 101; MUSIC 171

2 lectures, 2 lab hrs per week: 3 hrs credit
This course provides students hands-on training in recording audio of music and sound. Microphone types and set-up, mixing board set-up and management, room acoustics evaluation, sound isolation, and post-production techniques are covered.

MUSIC 181**Private Lessons I**

Prerequisite: Placement into ENG 099 or higher

1 lecture per week: 1 hr transfer cr (may be repeated 3 times)
Private instruction in voice or an instrument is provided for students who are not music majors. Students meet weekly with the instructor for a half-hour lesson emphasizing technique, reading skills and repertoires. Instruction is offered in voice, piano, brass, woodwinds, strings, percussion, organ, bass, or guitar.

MUSIC 182**Private Lessons II**

Prerequisite: MUSIC 181

1 lecture per week: 1 hr transfer cr (may be repeated 3 times)
Continued private instruction in voice or an instrument is provided for students who are not music majors. Students meet weekly with the instructor for a half-hour lesson emphasizing technique, reading skills and repertoires. Instruction is offered in voice, piano, brass, woodwinds, strings, percussion, organ, bass, or guitar.

MUSIC 191

Private Applied Music I

Prerequisite: Consent of instructor

2 lectures per week: 2 hrs transfer credit
(may be repeated 3 times)

Private instruction is provided in voice or an instrument, emphasizing techniques, performance, and pedagogical fundamentals. Students who plan to transfer to an upper-division program as music majors are required to enroll each semester in a selected area of performance concentration. Instruction is offered in voice, piano, brass, woodwinds, strings, percussion, organ, bass, or guitar.

MUSIC 192

Private Applied Music II

Prerequisite: MUSIC 191

2 lectures per week: 2 hrs transfer credit
(may be repeated 3 times)

Continued private instruction in voice or an instrument, emphasizing techniques, performance, and pedagogical fundamentals. Students who plan to transfer to an upper-division program as music majors are required to enroll each semester in a selected area of performance concentration.

MUSIC 201

Musicianship III

Prerequisite: MUSIC 102

4 lectures hrs per week: 4 hrs transfer credit

This course is the third in a sequence of four that provides extensive training in the fundamentals of music theory and ear training. It deals with the notational and aural aspects of Western music including scales, intervals, meter, rhythm, melody, and chords, and provides an introduction to polyphony and common musical forms including binary, ABA, and sonata-allegro. It continues a study of chord progressions and training in sight-singing, melodic, and rhythmic dictation, and chord recognition, and introduces two-part singing and harmonic dictation.

MUSIC 202

Musicianship IV

Prerequisite: MUSIC 201

4 lectures hrs per week: 4 hrs transfer credit

This course is the fourth in a sequence of four that provides extensive training in music theory and ear training. It deals with the notational and aural aspects of Western music, with an introduction to non-Western scales and tonality. It continues a study of form and focuses on 20th century theory and compositional developments. It continues a study of chord progressions and training in sight-singing; melodic, rhythmic, and harmonic dictation; and part singing.

MUSIC 252

Jazz Ensemble III

Prerequisite: Consent of instructor

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This course is a continuation of MUSIC 153. It provides instrumental ensemble experience with an emphasis on improvisation.

MUSIC 253

Jazz Ensemble IV

Prerequisite: Consent of instructor

1 lecture, 2 lab hrs per week: 1 hr credit

This course is a continuation of MUSIC 252. It provides instrumental ensemble experience with an emphasis on improvisation.

MUSIC 262

Vocal Jazz Ensemble III

Prerequisite: MUSIC 163

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This course provides continuing rehearsal and performance experience in a vocal jazz ensemble.

MUSIC 263

Vocal Jazz Ensemble IV

Prerequisite: MUSIC 262

1 lecture, 2 lab hrs per week: 1 hr transfer credit

This course provides continuing rehearsal and performance experience in a vocal jazz ensemble.

MUSIC 274

Digital Composition for Video

Prerequisite: MUSIC 174

4 lectures per week: 4 hrs credit

This course teaches the creative and technical aspects of composing and synchronizing music for video using computer-assisted digital technology (Sonar 8 and Adobe Audition), and existing visual media.

MUSIC 281

Private Lessons III

Prerequisite: MUSIC 182

1 lecture per week: 1 hr transfer credit

(may be repeated 3 times)

Continued private instruction in voice or an instrument is provided for students who are not music majors. Students meet weekly with the instructor for a half-hour lesson emphasizing technique, reading skills, and repertoires.

MUSIC 282**Private Lessons IV**

Prerequisite: MUSIC 281

1 lecture per week: 1 hr transfer credit
(may be repeated 3 times)

Continued private instruction in voice or an instrument is provided for students who are not music majors. Students meet weekly with the instructor for a half-hour lesson emphasizing technique, reading skills, and repertoires. Instruction is offered in voice, piano, brass, woodwinds, strings, percussion, organ, bass, or guitar.

MUSIC 291**Private Applied Music III**

Prerequisite: MUSIC 192

2 lectures per week: 2 hrs transfer credit
(may be repeated 3 times)

Continued private instruction in voice or an instrument, emphasizing techniques, performance, and pedagogical fundamentals. Students who plan to transfer to an upper-division program as music majors are required to enroll each semester in a selected area of performance concentration. Instruction is offered in voice, piano, brass, woodwinds, strings, percussion, organ, bass, or guitar.

MUSIC 292**Private Applied Music IV**

Prerequisite: MUSIC 192

2 lectures per week: 2 hrs transfer credit
(may be repeated 3 times)

Continued private instruction in voice or an instrument, emphasizing techniques, performance, and pedagogical fundamentals. Students who plan to transfer to an upper-division program as music majors are required to enroll each semester in a selected area of performance concentration.

MUSIC 299**Music Production Internship**

Prerequisite: MUSIC 172, 176, 274; consent of instructor

10 lab hrs per week: 2 hrs credit

This course provides workplace experience for students in the field of music technology and production.

Nursing

(See also Registered Nursing)

Financial Aid recipients should check with the Office of Financial Aid/Veterans Affairs prior to enrolling in Nursing 100. Some financial aid programs will not pay for this course.

NURS 100**Nurse Assistant Training**

Prerequisite: COMPASS reading score of 60 or above. Must be 16 years of age and have Social Security card. Must enroll in person.

6 lectures, 3 lab hrs per week: 7 hrs credit

This course teaches the basic nursing skills necessary to become a nursing assistant. Students are led from the integrated roles of the health care team to the specific duties of the nursing assistant and the skills necessary to give basic patient care and to deal with families.

NURS 101**Basic Care Needs**

Prerequisite: Registration in the Nursing program

4 lectures, 2 college lab hrs, 6 clinical lab hrs per week: 7 hrs credit

A course designed to assist students in recognizing the basic needs of clients. The communication process introduces the basic psychosocial needs of people, incorporating specific needs of clients and the dynamics of interpersonal relationships along with group process. Emphasis is placed upon the needs of the individual client made dependent through illness, including principles related to activities of daily living, administration of medications, and nursing observation. The approach to nursing care utilizes the principles of the nursing process.

NURS 102**Acute Care Needs**

Prerequisite: NURS 101 and BIOL 222

5 lectures, 2 college lab hrs, 6 clinical lab hrs per week: 8 hrs credit

This course is designed to introduce students to concepts related to the care and teaching of clients with acute care needs. The nursing process is instrumental in allowing students to explore and apply standards of care in meeting the needs of culturally diverse clients throughout the life span.

NURS 110**Seminar in Nursing Practice**

Prerequisite: NURS 102

1 lecture, 2 lab hrs per week: 2 hrs credit

The focus of this course is to enhance freshman nursing students' competence in decision making skills, critical thinking, and clinical judgments/practice.

NURS 111

Nursing as a Profession

Prerequisite: Registration in the Nursing program

1 lecture per week: 1 hr credit

A course designed to introduce students to the theories and concepts of nursing and health. Students explore how these concepts affect the study they are undertaking. Historical developments are presented as a basis for the current explosion of theories and concepts of emerging care and responsibilities. The conceptual framework of their program is discussed, and the legalities involving care they will administer are identified.

NURS 201

Family Care Needs

Prerequisite: NURS 102

6 lectures, 2 college lab hrs, 12 clinical lab hrs per week: 11 hrs credit

This course is designed to present theories and concepts which deal with communication problems and the expanding family, including children with compromised basic human needs. This will enable students to use the nursing process to advocate for the needs of these clients with acute variations along the life span.

NURS 202

Advanced Care Needs

Prerequisite: NURS 201

6 lectures, 2 college lab hrs, 12 clinical lab hrs per week: 11 hrs credit

This course is designed to present theories and concepts concerning clients presenting with variations of advanced care needs. Students continue to use the nursing process to manage the care of client groups.

NURS 211

Preparation for Professional Nursing

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs credit

This course is designed to prepare the graduate for the professional practice of nursing. The nursing roles and the legal implications for the graduate nurse are discussed along with the recent developments and realities as they affect the everyday practice of nursing. Submission of a research paper is utilized to enhance written communication skills.

Office Administration and Technology

(See Information Technology)

Philosophy

PHILO 201 (IAI: H4 900)

Introduction to Philosophy

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

In this course students learn to think and write philosophically. They are introduced to major philosophers and schools of thought.

PHILO 202 (IAI: H4 904)

Ethics

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

In this course students examine the role of reason in ethical decision-making. Traditional types of ethical reasoning are studied, compared, and applied to topics of current concern.

PHILO 203 (IAI: H4 906)

Introduction to Logic

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces formal reasoning, including the nature and evaluation of deductive and inductive references, language and meaning, symbolization, formal and informal fallacies, and evidence and its nature and role in critical thinking.

PHILO 204 (IAI: H4 905)

Philosophy of Religion

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course covers religious concepts and theories such as the existence and nature of a deity, the nature of good and evil, reason and faith, ethics, and the after-life. It may also include an examination of the nature of religious language and experience.

PHILO 205 (IAI: H4 903N)

Eastern Philosophy

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course presents the thoughts of great philosophers of the Eastern Tradition, including the ideas of Siddhartha Gautama, Lao-Tzu, Kahlil Gibran, and others.

PHILO 206 (IAI: H4 902)

Major Modern Ideas

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course examines major philosophical ideas from the modern period that revolutionized how we think about human nature, history, and society. Focusing on the writings of Darwin, Marx, Nietzsche, and Freud, the course will give students an opportunity to reflect on what these thinkers said and how their ideas resonate in contemporary culture. Selections from other modern philosophers will be included to help students see the origins of ongoing debates that spring from these ideas.

Photographic Studies

(See also Art and Graphic Communications)

PHOTO 170

Digital Camera Skills

Prerequisite: None

1 lecture per week: 1 hr credit

This course deals with basics of digital camera operation. Students explore solutions to visual problems posed during group field trips. (Digital cameras are provided)

PHOTO 171

Introduction to Photography

Prerequisite: Placement into ENG 099 or higher

6 lab hrs per week: 3 hrs transfer credit

This course investigates the principles of photography. Students learn camera controls and apply the methods of photography and print techniques. The course explores the medium through a series of visual problems and emphasizes photography as a means of personal expression.

PHOTO 175

Basic Lighting Skills

Prerequisite: Placement into ENG 099 or higher

1 lecture, 4 lab hrs per week: 3 hrs credit

Students in this course are introduced to the mechanics of photographic lighting. It explores the following topics: application and practice of proper metering, studio set up, lighting adjustment, storage of equipment, and use of various accessories.

PHOTO 180

Digital Imaging

Prerequisite: Placement into ENG 099 or higher

1 lecture, 4 lab hrs per week: 3 hrs credit

This is a detailed introduction to Digital Imaging tools and techniques used in the digital conversion and adjustment of photographic images. Students learn to correct, composite, retouch, and manipulate photographs in RGB/CMYK color space. Digital printing, film, print scanning, and proper storage of images on disk are also covered.

PHOTO 196

Careers in Photography

Prerequisite: 6 credit hours in photography

1 lecture per week: 1 hr credit

This course surveys the structure, working conditions, and specific job responsibilities in the field of photography. Classroom presentations, guest lectures, and AV materials provide students with an understanding of production methods and explore the employment potential for each specialty.

PHOTO 267

Video Production

Prerequisite: 6 studio credit hours in photography; or for students majoring in Mass Communications, COMM 111; or for students in the GC or Art programs, ART 115

2 lectures, 4 lab hrs per week: 4 hrs credit

This course familiarizes students with video production in a studio environment. They will gain the skills to produce basic video productions for television and the web. Students will make class presentations, write production proposals, and produce videos.

PHOTO 268

Event and Wedding Photography

Prerequisite: 6 studio credit hours in photography

2 lectures, 4 lab hrs per week: 4 hrs credit

This course investigates the principles and practices of event and wedding photography.

PHOTO 276

Commercial Techniques

Prerequisite: 6 credit hours in photography

2 lectures, 4 lab hrs per week: 4 hrs credit

This course concentrates on camera and lighting techniques used in the creation of product photography. It addresses the use of high-resolution digital camera equipment, table-top setups, and studio lighting for the production of catalog, advertising, and special effects photography.

PHOTO 282

Fine Art Process

Prerequisite: PHOTO 171, 180, or consent of instructor

6 lab hrs per week: 3 hrs credit

This course explores various experimental camera, darkroom and digital techniques. Projects include multiple composite, infrared film, digital filtration, optical distortion, Polaroid emulsion/ image transfers, cliche verre (enlargements, scans), and hand-coloring techniques.

PHOTO 283

Portraiture

Prerequisite: PHOTO 175 or consent of instructor

1 lecture, 4 lab hrs per week: 3 hrs credit

This course is an introduction to creating studio and available light portraits featuring tungsten and electronic strobe applications. Emphasis is placed on correct use of diffused, reflective and spot lighting techniques, proper metering, and posing of the sitter. Projects are completed using digital cameras and color inkjet production.

PHOTO 285

Digital Color Production

Prerequisite: 6 credit hours in photography or consent of instructor

2 lectures, 2 lab hrs per week: 3 hrs credit

This course investigates color light theory and the digital controls of color reproduction currently available in photography. Students work with software designed to develop and maintain color management of photographic output by calibrating displays, profiling scanners, cameras, and small to wide format inkjet printers.

PHOTO 286

Independent Photo Project

Prerequisite: 12 credit hours in photography or consent of instructor

6 lab hrs per week: 3 hrs credit

This course encourages individual exploration of a personal visual direction or idea with emphasis on the fine art approach to photography. A proposal outline and complete portfolio are required of each participant.

PHOTO 287

Independent Photo Studio

Prerequisite: 12 credit hours in photography or consent of instructor

6 lab hrs per week: 3 hrs credit

Students in this course propose advanced photographic exploration with emphasis in portrait, fashion, or commercial product photography. Each participant must have completed prior course work in their chosen area of concentration.

PHOTO 291

Survey of Contemporary Photography

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course gives students the opportunity to visit exhibitions at museums and galleries and become familiar with current trends in photography. Some classes will meet at the exhibition sites while others will be held on campus.

PHOTO 292

Photo Workshop: Special Topics

Prerequisite: PHOTO 171, plus 6 additional hours in photography

2 lectures, 4 lab hrs per week: 4 hrs credit (may be repeated 3 times for credit with different topics)

This advanced course explores a variety of specific subjects in a concentrated format. This course is repeatable (three times) for credit.

PHOTO 293

Advanced Portraiture

Prerequisite: PHOTO 283

1 lecture, 4 lab hrs per week: 3 hrs credit

This course features the use of sophisticated studio strobe systems in making professional portraits. Students work on multi-light sets to produce photographs of individuals, couples, families, and groups. Radio transmitter operation, color burst background techniques and location lighting methods are also covered.

PHOTO 297

Professional Portfolio

Prerequisite: PHOTO 275, 285, or consent of instructor

2 lectures, 2 lab hrs per week: 3 hrs credit

This course helps students understand the process of preparing a portfolio of creative commercial photographs for career readiness. Class activities include career planning, creation of portfolio content and assembly, resume organization, and personal presentation. Individual peer and/or professional critiques are conducted each week for career potential feedback.

PHOTO 298

Seminar

Prerequisite: Concurrent enrollment in PHOTO 299

1 lecture per week: 1 hr credit

Students meet with program coordinator one hour per week to discuss various problems and issues encountered in the internship.

PHOTO 299

Internship

Prerequisite: 12 credit hrs in PHOTO and consent of program coordinator

15 lab hrs per week: 3 hrs credit (variable credit)

The student internship program allows students to earn college credit while working in an approved photography-related business. This course is scheduled by joint agreement of the student, the site supervisor and the program coordinator.

Physical Education

Only four credits of physical education may be counted for an A.A. or A.S. degree, except for students transferring as physical education majors.

PE 101

Physical Fitness I

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

This course is designed to assist individuals in establishing a foundation for personal fitness. Students are administered basic fitness assessment and engage in a structured exercise program utilizing flexibility, strength, and cardiovascular efficiency. May be repeated three more times for credit.

PE 102**Physical Fitness II**

Prerequisite: PE 101

2 lab hrs per week: 1 hr transfer credit

A continuation of PE 101, this course is designed to assist students in achieving an intermediate level of fitness. Students are administered fitness assessments to determine progress in the areas of flexibility, strength and cardiovascular efficiency.

PE 103**Physical Fitness III**

Prerequisite: PE 102

2 lab hrs per week: 1 hr transfer credit

A continuation of PE 102, this course is designed to assist students in achieving a high level of fitness. Special emphasis is placed on maintaining target heart rate levels in order to determine further personal cardiovascular efficiency. Students are administered fitness assessments to determine personal progress.

PE 104**Physical Fitness IV**

Prerequisite: PE 103

2 lab hrs per week: 1 hr transfer credit

A continuation of PE 103, this course is designed to assist students in maintaining a high level of fitness. Students achieve a basic understanding of the impact of increased duration, frequency, and intensity levels in regard to enhancing physiological performance.

PE 105**Aerobics I**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit
(may be repeated 3 times)

This course assists individuals to improve strengthening, toning, and cardiovascular system through walking, Pilates, or yoga.

PE 106**Aerobics II**

Prerequisite: None

2 lab hrs per week: 1 hr transfer cr (may be repeated 3 times)
This course assists individuals to improve cardiovascular conditioning through step aerobics, kickboxing or low-impact aerobics. Strengthening and toning exercises are also introduced.

PE 107**Aerobics III**

Prerequisite: None

2 lab hrs per week: 1 hr transfer cr (may be repeated 3 times)
This course assists individuals to improve their cardiovascular conditioning through aqua aerobics. Strengthening and toning exercises are also introduced in the swimming pool environment.

PE 108**Aerobics IV**

Prerequisite: None

2 lab hrs per week: 1 hr transfer cr (may be repeated 3 times)
This course assists individuals desiring a higher level of intensity. This is accomplished through "Funk Aerobics", boot camp style aerobics, or indoor cycling.

PE 151**Basketball**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

This course teaches the basic rules of basketball, playing court dimensions, and equipment needed. Fundamentals of passing, dribbling, shooting, rebounding, individual offense, and defense are emphasized.

PE 161**Soccer**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

Learn the basic rules and fundamentals of soccer. Course instruction includes kicking, passing, trapping, heading, tackling, the throw-in, and goal keeping. Basic offensive and defensive strategies and tactics are also discussed.

PE 162**Volleyball**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

This course teaches students the basic skills and rules associated with the game of volleyball. Skills covering overhead passing, forearm passing, serving, spiking, and blocking are explored. Practice games are conducted to emphasize each skill.

PE 163**Golf**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

Examine rules and various skills associated with the game of golf. Techniques and skills such as proper grip, stance, swing, pitch, chip, sand shots, putting, and a variety of golf exercises are explored.

PE 164**Tennis**

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

This course teaches students basic rules of play and scoring procedures in tennis. Students are taught appropriate grip and techniques for a variety of tennis strokes.

PE 165

Softball

Prerequisite: None

2 lab hrs per week: 1 hr transfer credit

This course teaches students the basic rules of play and the basic skills associated with softball. Hitting, catching, fielding, throwing, and running bases are explored.

Physical Education: Exercise Science

PES 200

Officiating Sports

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Instruction is provided in the fundamental techniques, rules, procedures, and professional attitude required of officials in flag football, softball, volleyball, and basketball.

PES 201

Introduction to Physical Education

Prerequisite: Placement into ENG 099 or higher

2 lecture hrs per week: 2 hrs transfer credit

This course provides introductory materials for pre-physical education majors. Emphasis is on pre-professional exposure to a variety of physical education related careers. The history of physical education, athletics, and related leisure activities are explored.

PES 202

Cultural Dance I

Prerequisite: Placement into ENG 099 or higher

2 lectures per week: 2 hrs transfer credit

This course introduces students to specific dance techniques, rhythmic patterns, instrumentation, and appropriate musical forms associated with African, Afro Brazilian, Latin, and/or Caribbean dance styles. This is accomplished through lecture and activity.

PES 210

Lifestyle Fitness Coaching

Prerequisite: Program Coordinator consent required

2 lectures per week: 2 hrs credit

Students will learn communication and facilitation skills to help their clients achieve positive behavior changes and establish expectations for personal growth and healthy active living.

PES 215

Group Fitness Instructor Training

Prerequisite: Consent of program coordinator

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course provides the methods, techniques, and skills that enable students to provide safe aerobic activities as instructors.

PES 220

Fitness Assessment/Exercise Program Design I

Prerequisite: Consent of program coordinator

2 lectures, 2 lab hrs per week: 3 hrs transfer credit

This course introduces students to the skills, organization, and methods of fitness testing. Students also learn exercise program design.

PES 225

Weight Training: Theory & Application

Prerequisite: Consent of program coordinator

2 lectures per hr: 2 hrs transfer credit

This course emphasizes the instructional techniques and skill development in progressive resistance strength training. Anatomical, physiological and biomechanical principles are studied and applied to design effective programs for individuals and groups.

PES 230

Nutrition for Sports and Exercise

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs transfer credit

This course provides an overview of the basic principles of nutrition and weight management with particular application to exercise and sport.

PES 235

Athletic Training Techniques

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs transfer credit

This course is a study of the basic concepts and techniques in prevention, recognition and management of common sport and exercise injuries, including methods in conditioning for injury prevention, evaluation, taping safety, and emergency procedures.

PES 250

Kinesiology

Prerequisite: BIOL 108 or BIOL 221 and 222, and consent of program coordinator

3 lecture hrs per week: 3 hrs transfer credit

This course focuses on the functional anatomical basis of human motion accomplished through studying the skeletal, neural, and muscular systems.

PES 255

Special Populations

Prerequisite: BIOL 108 or BIOL 221 and 222, PE 220, and consent of program coordinator

3 lectures per week: 3 hrs transfer credit

This course emphasizes safe and effective fitness programming by addressing physiological difference, and techniques and tools for motivating special populations.

PES 260**Fitness/Exercise Facility Management**

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs credit

This course introduces students to fitness/exercise/recreation facilities and their operational procedures. The management process regarding facility design, personnel management, marketing, budgeting, and insurance issues are discussed.

PES 265**Physiology of Exercise**

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs transfer credit

This course is designed to teach the basic physiological principles of exercise.

PES 298**Internship Seminar**

Prerequisite: Concurrent enrollment in PE 299 and consent of program coordinator

1 lecture per week: 1 hr credit

This seminar is designed to provide direction on building a successful personal training business.

PES 299**Internship for Personal Trainers**

Prerequisite: Concurrent enrollment in PE 298 and consent of program coordinator

15 lab hrs per week: 3 hrs credit

This course is designed to provide real-world experience. Students are supervised in Fitness Center arranged by the program coordinator.

Physical Science**PHYS 111 (IAI: P9 900L)****Physical Science**

Prerequisite: Placement into ENG 099 or higher

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This is an introductory lab course focusing on everyday experiences in physics, chemistry, and astronomy. Basic ideas of motion, matter, and energy are explored and related to astronomy and the importance of scientific discoveries to our society.

PHYS 112 (IAI: PI 905L)**Earth Science**

Prerequisite: Placement into ENG 099 or higher

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

Earth Science is an introductory lab course which surveys topics in geology, meteorology, and environmental science. The geology portion includes rocks, streams, glaciers, earthquakes, plate tectonics, volcanism, and mountain building. The meteorology portion focuses on the atmosphere, weather and climate. Human influence on the environment is emphasized.

Applied Physics**APHYS 100****Applied Physics**

Prerequisite: AMATH 100 or MATH 090

2 lectures per week: 2 hrs credit

This course surveys the physical principles of mechanics and is intended for students in apprentice certificate programs. Topics include metric system measurements, motion, Newton's laws, forces and equilibrium, simple machine elements, conservation laws, rotational motion, matter, and heat.

Physics**PHYSI 101 (IAI: PI 901L)****Conceptual Physics**

Prerequisite: Placement into ENG 099 or higher; placement into Math 090 or higher or completion of Math 085 with C or better.

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This course is a one semester conceptual study of the major topics and concepts of physics. Topics include description of motion, Newton's laws of motion and universal gravitational law, the planets and Kepler's laws, energy, impulse and momentum, fluid mechanics, temperature, heat and laws of thermodynamics, electricity and magnetism, wave motion, sound waves and acoustic music, EM waves and optics, introduction to modern physics and cosmology, and solid-state physics.

PHYSI 105 (IAI: PI 901)**Physics and Society**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week; 3 hrs transfer credit

This course will introduce students to the scientific and technological challenges posed by such issues as climate change, nuclear energy, communication and satellite technology, space exploration, alternative energy, and the medical applications of electromagnetic imaging and nuclear radiation. Acoustics and music, quantum mechanics, and Einstein's theory of relativity will also be addressed.

PHYSI 120 (IAI: PI 900L)**College Physics I**

Prerequisite: MATH 151 with a grade of C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This lab course is the first of a two-semester college algebra-based sequence designed to meet the needs of life and health science, liberal arts, and pre-professional students. Topics include vector algebra, Newton's laws of motion, description of motion and motion with constant acceleration, projectile motion, circular motion, work and conservation of energy, impulse and linear momentum, torque and angular momentum, fluids, elasticity and oscillations, waves and sound, and thermal physics and thermodynamics.

PHYSI 130

College Physics II

Prerequisite: PHYSI 120 with a grade of C or better

3 lectures, 2 lab hrs per week: 4 hrs transfer credit

This lab course is the second of a two-semester college algebra-based sequence designed to meet the needs of life and health science, liberal arts, and pre-professional students. Topics include electric forces and fields, electric potential, capacitors and dielectrics, electric current and circuits, magnetic forces and fields, electromagnetic induction, alternating current and circuits, electromagnetic waves and optics, reflection and refraction of light, optical instruments, interference and diffraction, quantum and particle physics and relativity.

PHYSI 210 (IAI: P2 900L; PHY 911)

University Physics I

Prerequisite: MATH 171 with a grade of C or better and high school physics

3 lectures, 3 lab hrs per week: 4 hrs transfer credit

University Physics I is the first course in a three-semester calculus-based sequence designed for pre-engineering, science, and mathematics majors. Topics include measurement and vectors, motion in one dimension, motion in two and three dimensions, Newton's laws of motion and applications of Newton's laws, work and kinetic energy, conservation of energy and momentum, rotation and angular momentum, gravity, static equilibrium and elasticity, fluid mechanics, and oscillations.

PHYSI 220 (IAI: PHY 912)

University Physics II

Prerequisite: PHYSI 210 and MATH 172 with a grade of C or better

3 lectures, 3 lab hrs per week: 4 hrs transfer credit

University Physics II is the second course in a three-semester calculus-based sequence designed for pre-engineering, science, and mathematics majors. Topics include temperature and kinetic theory of gasses, heat and the 1st law of thermodynamics, the 2nd law of thermodynamics, thermal properties, the electric field and Gauss's law, electric potential, capacitors, electric current and direct-current (dc) circuits, magnetic fields, sources of the magnetic field, magnetic induction (Faraday's and Lenz's laws), alternating current (ac) circuits, and Maxwell's Equations.

PHYSI 230 (IAI: PHY 914)

University Physics III

Prerequisite: PHYSI 220 and MATH 173 with a grade of C or better

3 lectures, 3 lab hrs per week: 4 hrs transfer credit

University Physics III is the third course in a three-semester calculus-based sequence designed for pre-engineering, science, and physical science majors. Topics include mechanical waves and acoustic (sound and hearing, intensity, and Doppler effect), superposition and standing waves, Maxwell's Equation and EM waves, properties of light, optical images, interference and diffraction, modern physics (relativity, waves and particles), quantum mechanics, applications of Schrodinger Equation, atoms, molecules, solid state physics, nuclear physics, and elementary particle physics.

Pipefitting

PIPE 101

Fundamentals of Pipefitting

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the specifications, applications and maintenance of pipes, fittings and valves; simple pipe calculations and template development; tools used in piping; proper valve installation and maintenance; and consideration of safe working pressures of pipes and valves are covered.

PIPE 102

Drains, Wastes, and Vents

Prerequisite: None

2 lectures per week: 2 hrs credit

This course is designed to acquaint students with the proper materials for sewer, soil, vent, and waste pipes; principles of drainage flow and proper venting; traps and installation of unit sanitation equipment, and joints and fittings used on drainage systems.

PIPE 103

Plumbing and Pipefitting Heating

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the principles of steam and hydronic heating, various types of steam systems in use, and proper sizing and tapping of steam units. The study of hydronics includes one-pipe, two-pipe, high temperature and pressure systems, heat loss calculations, and the design of hydronic systems.

PIPE 104

Plumbing and Pipefitting Code

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers current plumbing rules and regulations governing installation of plumbing systems, rules and regulations pertaining to joints, traps, cleanouts, water distribution, fixtures, and drainage.

Political Science

POLSC 101 (IAI: S5 903)

Principles of Political Science

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an introduction to the core concepts of political science. Students explore the questions political scientists ask, the means by which they answer those questions, and the types of answers that have emerged in response to contemporary problems.

POLSC 140 (IAI: S5 900)**Introduction to U.S. Government and Politics**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces students to the core concepts in political science that allow for a better understanding of the principles and organization of government and politics in the United States at the national, state and local levels.

POLSC 152 (IAI: S5 902)**U.S., State, and Local Government**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course describes the politics, function, and decision-making process of state and local governments in the United States. Special emphasis is placed on the historical development of Illinois government and political culture. Current issues facing state and local government agencies are also described and discussed.

POLSC 230 (IAI: S5 905)**Introduction to Comparative Government**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This introduction to comparative politics encompasses both Western and Non-Western political structures. Emphasis is on the political economy of development, the causes and effects of different systems of government, and the historical and cultural context of political formations across the globe.

POLSC 240 (IAI: S5 904)**Introduction to International Relations**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces students to the core concepts and major issues shaping international relations and world politics. Topics to be explored may include: globalization, international organizations, human rights, environmental problems, development, terrorism, war, and peace.

POLSC 250 (IAI: PLS 913)**Introduction to Political Philosophy**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Survey of major political philosophers and concepts in the history of political thought. The course focuses on classical and modern theorists, emphasizing such concepts as justice, equality, power, liberty, and rights.

Psychology

PSYCH 101 (IAI: S6 900)**Introduction to Psychology**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces psychology as a scientific approach to understanding human behavior. The history of the field, its methods, and research tools are covered. Topics include physiology, sensation, perception, motivation, learning and memory, maturation and development, personality, individual differences, social behavior, and abnormal behavior and its therapies.

PSYCH 102 (IAI: S6 902)**Human Growth and Development: Life Span**

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

This course surveys the normal biological, cognitive, social, emotional and personality development characteristics of life phases from conception through adulthood to death.

PSYCH 202**Educational Psychology**

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

This course focuses on the psychological principles, theories and current research related to the roles and functions of teachers and learners in educational settings. From the perspective of students, special emphasis is placed upon theories of motivation, creativity, learning theories, individual learning differences, and cultural and gender diversity. From the teacher's perspective, special emphasis is placed upon classroom management principles, effective instructional approaches, measurement and assessment techniques, and aligning instruction with the growth of students' social, cognitive, and personal development.

PSYCH 203 (IAI: PSY 905)**Abnormal Psychology**

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

This course covers theories and techniques applied to the labeling of "abnormal" behavior as defined by the Diagnostic and Statistical Manual of Mental Disorders. Topics include research methods; definition, assessment, and categorization of abnormal behavior; diagnosis, treatment, and prevention.

PSYCH 204

Industrial/Organizational Psychology

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

This course studies the behavior of men and women as they adjust to the people, objects, and surroundings encountered in the workplace. Emphasis is on applying data gathered to maximize the economic and psychological well-being of all employees and constituencies. Topics include research methods; personnel selection, placement, and training; job analysis and performance appraisal; job satisfaction and motivation; leadership; organizational decision making; and organizational development.

PSYCH 212

Theories of Personality

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

This course studies the development and structure of human personality. Students consider a variety of theoretical approaches to understanding human personality: psychoanalytical, humanistic, behavioral/social, cognitive, and traits. Readings include works by Freud, Adler, Horney, Sullivan, Fromm, Rogers, Jung, Maslow, Jourad, and others. Emphasis is on the application of personality theories to the understanding of self.

PSYCH 215 (IAI: S8 900; PSY 908)

Social Psychology

Prerequisite: PSYCH 101

3 lectures per week: 3 hrs transfer credit

A systematic introduction to theory and research on the ways social factors influence individual and group behavior. Examines attitudes, social perception, the establishment of norms, conformity, leadership, group dynamics and research methods, emphasizing their effects on the individual.

PSYCH 217

Human Sexuality

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

Principles, theories, and points of view concerning human sexuality with emphasis on the psychological and social aspects of human sexuality. The primary aim of this course is to provide a framework for and encourage responsible decision making with respect to the sexual aspect of our total being.

Reading

RDG 098

Foundations of College Reading

Prerequisite: Qualifying score on COMPASS Reading Placement Test

4 lectures per week: 4 hrs non-degree, non-transfer credit
(may be repeated two times)

This course reviews basic reading skills and strategies. Emphasis is placed on increasing students' vocabulary and comprehension skills for effective reading. Students learn the reading process and develop literal, interpretive, and evaluative skills.

Registered Nursing

(See also Nursing)

RN 100

R.N. First Assistant

Prerequisite: Professional registered nurse, current license, current CNOR and 2 years surgical nursing experience, or eligible for CNOR at end of courses; sponsoring surgeon and letter of recommendation from employer. Consent of instructor.

3 lectures per week: 3 hrs credit

This course provides prospective RN first assistants with advanced knowledge of anatomy/physiology and techniques related to operative procedures. It focuses on collaboration of the RN First Assistant and surgeon in delivery of optimal perioperative care and its impact on professional nursing. The course provides theoretical knowledge of asepsis/infection control, hemostasis, retracting/wound exposure, tissue handling, proper instrument usage, clamping, ligation, and suturing. It also provides a theoretical foundation based on extensive scientific knowledge and includes nursing concepts and clinical judgment for advanced nursing practice.

RN 101

R.N. First Assistant Internship

Prerequisite: RN 100

6 lab hrs per week: 3 hrs credit

This course provides theoretical instruction and practical skills attainment for the role and responsibility of a registered nurse first assistant.

Social Science

SOCSC 105

African American Masculine Identity

Prerequisite: Placement into ENG 099 or higher

3 lectures per week, 3 hrs transfer credit

This course introduces students to the major psychological, sociological, historical, and cultural perspectives about African American masculine identity, emphasizing race, ethnicity, and scholarship. A survey of contemporary and emergent theorists and practitioners and an examination of ways black male scholarly writing has informed past, present, and future encounters and status are included.

Social Work

SWK 201

Introduction to Social Work

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces students to the historical background and nature of social work theory, agencies and policy. It provides insight into social service organizations and agencies. Students examine the human concerns of various at-risk populations. This course also presents the knowledge bases and skills of social work practice, and enables students to evaluate their interests and capacities for entering the profession of social work. (same as SOCIO 201)

Sociology

SOCIO 101 (IAI: S7 900)

Introduction to Sociology

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course explores the major concepts, theories, and research methods within the field of sociology. Students examine how their behavior is shaped by the groups they belong to and the society in which they live. Topics for discussion include culture, socialization, social institutions, deviant behaviors, social stratification, and social inequalities, particularly classism, racism, and sexism.

SOCIO 111 (IAI: S7 901)

Contemporary Social Issues

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an analysis of the major social problems facing the world today. Students examine issues of contemporary interest from a sociological perspective. Topics for discussion may include crime and violence, technology, the role of the media, problems of the family, educational and workplace issues, and the environment. Also included are issues of social class, race and ethnicity, gender, age, and sexual orientation.

SOCIO 201

Introduction to Social Work

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course introduces students to the historical background and nature of social work theory, agencies, and policy. It provides insight into social service organizations and agencies. Students examine the human concerns of various at-risk populations. This course also presents the knowledge bases and skills of social work practice, and enables students to evaluate their interests and capacities for entering the profession of social work. (same as SWK 201)

SOCIO 210 (IAI: S7 902)

Marriage and the Family

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course provides an understanding of sociological concepts, theories, and research methods in relation to marriage and family issues. It focuses on the ever-changing dynamics of relationships and the influence of contemporary society on family life. Special emphasis is placed on communication in relationships, dating and mate selection, love, parenting, balancing work and family, violence in relationships, and divorce.

SOCIO 215 (IAI: S7 904D)

Sex, Gender, and Power

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course explores the origins of gender inequities. It examines the development of gender roles, the consequences of dividing society along gender lines, and the effects of changing cultural definitions of masculinity and femininity.

SOCIO 220 (IAI: S7 903D)

Race Relations: A Multicultural Perspective

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course focuses on the analysis of racial, religious, ethnic, and other groups. It examines the persistence of group identity, inter-group relations, social movements, government policy, and related social problems. Groups studied include African Americans, Latinos, European-Americans, Asian-Americans, and Native Americans.

Spanish

SPAN 101

Spanish I

Prerequisite: Placement into ENG 099 or higher

4 lectures per week: 4 hrs transfer credit

This course introduces students to the basic skills of understanding, speaking, reading, and writing the Spanish language. The workbook and homework complement class work. Classes are conducted mainly in Spanish.

SPAN 102

Spanish II

Prerequisite: SPAN 101; or 2 years high school Spanish within the past 5 years; or qualifying score on Spanish placement test; or instructor consent

4 lectures per week: 4 hrs transfer credit

This is a beginning course designed to continue development of the basic skills of understanding, speaking, reading and writing the Spanish language. The workbook and homework complement class work. Classes are conducted mainly in Spanish.

SPAN 110

Healthcare Spanish

Prerequisite: Compass reading score of 60 or higher or completion of RDG 098 with a C or better

3 lectures per week; 3 hours credit

This course is designed to develop practical Spanish communication skills for healthcare professionals. The course will focus on oral communication skills, especially listening and speaking but with some attention to reading and writing. The goals will include learning how to use medical terminology, greetings, commands and commonly used phrases. This course is intended for students with no previous experience in Spanish and is not for native speakers.

SPAN 120

Latin American Culture and Civilization

Prerequisite: Placement into ENG 099 or higher

3 lectures per week; 3 hours transfer credit

This course introduces students to the cultures, geography, history, literature, music, and arts of present-day Latin America. This course is conducted in English.

SPAN 201

Spanish III

Prerequisite: SPAN 102; or 3 years of high school Spanish within the past 5 years; or qualifying score on Spanish placement test; or instructor consent

4 lectures per week; 4 hrs transfer credit

This course provides a review of basic phonetic elements and syntax as an aid to improvement and expansion of good pronunciation and composition. It introduces Hispanic cultures. Classes are conducted in Spanish.

SPAN 202 (IAI: HI 900)

Spanish IV

Prerequisite: SPAN 201

4 lectures per week; 4 hrs transfer credit

This is a literature-based course designed to increase students' knowledge of the Spanish language and Hispanic cultures. It includes a review of grammar, composition, conversation, reading and comprehension.

Speech

(See Communication)

Surgical Technology

SRT 100

Medical Terminology

Prerequisite: Consent of instructor

2 lectures per week; 2 hrs credit

This course provides instruction in medical terminology needed by health care workers including surgical technologists, emergency medical technicians, paramedics, nursing assistants, students, nurses, and medical transcriptionists. This course is taught as a blended course: online with scheduled face-to-face meetings.

SRT 102

Patient Care I

Prerequisite: Acceptance into Surgical Technology program

2 lecture hrs per week; 2 hrs credit

Students learn to assess patient needs and response to illness and hospitalization. Emphasis is on routine care and procedures for surgical patients. Students also learn patient rights and care of specimens. Basics of medical terminology are incorporated.

SRT 103

Patient Care II

Prerequisite: SRT 102

1 lecture per week; 1 hr credit

Concepts of documentation, emergency procedures and thermoregulatory devices are covered. The basics of pharmacology and anesthesia are incorporated.

SRT 110

Introduction to Surgical Technology

Prerequisite: Acceptance into Surgical Technology program

5 lecture, 4 lab hrs per week; 7 hrs credit

The basic concepts and principles for developing skill competencies required to assist in surgery are covered beginning with the health care system and continuing with specifics of the surgical area. Microbiology and asepsis are stressed.

SRT 120

Surgical Procedures I

Prerequisite: SRT 110

5 lecture hrs per week; 5 hrs credit

Basic surgical procedures including the pre-operative, intraoperative, and post-operative phases commonly performed in the operating room setting are covered. Emphasis is on general/rectal surgery, obstetrical/gynecological surgery, and genito-urinary surgery.

SRT 122**Applied Surgical Procedures I**

Prerequisite: Concurrent registration in SRT 120

8 lab hrs per week: 1 hrs credit

Students learn to apply concepts and skills learned in SRT 120 in clinical settings arranged by program coordinator.

SRT 130**Surgical Procedures II**

Prerequisite: SRT 120

6 lectures per week: 6 hrs credit

This course continues the study of basic surgical procedures, emphasizing the following surgical specialties: ophthalmic surgery; ear, nose and throat surgery; head and neck surgery; oral and maxillofacial surgery; plastic surgery; orthopedic surgery; hand surgery; and endoscopic surgery.

SRT 132**Applied Surgical Procedures II**

Prerequisite: Concurrent registration in SRT 130

12 lab hrs per week: 2 hrs credit

Students learn to apply concepts and skills learned in SRT 130 in clinical settings arranged by program coordinator.

SRT 140**Surgical Procedures III**

Prerequisite: SRT 130

6 lectures per week: 6 hrs credit

This course continues the study of basic surgical procedures, emphasizing these surgical specialties: neurosurgery, thoracic surgery, cardiac surgery, vascular surgery, and general pediatric surgery.

SRT 142**Applied Surgical Procedures III**

Prerequisite: Concurrent registration in SRT 140

12 lab hrs per week: 2 hrs credit

Students learn to apply concepts and skills learned in SRT 140 in clinical settings arranged by program coordinator.

SRT 298**Surgical Technology Seminar**

Prerequisite: Concurrent registration in SRT 299

4 lecture per week: 4 hr credit

This seminar is designed to provide direction and feedback on workplace issues for students enrolled in the Surgical Technology Internship. Additionally, accreditation, certification, resume preparation, interviewing, and employee attributes are discussed.

SRT 299**Applied Surgical Procedures IV**

Prerequisite: SRT 142 and concurrent registration in SRT 298

12 lab hrs per week: 2 hrs credit

This course is designed to provide real-world experience for students in Surgical Technology programs. Students are supervised in clinical settings arranged by the program coordinator.

Technology of Mathematics and Science

TECH 109**Technical Mathematics I**

Prerequisite: High school algebra with a C or better

4 lectures per week: 4 hrs credit

This course is a study of beginning to intermediate algebra with right angle trigonometry. Topics for study are based upon application to technical subjects. Some of the topics are algebraic operations, factoring, functions, systems of equations, quadratics, and vectors.

Theatre

THTRE 101 (IAI: FI 907)**Understanding Theatre**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This course is a survey of theatre arts including a study of aesthetic and dramatic principles in selected plays, analysis of representative theatrical forms for cultural and social significance, critiques of theatre performances, and an overview of stage formats and technology.

THTRE 111 (IAI: TA 914)**Fundamentals of Acting**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs transfer credit

This is a beginning course in acting. A proper balance of theory and actual practice is maintained to develop both inner and outer acting techniques. An attempt is made to relate acting to good plays and to play production.

Tool and Die Making

TOOL 101**Tool and Die Processes**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course introduces students to tool, die and stamping fundamentals. Topics specifically covered include bending, forming, stretching, drawing, and coining operations of sheet metal. Additionally, sheet metal stamping processes and their components are discussed.

TOOL 102

Tool and Die Maintenance

Prerequisite: None

2 lectures per week: 2 hrs credit

This course introduces students to tool, die, and stamping maintenance fundamentals. Topics specifically covered include troubleshooting techniques, analytical methods, and process optimization for stamping machinery and the associated dies.

Welding

WELD 101

Principles of Flat Welding

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers basic welding fundamentals related to arc and oxy-acetylene welding theory and practice, AC and DC welding equipment, and applications that position welding techniques, arc welding electrodes, and ferrous metal identification.

WELD 102

Horizontal Welding and Brazing

Prerequisite: WELD 101

2 lectures per week: 2 hrs credit

This course expands arc and oxyacetylene skills. Topics include oxyacetylene cutting equipment and applications, arc and carbon arc cutting, soldering, brazing, inspection and testing of welding, metal identification and welding in flat and horizontal positions.

WELD 103

Metal Inert and Vertical Welding

Prerequisite: WELD 102

2 lectures per week: 2 hrs credit

Students develop an understanding of and manipulative skills needed with gas metal arc welding (GMAW) equipment. Topics include GMAW welding equipment, MIG, special welding processes, mechanical testing of welds and welding in flat, horizontal and vertical positions (SMAW Shielded Metal Arc Welding).

WELD 104

Tungsten Inert and Overhead Welding

Prerequisite: WELD 103

2 lectures per week: 2 hrs credit

This course increases students' welding background by acquainting them with gas tungsten arc welding, automatic welding and cutting equipment, special cutting processes.

WELD 105

AWS Structural Certification

Prerequisite: WELD 104

2 lectures per week: 2 hrs credit

This course is designed for persons experienced in all-position welding who wish to become certified to weld stress structures. All welding test procedures conform to American Welding Society standards. Though test specimens are prepared in class, passing of the course is not contingent upon whether or not the specimens are sent to a materials testing laboratory for analysis or the results of the analysis. However, if the student requests certification and pays the required fee, test specimens can be sent to a local materials testing laboratory where the mechanical tests will be performed and from where the welder certification papers may be issued.

WELD 106

Pipe and Pressure Vessel Certification

Prerequisite: WELD 105

2 lectures per week: 2 hrs credit

This course prepares students for certification in the most advanced stage of welding. Emphasis is placed on welding a vessel or pipe which will be used for a high pressure application.

WELD 201

Advanced Gas Metal Arc Welding

Prerequisite: WELD 103

2 lectures per week: 2 hrs credit

Advanced gas metal arc welding techniques are taught. Topics include metal transfer, types of equipment and supplies, equipment set-up, and troubleshooting.

WELD 202

Advanced Gas Tungsten Arc Welding

Prerequisite: WELD 104

2 lectures per week: 2 hrs credit (may be repeated 3 times)

Advanced gas tungsten arc welding techniques are taught. Topics include types of equipment and supplies, equipment set-up, and open-root welding on plate and pipe.

