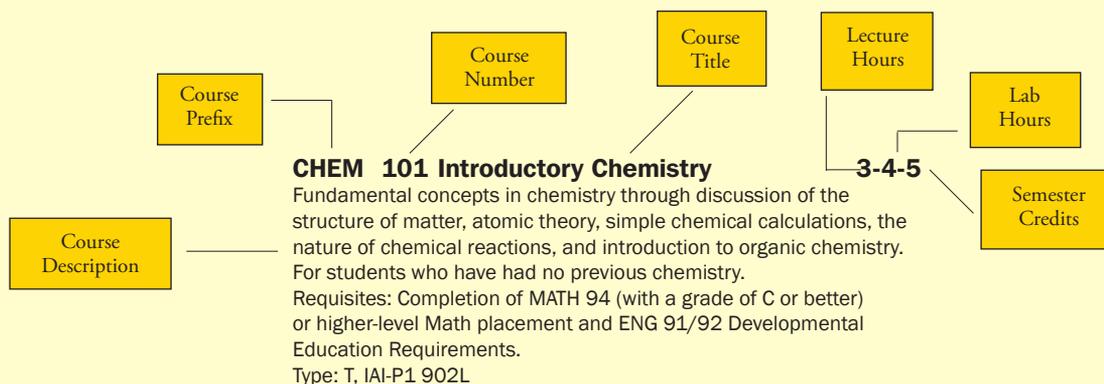


# ***COURSE DESCRIPTION GUIDE***



# How To Read A Course Description



## Course Numbering

- Below 100 Courses numbered below 100 are developmental, general studies or refresher courses.
- 100-199 Courses numbered 100-199 are first-year or freshman-level courses.
- 200-299 Courses numbered 200-299 are second-year or sophomore-level courses.

## Semester Credits

Each course description reflects the number of semester credits that will be earned upon successful completion of the course. In addition, the description reflects the number of hours per week spent on lecture/lab activities.

## Requisite

In order to ensure that students are adequately prepared for courses, some courses require completion of foundation courses or demonstrated skill levels prior to enrollment. These requisites are listed at the end of each course description if applicable.

## Type

Following courses that have been approved as part of the Illinois Articulation Initiative is a common code used by all participating colleges and universities across the state. This code reflects the area of the *Illinois General Education Core Curriculum* to which the course applies. The following are general coding descriptions:

## IAI Code

- IAI C – Communications
- IAI F – Fine Arts
- IAI H – Humanities
- IAI L – Life Science
- IAI M – Mathematics
- IAI P – Physical Science
- IAI S – Social Behavioral Sciences

In addition, the following codes are used to identify course types:

- P Developmental courses that are designed to prepare students for college-level courses
- T Transfer courses that are generally accepted as major, minor, or elective credit by four-year collegiate institutions
- C Career oriented courses that are intended for AAS degrees or occupational certificates

# Course Prefixes

Accounting.....	ACCT	Health Information Technology .....	HIT
Administration of Justice .....	AOJ	Health Related Occupations.....	HRO
Aerospace Studies – Air Force ROTC .....	AS	Heating, Ventilation, Air Conditioning, and Refrigeration .....	HVAR
Agriculture .....	AGRI	History.....	HIST
Anthropology.....	ANTH	Homeland Security.....	HS
Art.....	ART	Horticulture.....	HORT
Astronomy.....	ATY	Hospitality/Food Service Management – See <i>Culinary Arts and Food Management</i>	
Automated Manufacturing Systems – See <i>Electrical/Electronics Technology</i>		Human Services .....	HMS
Automotive Collision Repair Technology .....	ACRT	Independent Study.....	IND
Aviation Maintenance Technology.....	AVMT	Industrial Electricity/Electronics – See <i>Electrical/Electronics Technology</i>	
Aviation Pilot Training/Aviation Management .....	AVIA	Industrial Maintenance Mechanics .....	IML
Avionics.....	AVE	Journalism .....	JOUR
Biology.....	BIOL	Literature .....	LIT
Business .....	BUS	Management .....	MGMT
See also		Manufacturing Technology .....	MFT
Accounting		Marketing.....	MKT
Economics		Mass Communication .....	MCOM
Management		Massage Therapy .....	MT
Marketing		Mathematics .....	MATH
Chemistry.....	CHEM	Medical Assistant.....	MA
Child Care Services – See <i>Early Childhood Education</i>		Medical Laboratory Technology.....	MLT
Chinese.....	CHIN	Microcomputer Hardware Repair – See <i>Electrical/Electronics Technology</i>	
Cisco – See <i>Network Design &amp; Administration</i> .....	CISC	Military Science – Army ROTC .....	MSC
Commercial Maintenance Mechanics .....	IML	Music.....	MUS
Computer Aided Drafting.....	CAD	Network Design and Administration .....	CISC, NETW
Computer Information Systems .....	CIS	Nursing.....	NE
Computer Hardware Technology – See <i>Microcomputer Hardware Repair under Electrical/Electronics Technology</i>		Office Administration & Technology .....	OAT
Construction Bricklayer.....	BLA	Paralegal.....	PARL
Construction Carpentry.....	CCA	Philosophy .....	PHIL
Construction Cement Mason.....	CMA	Physical Therapist Assistant.....	PTA
Construction Electrical Program.....	IEW	Physics .....	PHYS
Construction Ironworker .....	IWA	Political Science .....	POLS
Construction Management Technology .....	CMT	Precision Machining Technology.....	PMT
Construction Painting & Decorating .....	PDA	Psychiatric Rehabilitation .....	PRCP
Construction Sheetmetal.....	SMA	Psychology .....	PSYC
Culinary Arts and Food Management.....	CUL	Radiologic Technology .....	RT
Cybersecurity – See <i>Cisco and Network Design &amp; Administration</i>		Respiratory Care.....	RC
Early Childhood Education.....	ECE	Russian .....	RUSS
Earth Science .....	ES	Service Learning .....	SRV
Economics .....	ECON	Sign Language Studies: Interpreter .....	SLS
Education.....	ED	Sociology.....	SOC
Electrical/Electronics Technology .....	EET	Spanish.....	SPAN
Emergency Medical Services (Paramedic/EMT).....	EMS	Speech .....	SPCH
Engineering.....	ENGR	Stationary Engineering .....	IML
English .....	ENG	Technical Math.....	GT
Film .....	FILM	Theatre.....	THEA
Fire Science .....	FS	Warehousing.....	WRH
French .....	FREN	Web Designer .....	CIS
Geography.....	GEOG	Web Development and Administration .....	CIS
German.....	GERM	Webmaster – See <i>Web Development and Administration</i>	
Graphic Communications .....	CIS	Welding Technology.....	WLDT
Health & Exercise Science .....	HES		

# Course Description Guide

## Accounting

### ACCT 105 Basic Accounting Procedures 3-0-3

This course will introduce students to the fundamentals of accounting; emphasizing the accounting cycle and financial statements. Financial accounting topics relating to merchandisers, inventory valuation, accounts receivable, internal control, bank reconciliation, petty cash, and current liabilities, including payroll, will also be discussed. Students will explore the benefits and use of budgets, and some limited budget preparation will be included. Excel spreadsheet use and application will be incorporated into the instruction. This course is designed for those students who have never had formal accounting instruction or those who need a refresher. It is required in several AAS degrees but does not carry elective credit for the AA and AS transfer degrees.  
Requisite: None.  
Type: C

### ACCT 106 Introduction to QuickBooks 3-0-3

This course is a review of the implementation of basic accounting concepts via a computerized accounting system. Topics include: opening a company file; customer and vendor maintenance; recording and paying bills; recording sales and collections; payroll setup and processing; end-of-period adjustments; and financial statement preparation. This course is designed for those students who have a basic knowledge of accounting concepts. The course is required in the AAS Business Management-Accounting option and the AAS Office Administration and Technology-Accounting Office Specialist Option, but does NOT carry elective credit for either AA or AS degrees. NOTE: ACCT 105, ACCT 110, or Accounting experience strongly encouraged  
Requisite: None.  
Type: C

### ACCT 110 Financial Accounting 4-0-4

This course introduces students to accounting as an information system that produces summary financial statements, primarily for users external to a business or other enterprise. Accounting terminology and concepts along with the analysis, recording, reporting, and interpretation of financial information are examined. Emphasis will be placed on accounting for current and long-term assets, current and long-term liabilities and stockholders' equity, as well as the preparation, interpretation, and analyses of financial statements.  
NOTE: ACCT 105 is encouraged  
Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.  
Type: T, IAI-BUS 903

### ACCT 111 Managerial Accounting 4-0-4

This course introduces students to the use of financial and managerial accounting information in making decisions and performing other managerial duties. Cost accumulation, allocation, analysis, control, and performance measurement are examined. Cost-volume-profit analysis, capital budgeting, incremental analysis, and financial statements topics are also explored.  
Requisite: ACCT 110 with a grade of "C" or better.  
Type: T, IAI-BUS 904

### ACCT 206 Individual/Business Income Tax 3-0-3

This course introduces students to federal income taxes as they relate to individuals, businesses, and other entities. Students will study income tax concepts, such as filing status, gross income, ordinary gains and losses, capital gains and losses, exemptions, deductions and expenses, business and rental properties, payroll and estimated tax, tax credits and special taxes, depreciation, partnerships, corporations, trusts, and estates. Filing out tax forms in their entirety for individuals and different types of business entities will be covered as well. In addition, students will learn how to find answers to tax questions when unique situations occur.  
Students may receive credit for only one of the following: ACCT 206 or MGMT 206  
Requisite: ACCT 105 or ACCT 110; or program coordinator approval.  
Type: C

### ACCT 210 Cost Accounting 3-0-3

The flow of costs involved in the two main cost systems: job order and process. Standard costing and variance analysis of direct materials, direct labor and factory overhead are covered in depth. Also included are cost-volume-profit analysis, budgeting, direct costing, contribution margin, relevant costs, joint and by-products costing, and spoilage.  
Requisite: ACCT 111 with a grade of "C" or better.  
Type: T

### ACCT 211 Intermediate Accounting I 3-0-3

This course builds on the theories and concepts covered in Financial Accounting. Financial Statements are emphasized and the valuation of cash, receivables, inventory, long-lived assets, intangible assets, and liabilities are explored in more detail.  
Requisite: ACCT 110 with a grade of "C" or better.  
Type: T

### ACCT 212 Certified Bookkeeper Review 3-0-3

The course covers the following topics: adjusting entries; payroll; depreciation; inventory; and accounting error correction. Students who successfully complete this course may sit for the Certified Bookkeeper Review exam (optional; offered through the American Institute of Professional Bookkeepers). NOTE: Students with three years of full-charge bookkeeping experience who have not completed ACCT 211 should contact the department for requisite waiver.  
Requisite: ACCT 211 with a grade of "C" or better; or three years full charge bookkeeping experience and department approval.  
Type: C

### ACCT 215 Accounting for Small Businesses 3-0-3

This course emphasizes recordkeeping for a small business. Payroll and sales tax reporting are introduced and income tax reporting will be reviewed. The benefits and use of budgets, cash flow management, financial statement analysis, and internal control are examined.  
Requisite: ACCT 211 and ACCT 206.  
Type: C

### ACCT 221 Intermediate Accounting II 3-0-3

This course builds on the theories and concepts covered in Financial Accounting and Intermediate Accounting I. Students will focus on both the preparation and analysis of Financial Statements. The topics of liabilities and stockholder's equity are explored in more detail. The topics of investments, income taxes, pensions, leases and accounting changes are also discussed.  
Requisite: ACCT 211 with a grade of "C" or better.  
Type: T

### ACCT 269 Accounting AAS Internship 0-15-3

This course is a supervised work-experience program requiring an average of 15 hours per week in an accounting focused position. If the student is already employed in an accounting position, the job may qualify for the internship but is subject to approval by the instructor. The instructor and the college's internship coordinator also provide assistance to students in finding an appropriate internship position.  
Requisite: Sophomore standing; ACCT 110, ACCT 111; minimum GPA of 3.0 in ACCT coursework. Department consent.  
Type: C

## Administration of Justice

### AOJ 100 Intro to Administration of Justice 3-0-3

The study of the criminal justice system and its major components. The criminal justice process is described. Includes history, philosophy and current practice in the administration of justice in a democratic society.  
Requisite: None.  
Type: T, IAI-CRJ 901

## Course Description Guide (continued)

- AOJ 101 Basic Law Enforcement 5-2-6**  
The Southwestern Illinois Police Academy is one of six police academies that is certified and approved by the Illinois Law Enforcement Training and Standards Board. The Southwestern Illinois Police Academy offers the Basic Training Course. This course is mandatory for all newly appointed police officers in Illinois. For registration information, call 618-235-2700, ext. 5396. Requisite: Department consent.  
Type: C
- AOJ 102 Public Safety Telecommunications 5-0-5**  
Students will receive instruction in all phases of public safety communications. Students who successfully complete this course will be able to perform the duties of a dispatcher for police, fire, emergency medical services, hospital, civil defense, or ambulance service units.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 103 Introduction to Corrections 3-0-3**  
Organization, management and operation of correctional institutions and their role in the criminal-justice system.  
Requisite: None.  
Type: T, IAI-CRJ 911
- AOJ 105 Police Administration 3-0-3**  
Principles of organization and management as applied to law enforcement agencies and introduction to concepts of organizational behavior.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 106 Correctional Administration 3-0-3**  
This course examines a myriad of issues affecting Correctional Administration and management. The course includes a review of the evolution of Management Theory and contemporary Correctional Administrative Practices. The course also includes an in-depth review of the organizational process, including policy development and budgeting, as well as the impact of the courts, media, and the community on the correctional organization.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 110 Issues in Private Security Variable up to (3)-(6)-(3)**  
A comprehensive overview of the unique goals, objectives and management responsibilities in private security operations. Specific security functions are delineated. Extant research findings and recommendations are used to support critical thinking exercises for students. Includes case studies. Course will focus on the needs of security managers who must budget for asset protection and the criminal justice professional with public/private interface functions.  
Requisite: Department consent.  
Type: C
- AOJ 111 Correctional Supervision 3-0-3**  
The study of the principles and practice of supervision and management techniques in the American correctional system. Definitions and levels of supervision are presented; emphasis is placed on practical applications of methods of supervision. Profiles of successful correctional supervision scenarios are presented for study.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 144 Security Officer Certification 2-0-2**  
This course is approved by the Illinois Department of Professional Regulation for armed security guard certification. Career orientation is accomplished. Basic criminal law, law of arrest, search and seizure, and the legal use of force are covered. Students who successfully complete the course and meet all requirements are certified to work as an unarmed security guards in the State of Illinois.  
Requisite: None.  
Type: C
- AOJ 145 Introduction to Firearms 1-0-1**  
Introduction to the law, liability and use of handguns, and to the skills required in their care, handling and safety. Course includes both classroom and firing-range activities. Course may be taken by anyone who is at least 18 years old to learn how to legally and effectively use firearms. May also be used as an elective for certain degree programs. Note: Students must have completed AOJ 144 and have valid firearm owner's identification (FOID) card.  
Requisite: Department consent.  
Type: C
- AOJ 151 Policing: Methods and Ethics 3-0-3**  
This course is an examination of the history, current status, and/or trends in police field operations. A critical review of the extant research on police effectiveness, deployment of personnel, and delivery of services is accomplished. Police integrity standards and hard choice issues concerning police discretion, legality, and morality in police methods are delineated.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 153 Juvenile Delinquency 3-0-3**  
Analysis of juvenile delinquency as a social problem. Factors related to delinquency causation are considered. Includes delinquency prevention methods. The Juvenile Court System is described in operational terms.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-CRJ 914
- AOJ 155 Community Policing 3-0-3**  
Interpersonal, intrapersonal, and life-management skills related to criminal justice work are delineated. Experiential activities are used to develop skills in human communication, conflict resolution, effective behavior, and in the appreciation of cultural diversity. Problem oriented policing strategies are delineated.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 156 Issues in Criminal Justice Variable up to (3)-(6)-(3)**  
Offers an in-depth study of problems facing workers in the criminal justice system. Contemporary issues will determine the course content during any particular offering.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C
- AOJ 160 Criminology 3-0-3**  
A course designed to appeal to law-enforcement officers, pre-law enforcement students, educators, civic leaders and concerned citizens who wish to gain new insights into the body of knowledge which regards delinquency and crime as social phenomena. The sociology of law, the conditions under which criminal laws develop, causes of crime and delinquency, and the control of crime and delinquency are examined within the framework of the criminal justice system and a democratic society.  
Requisite: ENG 101 with a grade of "C" or better.  
Type: T, IAI-CRJ 912
- AOJ 202 Police Civil Liability 3-0-3**  
An analysis of the law and trends in the highly controversial area of police-civil liability; police officers and private security personnel are liable for various forms of tortious conduct ranging from intentional wrongs to negligence in the course of their activities. Court decisions are examined in all relevant areas of concern. The overall course objective is to develop strategies to reduce litigation and limit unfavorable judgments in both the public and private sectors.  
Requisite: ENG 102 with a grade of "C" or better.  
Type: C

## Course Description Guide (continued)

- AOJ 203 Criminal Law & Admin of Justice 3-0-3**  
A study of criminal law and procedure. Emphasis on the understanding of the basic elements of criminal offenses. Includes a historical study of the evolution of criminal law and its application to modern law enforcement.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: T
- AOJ 204 Constitutional Law for Police 3-0-3**  
Centers on criminal procedure and its application as required by the due-process and equal-protection clauses of the Constitution. The student will be introduced to the responsibilities of a law-enforcement officer in regard to arrest, search and seizure, confessions and self-incrimination, assistance of counsel, freedom of speech, free press, the right to peaceably assemble, and civil rights legislation. The student will develop an understanding of the rules and guidelines which govern the conduct of a professional officer in enforcing both state and federal law.  
Requisite: ENG 102 with a grade of “C” or better.  
Type: T
- AOJ 205 Traffic Management & Accident Analysis 3-0-3**  
Development of the modern transportation system, agencies involved in traffic administration and control, police-traffic engineering, education and enforcement of traffic laws are included. Principles of traffic accident investigation and reconstruction are delineated.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: C
- AOJ 250 Law for Corrections 3-0-3**  
The course provides an in-depth view on the rights of correctional prisoners and the legal response required of correctional personnel to protect these rights. To understand what rights prisoners have requires studying the development of case law over a considerable period of time. Although there are statutory and administrative laws covering the rights of prisoners, the most important statements regarding prisoners’ rights have come from decisions of appellate courts on a case-by-case basis. These decisions come from the Supreme Court and must be respected by state and federal correctional workers.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: C
- AOJ 251 Rules of Criminal Evidence 3-0-3**  
Study of basic rules of evidence applicable to criminal justice procedure. Emphasis on the question of admissibility of evidence and the practical application of procedural/substantive constitutional guarantees. Case law exceptions to the warrant requirement are explained in operational terms.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: C
- AOJ 252 Organized Crime 3-0-3**  
This course addresses in a concise manner the nature, history, and theories of organized crime, together with the criminal justice response. This includes an evaluation of the investigation, prosecution, defense, and sentencing of organized criminals to date. This course is designed, therefore, to provide a synthesis of important developments in the understanding, prevention, and criminal justice response to organized crime in our neighborhoods and our correctional institutions.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: C
- AOJ 255 Criminal Investigation – Case Prep. 3-0-3**  
Fundamentals of criminal investigation theory and practice. Crime scene to courtroom emphasis on techniques appropriate to specific crimes. Interview and interrogation techniques are included.  
Requisite: ENG 101 with a grade of “C” or better, concurrent enrollment in or completion of AOJ 203.  
Type: C
- AOJ 256 Crime Scene Investigations 3-0-3**  
The basic course in forensic science is concerned with the application of the principles of biology, chemistry and physics to the problems of law and law enforcement. Course emphasis will range from the detailed functions of the mobile crime team to the common testing procedures of police crime laboratories. Content will be selected on the basis of contemporary needs of pre-service and in-service law enforcement personnel.  
Requisite: AOJ 255.  
Type: C
- AOJ 258 Computer Forensics & Cyber Crime 3-0-3**  
This course is an overview of computer-related crime, cybercrime laws, and computer crime investigation including the management and custody of digital evidence. It includes an exhaustive discussion of legal and social issues, fully defines computer crime, and provides specific examples of criminal activities involving computers, while discussing the phenomenon in the context of the criminal justice system. It provides a comprehensive analysis of current case law, constitutional challenges, and governmental legislation. Organized crime and terrorism are discussed and how it relates to computer related crimes as well as more comprehensive information on processing evidence and report preparation.  
Requisite: ENG 101 with a grade of “C” or better.  
Type: C
- AOJ 261 Probation and Parole 3-0-3**  
Covers all phases of the correctional field and attempts to reflect a balance between theoretician and practitioner. Viewpoints on theory and practice in juvenile and adult corrections are examined extensively. The law of corrections, probation, parole, and community services to offenders are studied in detail. The point of emphasis of the course starts where the court process ends.  
Requisite: ENG 102 with a grade of “C” or better.  
Type: C
- AOJ 278 Work Experience: Internship 0-25-5**  
A rigidly structured program that attempts to bring training and education into a more meaningful relationship. The student is expected to develop poise and confidence as a relationship is established between academic learning and work in the field. The chief executive or his designee in each participating agency will provide direct supervision. Comprehensive written reports on work and observation activities will be submitted to instructor/coordinator. Formal evaluation process will be used to record student performance. Recommended for all students not transferring to a senior institution. Note: Permission of the AOJ coordinator is required to enroll. Students must have completed 24 credit hours of AOJ-prefixed degree requirements, and ENG 102 with a grade of C or better.  
Requisite: Department consent.  
Type: C
- AOJ 280 Law Enforcement Transition 3-2-4**  
This course is designed for those (1) police officers who were employed as part-time officers and now want to become employed as full-time officers, (2) out-of-state officers seeking certification in Illinois, and (3) former Illinois officers who have not been active in law enforcement for a stipulated period. This is an 80-hour transition course and as such the purpose of the program is to reinforce previous training in critical duties and responsibilities. Additionally, the full time officer may find himself/herself less supervised than the part-time officer, thereby needing the skill and knowledge gained during this transition course to ensure the safety of the officer and the public. This reinforcement of the safety of the officer and the public is especially important in the area of liability and public contact.  
Requisite: None.  
Type: C
- AOJ 285 Basic Arson Investigator 6.5-6-8.5**  
This course is intended for full-time Firefighter 2 personnel who have been certified in Fire Modules I and II with a background in Fire Investigations and whose governmental authority is seeking to advance them to an arson investigator position. All attendees must be “vetted” through the OSFM to ensure they are properly credentialed. Successful completion of this 200-hour course will allow the agency to apply to the Office of the State Fire Marshal for certification and, based on agency preferences, would allow the investigator to act as a peace officer when investigating a suspected arson fire with the power and authority of any certified peace officer.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

### **A0J 290 Police Report Writing 3-0-3**

A course designed and structured for pre-service law-enforcement students who wish to improve their proficiency in effective writing.  
Requisite: ENG 101 with a grade of "C" or better.  
Type: C

### **A0J 299 Spec Topics In Admin of Justice Variable up to (4)-(8)-(4)**

Varied topics in policing and/or security will be addressed in order to meet most current needs of the industry. NOTE: Requisite varies by topic.  
Requisite: Department consent.  
Type: C

## Aerospace Studies

### **AS 101 Foundations of USAF I 2-0-2**

A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets, and it complements this course by providing students with followership experiences and prepares them for Field Training. Classroom activity, one hour per week; Leadership Laboratory two hours per week. Aerospace Studies courses (AES 101 through AES 202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average. Semester credits of these courses may be included in the hours needed for graduation at the discretion of individual departmental chairpersons.  
Requisite: None.  
Type: T

### **AS 102 Foundations of USAF II 2-0-2**

A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets, and it complements this course by providing students with followership experiences and prepares them for Field Training. Classroom activity, one hour per week; Leadership Laboratory two hours per week. Aerospace Studies courses (AES 101 through AES 202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average, but semester credits for these courses will not be included in the total credits for graduation.  
Requisite: None.  
Type: T

### **AS 201 Evolution of USAF Air & Space Power 1 2-0-2**

A survey course concerned with the beginnings of manned flight and the development of aerospace power in the United States, including the employment of air power in WWI, WWII, Korea, Vietnam, and Gulf War and the peaceful employment of U.S. air power in civic actions, scientific missions and support of space exploration. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences and prepares them for Field Training. Classroom activity, one hour per week; Leadership Laboratory two hours per week. Aerospace Studies courses (AES 101 through AES 202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average, but semester credits for these courses will not be included in the total credits for graduation.  
Requisite: None.  
Type: T

### **AS 202 Evolution of USAF Air & Space Power 2 2-0-2**

A survey course concerned with the beginnings of manned flight and the development of aerospace power in the United States, including the employment of air power in WWI, WWII, Korea, Vietnam, and Gulf War and the peaceful employment of U.S. air power in civic actions, scientific missions and support of space exploration. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences and prepares them for Field Training. Classroom activity, one hour per week; Leadership Laboratory two hours per week. Aerospace Studies courses (AES 101 through AES 202) are basic courses designed to acquaint students with the United States Air Force and the opportunities available as an officer. Grades earned in these courses will be computed in the student's overall grade point average. Semester credits of these courses may be included in the credits needed for graduation at the discretion of individual departmental chairpersons.  
Requisite: None.  
Type: T

## Agriculture

### **AGRI 111 Animal Science 3-2-4**

The application of the science of genetics, physiology and nutrition to the improvement of the animal industries and an introduction to management and production practices. Includes animal breeds, breeding and selection; anatomy physiology and nutrition and growth; environment, health and sanitation; products and marketing; production technology and economics; animal behavior; and current issues in animal science.  
Requisite: None.  
Type: T, IAI-AG 902

### **AGRI 121 Soil Science 3-2-4**

This course presents an introduction to the chemical, physical, and biological properties of soils; the origin, classification, and distribution of soils and their influence on people and food production; the management and conservation of soils; and the environmental impact of soil use.  
Requisite: None.  
Type: T, IAI-AG 904

### **AGRI 152 Agricultural Economics 3-0-3**

An introduction to the principles of economics including production principles; production costs, supply and revenue; profit maximization; consumption and demand; price elasticity; market price determination; and competitive versus noncompetitive market models. These principles are applied to agriculture and the role of agriculture in the United States and world economies. Other topics include a survey of the world food situation; natural, human and capital resources; commodity product marketing; and agricultural problems and policies.  
Requisite: None.  
Type: T, IAI-AG 901

### **AGRI 235 Crop Science 3-2-4**

The basic principles of plant growth, including human and environmental influences and the theoretical and practical application of agronomic principles to crop production. Includes the historical and economic importance of crop plants for food, feed, and fiber; origin, classification, and geographic distribution of field crops; environmental factors and agronomic problems; crop plant breeding, growth, development, and physiology; cropping systems and practices; seedbed preparation, tillage, and crop establishment; pests and controls; and harvesting, storing, and marketing practices.  
Requisite: None.  
Type: T, IAI-AG 903

### **AGRI 299 Special Topics in Agriculture Variable up to (3)-(4)-(4)**

This course will cover special topics or problems in agriculture and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.  
Requisite: None.  
Type: T

## Anthropology

### **ANTH 150 Cultural Anthropology 3-0-3**

Cultural anthropology is the holistic study of human culture focusing on the nature of culture, symbols, systems of power, and the everyday lives of people around the world. By studying diverse cultures anthropologists strive to understand humanity in general. Cultural anthropology is a powerful tool for understanding our lives in the modern global society defined by cross-cultural interactions and cultural change. Completion of this course fulfills the Non-Western Culture requirement for graduation from Southwestern Illinois College.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S1 901N

### **ANTH 160 Physical Anthropology 3-0-3**

This course is an introduction to physical anthropology. It includes the study of human evolution, the relationship of humans to other primates both physically and behaviorally, the relationship between human evolution and the development of culture, physical variation of modern human populations, and applications of physical anthropology in medicine and forensics. The goal is to understand the connections between human biology, behavior, and culture through an examination of the process of evolution.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S1 902

### **ANTH 210 Native American Cultures 3-0-3**

This course examines the variety of Native American cultures. It will use an anthropological perspective to examine linkages between the cultures and their environments, their histories (written, oral and archaeological), art, religion, social structures, kinship, and political systems. Current challenges to these cultures will be examined. It is designed to give students a broad overview of indigenous cultures in North America.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T

### **ANTH 250 Introduction to Archeology 3-0-3**

This course focuses on the theory and application of archaeology. Students will be concerned with interpretation of material remains of past cultures, and through the study of such evidence, attempt to recreate the history of humanity from its earliest past to determine the nature of cultural systems at different times and places. The nature of culture (material and non-material), excavation and dating techniques, major shifts in habitation patterns and subsistence techniques, and major prehistoric world civilizations are explored and emphasized.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S1 903

### **ANTH 299 Special Topics in Anthropology Variable up to (4)-0-(4)**

Special topics and issues in Anthropology presented through lectures, discussions, readings, and/or individual research. Topics vary each semester. Course may be taken more than once if different topics are covered.

Requisite: Sophomore standing and one course in Anthropology.  
Type: T

## Art

### **ART 101 Art Appreciation 3-0-3**

This course for non-art majors is an introduction to the visual arts and is intended to foster an appreciation of our Western art heritage. The focus will be on helping students understand and consequently appreciate how visual art works are made, as well as how they function or communicate within their societal context, both past and present.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 900

### **ART 102 Art Survey: Modern to Contemporary 3-0-3**

This course provides students with an overview of the major art movements and artists who shaped the art of the 19th and 20th centuries. The survey begins with the "roots" of modern art in Europe, particularly the "Paris School," and concludes with the contemporary art of the "New York School." Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 902

### **ART 103 Survey of Non-Western Art 3-0-3**

This course is a survey of the visual arts (painting, drawing, printmaking, sculpture and architecture) in selected non-Western societies. Included are the works of Neolithic/Paleolithic man; Oceanic; African; Native American; Mezzo-American; Eastern/Far Eastern to include Islamic; India; China and Japan. Emphasis will be on artistic, cultural, social, historical, and geographic contexts of the major non-Western societies. Successful completion of this course fulfills the non-Western culture requirement at SWIC.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 903N

### **ART 104 Art History I: Prehistoric-Gothic 3-0-3**

A survey of European and near Eastern Art covering prehistoric, ancient near East, Egyptian, Aegean, Greek, Etruscan, Roman, early Christian, medieval, Romanesque, and Gothic art. The course will utilize front screen projection, DVDs, PowerPoints, lectures, discussions, and a museum trip.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 901

### **ART 105 Art History II: Renaissance-Modern 3-0-3**

A survey of European art covering the following units: Renaissance, Baroque, Rococo, neoclassicism, and romanticism; realism, impressionism, post-impressionism, symbolism, and art nouveau; and 20th century art. The course will utilize front screen projection, DVDs, PowerPoints, lectures, discussions, and a museum trip.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 902

### **ART 106 History of Photography 3-0-3**

This course investigates the historical development of photography as an art form from 1839 to the present, including critical analysis of types of photographs and aesthetic movements in photography. Photographs are examined for their aesthetic and humanistic values, emphasizing photographers within their cultural and social contexts.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 904

### **ART 110 Women in Art-Medieval to Modern 3-0-3**

This course is a linear overview of the role of women artists in the history of the visual arts from medieval to modern times and the impact of these artists on the world of fine art.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F2 907D

### **ART 111 Basic Design I 1-5-3**

A studio course introducing an exploration of the elements and principles of two-dimensional design. The students will develop an understanding of compositional structure and their applications through a series of design related projects. The students will experiment with the use of line shape, texture, space, value and color. The course explores the possibilities and limitations of processes, materials and techniques as related to two-dimensional design in visual art. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-ART 907

## Course Description Guide (continued)

### **ART 112 Basic Design II** 1-5-3

A studio art course reinforcing the exploration of the elements and principles of design as they relate to three-dimensional approaches. The students will develop an understanding of compositional structure and its application through a series of projects. The students will experiment with the manipulation of line, form, texture, space, light, color, time and movement. The course explores the possibilities and limitations of materials and construction methods. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used.

Requisite: ART 111.  
Type: T, IAI-ART 908

### **ART 113 Ceramics I** 1-5-3

A studio course introducing clay as a medium of expression using ancient and modern forming techniques. The students will gain an understanding of hand building, wheel throwing, and alternative forming methods through application and practice. Emphasis will be placed on surface decoration through the application of stains, slips, engobes and glazes. Firing techniques including oxidation and gas reduction will be examined. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T

### **ART 114 Ceramics II** 1-5-3

A studio course reinforcing the content of Ceramics I: approaching clay in a more personal way focusing on the development of an individual approach to the medium. Emphasis will be placed on aesthetic development and proficiency in clay forming methods, surface applications, and kiln firing techniques. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: ART 113.  
Type: T

### **ART 116 Photography I** 1-5-3

An introductory course that covers the basic principles of black and white photography including equipment selection and use, image processing (wet and/or digital darkrooms), and the aesthetic concerns as a Fine Art medium. Framing, composition and exposure control for both traditional and/or digital equipment will be covered as well as an overview of the history of photography and its content as both a commercial medium and form of artistic expression. Basic manipulation skills and output will be linked to the technology utilized.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T

### **ART 120 Introduction to Computer Art** 1-5-3

This is an introductory course in computer art based on the fine art principles of design that is intended to provide students with a studio experience in which they will become familiar with the MAC operating system. Students will be exposed to the major computer applications that support art work in the field of computer art. These include Adobe Illustrator, Photoshop, Corel Draw, Painter, Sketchbook and Poser. Studio assignments will provide training in the practical applications of each of these programs.

Requisite: None.  
Type: T

### **ART 129 Typography** 1-5-3

This course will provide a beginning study of the art of typographical design and the refined use of typography as the communication tool of the graphic designer. Lectures will focus on the historical development of letter forms and their use in the designing of various typographical pieces meant for communication. Following discussions of letter design and typeface families, creative projects will be assigned that will involve the use of letter forms as key visual components, in designs, whose purpose it is to communicate in a creative way. These assignments will provide an opportunity for students to gain practice in the unique application of text, and the letter, as a design element.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T

### **ART 150 Drawing I** 1-5-3

An introduction to the fundamental concepts and techniques of drawing using a variety of black and white media will form the core content of this course. There will be a strong emphasis on introductory perceptual drawing skills such as perspective, spatial relationships, and contrast through line and value. The students will work directly with a still life and will not be drawing from photos. Coursework includes vocabulary development, critical analysis activities and references to historic models of drawing. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-ART 904

### **ART 200 Art Presentation and Portfolio** 1-0-1

An introductory course in the preparation and presentation of finished works of art, including the formal presentation of a body of artwork for the purpose of evaluation or transfer. The emphasis will be on teaching the fundamentals of framing and developing a creative yet technically sound portfolio. The course includes aesthetic implications as well as the practical and technical aspects of these important activities for artists.

Requisite: One studio art class.  
Type: T

### **ART 211 Painting I** 1-5-3

This course is an introduction to basic painting techniques, color principles and theory applied to the exploration of oil and/or acrylic painting media. Historic and contemporary methods will be examined and will serve as both models and standards. Skills and idea development are stressed. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: ART 111 or ART 150.  
Type: T

### **ART 212 Painting II** 1-5-3

Exploration and refinement are experiences stressed in this, a continuation of Painting I. Special emphasis is given to invention, color utilization and compositional studies. Oil painting methodologies to be explored include the indirect, alla prima and various contemporary approaches. Historical models are referenced throughout as standards for painting excellence. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: ART 211.  
Type: T

### **ART 213 Color Theory** 1-5-3

This course will provide an exploration of the fundamentals of color theory and its properties in two-dimensional and three-dimensional art. The students will attain an understanding of color systems, color concepts and their applications through a series of projects. The course will explore the possibilities and limitations of color usage in the visual arts and the development of personal color sensitivities. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used.

Requisite: ART 111 or ART 150.  
Type: T

### **ART 217 Photography II** 1-5-3

This course is a further introduction to photography and the visual language associated with the practice and cultural uses of the discipline in fine art photography. Lectures will focus on the formal design elements of photography; from composition, color and form to camera control operations; including control of aperture, depth of field, shutter speed, and focal length; and lastly, digital or film printing output. Students will utilize their digital still-image recording devices, which may range from camera phones to digital compact to the preferred DSLR cameras or SLR film camera. Use of nontraditional cameras (Holga, Diana and pinhole) in order to expand the vision of the photographer will be encouraged.

Requisite: ART 116.  
Type: T

## Course Description Guide (continued)

### **ART 218 Introduction to Sculpture 1-5-3**

This course is a basic introduction to sculptural materials, processes techniques and equipment. Includes a fundamental investigation of sculptural problems in the areas of modeling, casting, carving and fabrication. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used. Requisite: None. Type: T

### **ART 219 Sculpture II 1-5-3**

This course is a continuation of Sculpture I, approaching sculpture techniques in a more personal manner, focusing on the development of an individual approach to media. Emphasis will be placed on aesthetics related to contemporary and historical trends in sculpture. Individual projects focus on experimentation and research into the use of materials, tools and equipment appropriate to sculptural expression. Includes a fundamental investigation of sculptural problems in the areas of modeling, casting, carving and fabrication. Studio safety will be emphasized. There is an expectation that all studio-based courses include appropriate instruction in health and safety issues relative to the methods of course materials being used. Requisite: ART 218. Type: T

### **ART 230 Advertising Design I 1-5-3**

Involves basic problems in layout, label design, poster design and package design, as well as theory of advertising. May include computer applications. Requisite: None. Type: C

### **ART 231 Advertising Design II 1-5-3**

A continuation of Advertising Design I that emphasizes advanced advertising problems in two-dimensional and three-dimensional design. May include computer applications. Requisite: ART 230. Type: C

### **ART 232 Graphic Communications I 1-5-3**

This course focuses on the fundamental concepts and visual communication skills necessary for graphic communication. Students will create single and multiple page documents, both in black and white, and color, encompassing document construction, integration of word processing programs, working with images and typography, custom colors, and standard output. Also included is an introduction to the production of printed materials using illustrations and image manipulation software via computers. Requisite: ART 111 or ART 150 or ART 240. Type: T

### **ART 233 Graphic Communications II 1-5-3**

This course is an introduction to multi-graphic design. Emphasis is on the development of graphic abstractions, including digital and/or traditional photography, into both black and white, and color translations. Also covered is the use of 3-D and 4-D computer modeling applications to introduce concepts of kinetic imagery and motion graphics. Requisite: ART 232. Type: T

### **ART 239 Advanced Typography 1-5-3**

This second semester course will provide advanced instruction in the history, theory and practice of typography. Lectures will focus on the influence of visual art styles and technology on new font families that are created and introduced into the field of graphic design. Students will study best practices for using fonts that are available for their design work. Creative assignments will focus on the unique design possibilities of letterforms as images in pieces intended for mass communication. Requisite: ART 129. Type: T

### **ART 240 Digital Imaging I 1-5-3**

A basic introductory course in digital imaging based on the fine art principles of design. The course includes a study of historical methods of making prints and then interpreting these methods digitally; learning to appreciate graphic interpretation from the virtual to the real; and using computer applications to produce prints of high artistic merit. Requisite: Reading placement above ENG 91 or completion of ENG 91. Type: T

### **ART 241 Digital Imaging II 1-5-3**

A further investigation in digital imagemaking based on the fine art principles of design. The course includes research of historical methods of printmaking and interpreting these methods digitally; learning to appreciate graphic interpretation from the virtual to the real; and using applications to produce prints of high artistic merit. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used. Requisite: ART 240. Type: T

### **ART 250 Drawing II 1-5-3**

Introductory concepts will be continued from Drawing I as color is introduced in Drawing II. A strong emphasis will be on perceptual drawing skills from a still life. Special focus will be given to invention with color utilization and compositional studies. Historical models are referenced throughout as standards for drawing excellence. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used. Requisite: ART 150. Type: T, IAI-ART 905

### **ART 252 Life Drawing 1-5-3**

An introduction to the fundamental concepts and techniques of figure drawing using a variety of black and white and color media. Some skills and concepts explored will include: value, contour/line, space, mass/volume, form, gesture, proportion/scaling, perspective, and rendering surface qualities. Requisite: ART 111, ART 150. Type: T

### **ART 253 Life Drawing II 1-5-3**

This course is a further exploration of the concepts and techniques of Life Drawing I using a variety of black and white and color media. Skills and concepts will build upon the following: value, contour/line, space, mass/volume, form, gesture, proportion/scaling, perspective, and rendering surface qualities. In addition, there will be exploration with anatomy, planar structure, and spatial relationships. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used. Requisite: ART 252. Type: T

### **ART 260 Art for the Elementary Teacher 3-0-3**

A practical course for the elementary classroom teacher. Stresses practical classroom procedures using inexpensive materials that are easily obtainable, such as paper, soap, wire, metals, clay, wood, and papier-mache. Stenciling, block printing, silk screening and other techniques are studied. Decoration for special occasions featured. Requisite: Reading placement above ENG 91 or completion of ENG 91. Type: T

### **ART 290 Studio in Sculpture 1-5-3**

This course is a continued exploration of sculptural materials, processes techniques and equipment. Emphasis will be placed on idea development and gaining proficiency in the selection, use and manipulation of sculptural materials and processes. Continued emphasis will be placed on studio safety. The course of study is preparation for scholastic continuation in sculpture. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used. Requisite: ART 219. Type: T

## Course Description Guide (continued)

### **ART 291 Studio in Ceramics** 1-5-3

A studio course reinforcing the content of Ceramics II: approaching clay as a self-directed course of study further focusing on the development of an individual approach to the medium. Emphasis will be placed on continued aesthetic development and proficiency in clay forming methods, surface applications, and kiln firing techniques. The course of study is preparation for scholastic continuation in ceramics. There is an expectation that studio-based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: ART 114.

Type: T

### **ART 292 Studio in Drawing** 1-5-3

Continuation of Drawing I and II. Emphasis will be on individual direction, special problems, life drawing, and research.

Requisite: ART 250.

Type: T

### **ART 294 Studio in Painting** 1-5-3

A continuation of Painting II with more emphasis on personal expression and artistic development.

Requisite: ART 212.

Type: T

### **ART 295 Studio in Digital Imaging** 1-5-3

A course in digital imaging based on the fine art principles of design. The course includes a further study of historical methods of digital imaging and interpreting these methods digitally; learning to appreciate graphic interpretation from the virtual to the real; and using computer applications to produce prints of high artistic merit.

Requisite: ART 241.

Type: T

### **ART 297 Studio in Life Drawing** 1-5-3

This course is a continuation of Life Drawing I & II. Emphasis will be on individual artistic growth concerning different mediums, concepts, research and special problems. There is an expectation that studio based courses include appropriate instruction in health and safety issues relative to the methods of the course and the materials being used.

Requisite: ART 253.

Type: T

### **ART 298 Studio in Photography** 1-5-3

This course is a more focused approach to aspects of photography and the visual language associated with the practice and cultural uses of the discipline in fine art photography. Lectures will focus on the deeper understanding of the formal design elements of photography; from composition and form to camera control operations; studio lighting techniques in portraiture and small product. Students will utilize their digital still-image recording devices preferred DSLR cameras or SLR film camera.

Requisite: ART 217.

Type: T

### **ART 299 Special Topics in Art** Variable up to (4)-(5)-(4)

An in-depth study of various areas in art presented through lectures, discussions, and/or individual research by the students. Topics will vary. May include travel/study activities.

Requisite: ART 111.

Type: T

## Astronomy

### **ATY 101 Astronomy** 3-2-4

A one-semester course covering the fundamentals of descriptive astronomy. Topics include identification of heavenly bodies, astronomical instruments, cosmology, the composition of the universe, time, and the solar system.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 906L

## Auto Collision Repair Technology

### **ACRT 111 Non-Structural Repair I** 4-2-5

This course introduces the student to body preparation and the use of body fillers. The student will understand safety practices related to personal protection, how to interpret damage report information, how to protect panels and parts and how to remove dirt, wax, and corrosion from the repair area.

The student will also learn how to select and use filler materials and tools, prepare surfaces for body filler, prepare and apply body fillers, prepare and apply specialty fillers, and how to finish body fillers.

Requisite: None.

Type: C

### **ACRT 112 Non-Structural Repair II** 4-2-5

This course introduces the student to metal straightening principles and techniques and the procedures for door skin and intrusion beam replacement.

The student will learn how to straighten damaged metal, straighten damaged door frames, remove and replace welded door skins and bonded door skins, and replace door intrusion beams.

Requisite: ACRT 111.

Type: C

### **ACRT 113 Non-Structural Repair III** 2-2-3

This course introduces the student to auto body hardware and trim and allows them to make good decisions when selecting trim removal/replacement tools and techniques so that other body parts are not damaged during the process of trim removal and replacement. The hardware and trim items covered during this course are: interior door trim panel, door locks and handle assemblies, deck lid lock cylinders, exterior trim and moldings, vinyl/Landau tops, pinstripes, decals and emblems, headlines, and other interior accessories.

Requisite: ACRT 111.

Type: C

### **ACRT 114 Non-Structural Repair IV** 3-2-4

This course introduces the student to body panel replacement and repair. The student will learn how to safely remove, align, replace, and repair a variety of body panels and parts, such as bumpers, facias, header panels, hoods, deck lids, hatches, fenders, doors, tailgates, and quarter panels.

Requisite: ACRT 111.

Type: C

### **ACRT 115 Plastic Repair** 4-2-5

This course covers all aspects of plastic repair, including the application of plastic welding, sheet molded compounds, adhesives, and plastic refinishing.

The student will learn how to weld certain types of plastic, how to repair SMC, how to identify, select, and apply adhesives, and how to prepare and refinish plastics.

Requisite: None.

Type: C

### **ACRT 121 Automotive Damage Analysis** 4-2-5

This course introduces the student to the various types of vehicle damage. The student will learn how to interpret body dimension specification sheets and apply this knowledge by using a variety of diagnosing, measuring, and gauging methods and systems.

Requisite: None.

Type: C

### **ACRT 122 MIG Welding** 3-2-4

This course provides the student with a complete understanding of the MIG welding (GMAW) process. It covers safety practices, both personal and vehicular, used in this process. The student will learn to tune the welder and perform butt and lap joint welding as well as plug welding. This course concentrates on the heat joining process as it particularly applies to the automotive repair process.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **ACRT 123 Straightening Structural Parts 3.5-3-5**

This course is designed to familiarize the student with the knowledge and skills necessary to straighten vehicle structural parts. The student will learn how to mount and anchor a vehicle to a pulling system, and pull and straighten front, rear, side, and roof damaged parts. Understanding and knowledge of working with high-strength steel will be emphasized.

Requisite: ACRT 121, ACRT 122.

Type: C

### **ACRT 124 Panel Replacement I 1-2-2**

This introductory course will provide the student with an understanding of the principles of full or partial panel replacement. The student will be able to select and understand various types of metal joining techniques used in sectioning.

Requisite: ACRT 123.

Type: C

### **ACRT 125 Panel Replacement II 3-2-4**

This course is a continuation of ACRT-124 concentrating on repair or replacement of rail assemblies and sections. Emphasis will be placed on techniques used in aligning and welding new or repaired rail assemblies and sections. The student will be responsible for vehicle preparation, repair, and final inspection procedures.

Requisite: ACRT 124.

Type: C

### **ACRT 126 Panel Replacement III 3-2-4**

This course is the final course in a series of three covering full or partial panel replacement. This course will focus on the repair or replacement of rocker panels, A-pillars, B-pillars, floor pans, and trunk floors to manufacturers' specifications. The student will be involved with the process of surveying damage, planning the repair, and following through with the plan to completion. Measurement, layout, and welding will be emphasized in this course.

Requisite: ACRT 125.

Type: C

### **ACRT 131 Automotive Refinishing I 3.5-1-4**

This course introduces the student to the paint refinish process for automobiles. It covers EPA and OSHA requirements for working with paints and solvents and focuses heavily on personal safety requirements as well as handling procedures for toxic materials. Students learn to identify finish systems and how paint booths and refinish spray equipment works. In addition, the student will learn detailing techniques.

Requisite: None.

Type: C

### **ACRT 132 Automotive Refinishing II 2-2-3**

This course is one of four courses covering automotive refinishing. It teaches the student the importance of planning and preparation prior to applying paints. The student will learn how to plan a refinish job, how to prepare the refinish area, and how to prepare the paint and paint equipment prior to application.

Requisite: ACRT 131.

Type: C

### **ACRT 133 Automotive Refinishing III 2.5-3-4**

This course introduces the student to the application techniques for final paint refinishing. The student will learn how to prepare the surface for topcoat system application, apply the primer sealer, apply the single stage finish, apply basecoat/clearcoat finish, and apply tri-coat finish.

Requisite: ACRT 132.

Type: C

### **ACRT 134 Automotive Refinishing IV 2.5-3-4**

This course introduces the student to paint blending. The student will learn how to prepare a surface for blending, how to match colors, and how to carry out blending procedures for various types of paint finishes to standards required by industry.

Requisite: ACRT 133.

Type: C

### **ACRT 141 Steering and Suspension I 1-2-2**

This course introduces students to steering systems, diagnoses, and service. The student will study tire and wheel construction and steering geometry. Steering systems study will include parallelogram steering systems and rack and pinion steering systems. In addition, power steering systems will also be studied.

Requisite: None.

Type: C

### **ACRT 142 Steering and Suspension II 2-2-3**

This course introduces students to suspension systems. The course material will cover short/long arm suspension systems, rear suspension systems, strut type suspensions, frame and cradle assemblies, wheel alignment angles and measurements, front wheel alignment adjustments, rear wheel alignment angles and adjustments, and adjustable suspension systems.

Requisite: ACRT 141.

Type: C

### **ACRT 143 Mechanical Systems I 2-2-3**

This course introduces collision repair people to some of the mechanical systems that may be encountered as part of a collision repair job. Specifically, this course covers brake systems and restraint systems. The student will learn how to diagnose and service air bag systems, seat belt systems, restraint system mount points, disk brakes, drum brakes, power brake systems, anti-lock brake systems, and parking brakes.

Requisite: None.

Type: C

### **ACRT 144 Mechanical Systems II 3-2-4**

This course introduces collision repair people to some of the mechanical systems that they may encounter as part of their collision repair work. Specifically, this course covers air conditioning systems and drive trains. Students will learn how to diagnose and service air conditioning systems and drive trains.

Requisite: None.

Type: C

### **ACRT 201 Automotive Repair Internship 0-20-4**

This course provides experience for students participating in the area of automotive collision repair. Each student will be placed with a cooperating business associated with this particular industry. The student will work with experienced supervisory personnel on a one-to-one basis. The student will be required to work a minimum of 320 clock hours per semester.

Requisite: Department consent.

Type: C

### **ACRT 222 ACRT Advanced Welding 1-4-3**

This course provides the student with a complete understanding of the MIG welding (GMAW) process. It covers safety practices, both personal and vehicular, used in this process. The student will learn to tune the welder and perform butt and lap joint welding as well as plug welding. This course concentrates on the heat joining process as it particularly applies to the automotive process.

Requisite: ACRT 122.

Type: C

### **ACRT 299 Problems in Auto Collision Repair Variable up to (4)-0-(4)**

This course is designed to meet the needs of students requiring instruction on special topics or problems in the automotive collision repair industry. This course will provide the student with the knowledge and/or skills necessary to address the particular topics or problems as outlined in the course syllabus.

Requisite: None.

Type: C

## Aviation Maintenance Technology

### **AVMT 106 FAA Test Prep - Airframe 4-0-4**

This course is designed to prepare individuals with sufficient aviation industry experience for the Federal Aviation Administration written examination for the Aircraft Mechanic Airframe certification.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **AVMT 107 FAA Test Prep – General 4-0-4**

This course is designed to prepare individuals with sufficient aviation industry experience for the Federal Aviation Administration written examination for the Aircraft Mechanic Airframe or Powerplant certification. This written examination is required in conjunction with either the Airframe or Powerplant certificate.

Requisite: None.  
Type: C

### **AVMT 108 FAA Test Prep – Powerplant 4-0-4**

This course is designed to prepare individuals with sufficient aviation industry experience for the Federal Aviation Administration written examination for the Aircraft Mechanic Powerplant certification.

Requisite: None.  
Type: C

### **AVMT 121 Instruments and Navigation Systems 2-2-3**

Handling and stowing of instruments, static system leak tests, instrument systems, autopilots and approach control systems, communication and navigation equipment, FCC regulations, antennas and related electronic equipment, static discharges, soldering, brazing, welding of steel, tubular steel fabrication, soldering stainless steel, and welding of magnesium and titanium.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 122 Fuel Systems, Inspection & Aircraft Rigging 2-2-3**

Deicing and anti-icing systems, pitot static systems, fuel tanks, fuel valves and pumps, fuel system component repair, fuel quantity indicating system, pressure fueling systems, fuel dump system, fuel transfer and defueling, fuel pressure and temperature warning systems, and aircraft inspection procedures. Also included are fixed- and rotary-wing nomenclature, theory of flight, structure alignment, control cable and terminals, flight control cable system, control surface balancing, and push-pull control systems.

Requisite: None.  
Type: C

### **AVMT 126 Aircraft Non-Metallic Structures 2-2-3**

Aircraft wood defects, glues and gluing techniques, wood structures, protective finishes, fabric covering, applying of aircraft primers and paints, honeycomb and bonded structure repair, fiberglass repair, acrylic and acetate plastic repair, pressure door seal repair, seat mechanisms, and seat belt installation.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 127 Aircraft Metallic Structures 2-2-3**

Conventional aircraft riveting, FAA specifications, special rivets and fasteners, hi-shear rivets and deicer boot fasteners, aircraft sheetmetal layout and bending, twist drill nomenclature and drilling techniques, fuselage and wing structures, stressed skin repair, and watertight joint repair.

Requisite: None.  
Type: C

### **AVMT 131 Aircraft Electrical Systems 2-2-3**

Topics include basic DC electrical theory, series and parallel circuits, FAA acceptable wiring techniques, aircraft component wiring, electrical controls and indications, multi-meter operation, AC and DC systems, aircraft schematics, and digital systems theory.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **AVMT 132 Charging Systems & Environmental Systems 2-2-3**

Aircraft electrical system components, constant speed and integrated speed drive generators, operation and control of cabin pressurization, operation of aircraft air conditioning systems, aircraft combustion heaters, and the inspection and servicing of oxygen systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 136 Aircraft Fluid Power Systems 2-2-3**

Hydraulic fluid identification, seals, selector valves, pressure regulators, pneumatic power system, basic hydraulic system physics, constant pressure and open center hydraulic systems, reservoirs, constant and variable displacement pumps, accumulators, hydraulic system troubleshooting, takeoff warning systems, antiskid systems, landing gear position indicating systems, smoke and carbon monoxide detectors, fire detection and fire extinguishing systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 137 Landing Gear Systems 2-2-3**

Mounting and demounting of aircraft tires, hydraulic type brake assemblies, brake actuating cylinders, master cylinders, power brake and emergency brake systems, landing gear oleo shock struts, retractable landing gear systems, and steering and damping mechanisms.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 140 Materials, Processes & Fabrication 2-2-3**

A study of tools, precision tools, aircraft hardware, structural materials used in the maintenance and repair of aircraft, including inspection and application of the various non-destructive testing methods. Understanding and fabrication of aircraft tubing and fluid hose used in gas and fluid systems is part of this course.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### **AVMT 145 Basic Electricity & Technology 2-2-3**

The study of the theory and laws of basic electricity, components, circuits, and practical knowledge of various types of complex circuitry. Introduction to weight and balance theory, computations, and application is included.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **AVMT 150 Fundamentals & Operations 2-2-3**

An emphasis on fundamental mathematics including exponentials, algebraic equations, trigonometry, charts, and graphs. This study includes aircraft drawings highlighting the importance of various drafting views, sectioning, area dimensions, and reading of blueprints, sketches, and basic drawings. An opportunity is given for students to understand aircraft servicing procedures, aircraft safety precautions, and aircraft ground handling.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **AVMT 155 Regulations & Science 2-2-3**

A presentation of the laws of physics with an aviation emphasis on the properties of solids, liquids, and gases and the theory and understanding of corrosion, corrosion control inhibitors, and treatments. Identification of Federal Aviation Regulations, mechanics privileges, and maintenance publications, forms, and records.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **AVMT 157 Turbine Engines 2-2-3**

Newton's laws, Brayton cycle, overhaul and installation of turbojet and turbofan engines, overhaul and installation of turboshaft and turboprop engines, compressors, diffusers, combustion chambers, turbine blades and nozzles, exhaust nozzles, compressor surge/stall, unducted fan systems, and auxiliary power units.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

## Course Description Guide (continued)

### AVMT 158 Ignition and Starting Systems 2-2-3

Magnetos, magneto breaker assemblies, high tension leads, impulse couplings, ignition switches, ignition harness testers, ignition booster systems, aircraft spark plugs, ignition analyzers, condensers, ignition coils, turbine engine ignitors, electrical starting systems, turbine engine starting systems, and pneumatic starting systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 171 Aircraft Powerplant Systems & Components 2-2-3

Induction system icing, carburetor preheat systems, turbine engine induction anti-icing systems, superchargers, turbochargers, heat exchangers, aircraft induction filtering systems, reciprocating and turbine engine exhaust systems, thrust reversers, afterburners, noise suppressors, exhaust system components, reciprocating and turbine engine lubrication systems, wet and dry sump lubrication systems, lubrication system components, and reciprocating and turbine engine cooling systems, and fire protection systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 172 Aircraft Fuel Metering Systems 2-2-3

Float-type carburetors, pressure-type carburetors, fuel injection systems, carburetor adjustments, turbine engine trimming, venturi principles, fuel metering components, discharge nozzles, turbine engine fuel nozzles, float adjustments, electronic engine fuel controls, and reciprocating and turbine engine fuel pumps.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 176 Aircraft Propellers 2-2-3

Students will study aircraft propeller operating principles, fixed pitch propellers, hydromatic propellers; constant speed propellers, feathering and reversing systems, propeller repair, turbine engine propeller systems, tracking, governors, propeller synchronizing and ice control systems, anti-icing systems, lubricants, balancing, and propeller control systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 177 Aircraft Powerplant Systems 2-2-3

This course will cover temperature indicating systems, aircraft engine instrumentation, thermocouple and resistance/ratiometer temperature indicating systems, pressure indicating systems, engine rpm systems, engine inlet and outlet temperature indicating systems, pressure indicating and warning systems, fluid rate-of-flow indicating systems, acceptable wiring techniques, electrical controls, and aircraft electrical system components.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 186 Reciprocating Engine Overhaul 2-2-3

Students will study Otto cycle, cylinder nomenclature, valve springs, timing valves and valve over-lap, bearings, engine accessory drives, reciprocating engine overhaul, crankcase assemblies, piston and knuckle pin retainers, cams and cam-followers, crankshaft inspection, volumetric efficiency, firing order, crankshaft and rod assemblies, and propeller reduction systems.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 187 Reciprocating Engine Maintenance 2-2-3

This course will cover reciprocating engine installation, engine controls, dynamic engine mounts, oil pressure adjustment, oil dilution system, ignition check, magneto timing, idle speed and mixture, compression check, valve clearances and valve timing checks, engine starting procedures, reciprocating engine servicing, and engine conformity with specifications.

Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: C

### AVMT 299 Special Topics in Aviation Maintenance Variable up to (4)-(4)-(4)

This course will cover special topics or problems in the aviation maintenance field and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.

Requisite: None.  
Type: C

## Aviation Pilot Training/Aviation Management

### AVIA 101 Private Pilot Flight Theory 3-0-3

An introductory course designed to provide the student with the basic theory of flight, aircraft design and aircraft control. This course also introduces basic meteorology, pilotage, dead reckoning and electronic navigational skills, the flight computer, cross country planning along with the Federal Aviation Regulations that pertain to private pilots. At the completion of this course, the student will have gained the knowledge and skills required to successfully pass the Federal Aviation Administration Private Pilot Airplane written exam.

Requisite: None.  
Type: C

### AVIA 102 Flight Training Private Part I 2-0-2

Flight instruction in pre- and post-solo phases of private pilot training. Instruction on specific procedures and maneuvers will prepare the applicant for solo flight in the local area. (Available for course credit)

Requisite: Concurrent enrollment in or completion of AVIA 101, AVIA 103.  
Type: C

### AVIA 103 Simulator Private 1-0-1

During this course the student will train individually with the instructor in acquiring an operational introduction of the primary aircraft maneuvering skills along with mastering many of the flight operations needed prior to conducting the first solo flight. In addition, the student will develop the ability to control the aircraft solely by reference to flight instruments. He/she will also learn the operation and utilization of basic electronic navigational systems for cross country flight operations.

Requisite: None.  
Type: C

### AVIA 104 Flight Training Private Part II 3-0-3

Instruction on specific procedures and maneuvers that will prepare the applicant for cross country, night flight and FAA Private Pilot license. (Available for course credit)

Requisite: AVIA 102.  
Type: C

### AVIA 105 Introduction to Civil Aviation 3-0-3

An in-depth study of the structure of Civil Aviation through the examination of Commercial Air Carrier Operations. Specific requirements of the air carrier's management structure and operating guidelines under the Federal Aviation Administration are introduced. Airworthiness specifications along with specific maintenance practices pertaining to operations under Part 121 of the Federal Aviation Regulations are reviewed.

Requisite: None.  
Type: C

### AVIA 108 Aviation History 3-0-3

A chronological review of the history of aviation beginning with the first balloon flight in 1783 continuing through the development of the modern turbofan jet transport airplane. This course covers the advancement of aircraft through the technological research by the military and space flight developments.

Requisite: None.  
Type: C

### AVIA 111 Private Pilot Flight Theory Helicopter 3-0-3

AVIA 111 is an introductory course designed to provide the student with the basic theory of helicopter flight operations, aircraft design, components, aerodynamics, and safe flight operations. This course also introduces the meteorological aspects related to flight, weather reports, forecasts and data available to the flight. The student will receive training to develop proficiency in local and cross country VFR flight operations utilizing proper aircraft operation and performance data. The student will also become familiar with the Federal Aviation Regulations that govern flight operations. At the completion of this course the student will have gained the required knowledge to successfully pass the FAA knowledge exam for Private Pilot Helicopter.

Requisite: None.  
Type: C

## Course Description Guide (continued)

### **AVIA 112 Flight Training Private Helicopter Part I 2-0-2**

During this course the student develops the ability to conduct the first solo flight operation. The student will receive instruction on ground operations, basic flight maneuvers, in-flight emergencies, flight using ground references, takeoffs, traffic patterns and landings.

Requisite: Concurrent enrollment in or completion of AVIA 111.

Type: C

### **AVIA 113 Simulator Private Helicopter 1-0-1**

During this course the student will train individually with the instructor in acquiring an operational introduction of the primary aircraft maneuvering skills. In addition the student will master many of the flight operations needed prior to conducting the first solo flight. He/She will also practice emergency procedures to a level of proficiency before solo flight.

Requisite: None.

Type: C

### **AVIA 114 Flight Training Private Helicopter Part II 2-0-2**

During AVIA 114, the student will receive instruction in all operations and procedures required at the Private Pilot level. Training will include local and cross-country flights, operations into unfamiliar airport, auto rotation landing procedures, confined areas, pinnacle operation and night operations. At the completion of the course the student must develop the ability to successfully accomplish the practical FAA test.

Requisite: Concurrent enrollment in or completion of AVIA 111 and AVIA 112.

Type: C

### **AVIA 122 Aircraft Systems and Components 2-0-2**

An in-depth study of the systems installed on single-engine general aviation aircraft certified under FAR Part 23. Subjects include aircraft certification, construction, flight controls, engine design and operation, fuel systems, basic hydraulics, electrical systems, instruments and landing gear. This course is designed to provide flight students and certified pilots a thorough understanding of systems and prepares the individual for the advanced AVIA 222 Transport Aircraft Systems course.

Requisite: None.

Type: C

### **AVIA 131 Air Traffic Control Systems 3-0-3**

This course outlines the development of the Air Traffic Control system along with many of the FAA rules and regulations governing visual and instrument flight. This course includes a review of the intricate procedures, rules, systems and phraseology used today for controlling air traffic and provides a brief look at future requirements in the domestic and international arena. This course is a basic systems course providing current and future pilots, air traffic controllers and individuals pursuing a career in aviation, a background in the National Airspace System. Normally complemented by a field trip to a local air traffic facility.

Requisite: None.

Type: C

### **AVIA 133 Human Factors in Aviation 3-0-3**

Human factors in aviation consist of a study of the physiology of flight and related operations in aviation. This course provides an in-depth study of the human element and how we interact with the various factors that affect safety and performance.

Requisite: None.

Type: C

### **AVIA 141 Federal Aviation Regulations 3-0-3**

A study of the Federal Regulations under the Title 14 Code of the Federal Register that regulates Civil Aviation. Applicable parts of the Federal Aviation Regulations that include Definitions, General Aviation, Commercial Aviation, Training Requirements along with the National Transportation Safety Board Reporting Requirements are covered in this course.

Requisite: AVIA 101.

Type: C

### **AVIA 151 Commercial Pilot Flight Theory 3-0-3**

An advanced course preparing the student for the commercial pilot written examination. Advanced instruction on weight and balance, advanced meteorology, flight computer, navigation and radio, federal aviation regulations and aircraft systems. Advanced use of computers for weather and flight planning is emphasized. To complete this course the student is required to take the FAA commercial pilot written examination.

Requisite: AVIA 101.

Type: C

### **AVIA 153 Simulator Intermediate 1-0-1**

During this course the student will continue to develop proficiency in execution of the required flight operations in preparation for the completion of training for the Private Pilot Certificate. Emphasis will be placed on related visual reference and instrument reference operations for continued development of the basic attitude instrument flight skill proficiency requirements. The student will also develop his/her ability to conduct additional in-depth navigational functions utilizing VOR and Global Positional navigational systems with emphasis on the Garmin GNS 430 Global Navigation System.

Requisite: AVIA 103.

Type: C

### **AVIA 154 Flight Training, Commercial I 3-0-3**

Flight instruction in all phases of commercial pilot training including complex aircraft. The student will be required to complete 50 hours of cross-country flight under the supervision of a flight instructor. (Available for course credit)

Requisite: Department consent.

Type: C

### **AVIA 155 Flight Training, Commercial II 2-0-2**

Instruction on specific procedures and maneuvers that will prepare the applicant for an FAA Commercial Pilot License. This course is based on the applicant obtaining an FAA Instrument Rating before enrolling in this course. (Available for course credit)

Requisite: Department consent.

Type: C

### **AVIA 160 Aviation Management I 3-0-3**

Introductory course in air transportation management that introduces the characteristics, scope and economic significance of the aerospace industry and its major segments. Provides an historical perspective of the U.S. airlines, air transportation, regulators and associations and the general aviation industry. Includes a study of the roles played by federal agencies that interface with the air transportation industry. The Department of Transportation, the Federal Aviation Administration and the National Transportation Safety Board.

Requisite: None.

Type: C

### **AVIA 161 Commercial Pilot Flight Theory Helicopter 3-0-3**

An advance course that prepares the student to successfully complete the Commercial Helicopter Knowledge Exam. Subject matter includes: flight operations, aviation weather, emergency procedures and flight maneuvers. Instruction also includes advanced aerodynamics, engine operations, instruments, the flight environment, safe airport operations, communications, regulations, airspace, advanced meteorology, aircraft performance, charts and aeronautical decision making. The course also includes advanced air navigation, flight planning, safe cross-country flight operations and flight related hazards. The student will develop the ability to make quick, decisive and mature decisions in normal flight as well as in emergency situations.

Requisite: AVIA 111, AVIA 112, AVIA 114, AVIA 211 and AVIA 212.

Type: C

### **AVIA 163 Simulator Intermediate Helicopter 1-0-1**

During this course the student will develop proficiency in execution of the required flight operations for the Instrument/Commercial Pilot Certificate. Emphasis will be placed on the related visual reference maneuvers and instrument reference operations for continued development of the basic attitude instrument flight skill proficiency requirements. The student will also develop his/her ability to conduct additional in-depth navigational functions utilizing VOR and Global Positioning Navigational systems with emphasis on the Garmin Navigational System.

Requisite: AVIA 113 or hold a Private Pilot Rotary Wing Pilot Certificate.

Type: C

## Course Description Guide (continued)

### **AVIA 201 Instrument Flight Theory 3-0-3**

A complete study of instruments, systems, advanced meteorology, instrument-flight charts, clearance shorthand, IFR planning, approach procedures, IFR regulations, and data related to instrument flight. To complete this course the student is required to take the FAA instrument pilot written examination.

Requisite: AVIA 101.

Type: C

### **AVIA 202 Flight Training Instrument 3-0-3**

The student is introduced to all phases of instrument flying such as straight and level flight, climbs, descents, spirals, stalls, recovery from unusual altitudes, communications, navigation and approaches. All phases in this program are completed in the airplane under the instructor's guidance.

(Available for course credit)

Requisite: AVIA 201, AVIA 203.

Type: C

### **AVIA 203 Simulator Instrument 1-0-1**

During this course the student will become familiar with the instrument flight enroute and approach procedures required of an instrument rated pilot. The student will perform a series of instrument holds, VOR, nondirectional beacon and instrument landing system approaches in a BATD flight trainer.

Requisite: AVIA 103, AVIA 153.

Type: C

### **AVIA 205 Garmin GNS 430 VFR Operations 0.5-0-0.5**

This course will introduce the student operating under visual flight rules to the operational concepts, terminology and user functions of the worldwide Global Positioning System for aircraft in-flight navigation. Students will become familiar and proficient with the features, controls, range displays, menus, flight planning and navigational source displays along with the user functions of the VHF communication radio and VOR function of the Garmin GNS 430 system.

Requisite: None.

Type: C

### **AVIA 207 Garmin G 1000 System Training 0.5-0-0.5**

This course consists of a system overview of the components, line replaceable units and functional displays of the Garmin G1000 Integrated Flight Display and Global Navigational System for both VFR and IFR pilot operations. Instructional topics include the function of each LRU and the data that it provides for the integrated Primary and Multi-Function Flight Displays.

Instructional topics also cover the data input sources for the G1000 integrated system and functional inputs to the panel displays.

Requisite: None.

Type: C

### **AVIA 208 Simulator-Garmin GNS 1000 VFR 0.5-0-0.5**

This course consists of eight hours of VFR operational training for the Garmin GNS 1000 Global Navigational System. The student will become familiar with the operation of the GNS 1000 along with the interpretation of aircraft operational and flight data displayed on the Primary and Multi-Function displays. The student will develop competency in operation of the GNS 1000, menus and menu pages that contain the operational functions of the GNS 1000. The student will also become competent in aircraft control by reference to instrumentation as displayed on the Primary Flight Display and Multi-Function Flight Displays. Both terminal and cross country operations will be covered. Instructional topics will also cover emergency procedures and system resolution.

Requisite: AVIA 207.

Type: C

### **AVIA 209 Simulator-Garmin GNS 1000 IFR 0.5-0-0.5**

This course consists of eight hours of IFR operational training for the Garmin GNS 1000 Global Navigational System. The student will become proficient in the operation and function of the GNS 1000 system that includes Waypoint storing or deletion, flight plan development, RAIM prediction, vertical navigation, holding, GPS approaches, ILS approaches, VOR approaches and missed approach procedures.

Requisite: AVIA 208.

Type: C

### **AVIA 211 Instrument Flight Theory Helicopter 3-0-3**

The purpose of this course is to develop the student understanding of flight instruments, human factors and safe and efficient operation under instrument flight rule operations. Training also focuses on Instrument navigation, approaches, enroute operations along with the air traffic control system. Federal Regulations for instrument flight, helicopter Instrument operations, Aviation Weather along with the recognition of critical weather conditions are also a major area of study.

Requisite: AVIA 111, AVIA 112, AVIA 114 or hold a Private Pilot Rotary Wing Pilot Certificate.

Type: C

### **AVIA 212 Flight Training Instrument Helicopter 3-0-3**

This course prepared the student for the instrument rating through two stages of training. During Stage I the student will receive instruction on preflight preparation, preflight procedures, air traffic control clearance and procedures, flight by reference to instruments, navigation systems and instrument approach procedures. Stage II will provide instruction on instrument procedures, enroute procedures and in-flight emergency. At the completion of this course the student must develop the ability to successfully accomplish the FAA practical test.

Requisite: AVIA 211 and hold a Private Pilot Rotary Wing Pilot certificate.

Department consent.

Type: C

### **AVIA 213 Instrument Training - Part I 1.5-0-1.5**

This is a 20-hour FAA-approved loggable training course in a Flight Device with an FAA Certified Flight Instructor. The time logged in this course applies toward the FAA requirements of FAR Part 61.65(e)(2) instrument rating.

Requisite: Department consent.

Type: C

### **AVIA 214 Instrument Flight Training - Part II 1.5-0-1.5**

An equivalent training credit course. This course is designed to provide the student equivalent credit for the completion of the Instrument Pilot Flight Certification after the student completes the AVIA 213 20-hour simulator course. AVIA 214 will grant the student equivalent credit for the completion of the Instrument Flight Training resulting in the issuance of the FAA Airplane Instrument Rating.

Requisite: AVIA 213.

Type: C

### **AVIA 216 Advanced Instrument Approaches 1-0-1**

This course is designed to provide the student with a review of VOR, NDB, and ILS approaches and to gain measurable proficiency in the execution of Localizer Back Course Approaches, DME Arc Approaches and Global Positioning System Approaches. This course can be applied toward the 50-hour simulator allowance authorized by FAR Part 61.129 (i)(1) for the Commercial Pilot Airplane Certification.

Requisite: Department consent.

Type: C

### **AVIA 217 Instrument Departures and Arrivals 1-0-1**

This course enhances the student's ability and experience to perform published standardized instrument Departure Procedures and Standard Instrument Arrival Procedures while transitioning to and from the enroute flight phase.

The student will spend a minimum of 10 hours with an FAA-Certified Instrument Flight Instructor in an FAA-approved Flight Training Device conducting simulated instrument flight conditions. This course can be applied toward the 50-hour simulator allowance authorized by FAR Part 61.129(i)(1) for the Commercial Pilot Airplane Certification.

Requisite: Department consent.

Type: C

## Course Description Guide (continued)

### **AVIA 220 Instrument Currency and Review 0.5-0-0.5**

A multi-functional eight-hour course designed to review Instrument Flight Operations. This course consists of four hours of loggable dual instrument review in an FAA Certified Flight Training Device that covers holding, course intercepts and tracking through use of navigational systems, non-precision and precision approach procedures. A written and oral review of the Instrument Operations and Federal Regulations that pertain to instrument flight will be included. This course can serve to provide proficiency prior to a corporate or air carrier interview simulator check or to fulfill instrument currency and proficiency.

Requisite: Department consent.

Type: C

### **AVIA 222 Transport Aircraft Systems 3-0-3**

Transport Aircraft Systems is a General Familiarization course similar to an airline ground training course based on the systems incorporated on the Bombardier CRJ 700 or Embraer ERJ 145 Regional Jetliner. (Consult with the program coordinator regarding the type aircraft taught during the planned enrollment semester). The Transport Aircraft systems course is designed for individuals who are planning a career in Commercial Aviation as a pilot or maintenance technician and desire to gain an in-depth understanding of the systems incorporated on FAR Part 25 aircraft. Subject areas covered include aircraft construction, air-conditioning, pressurization, electrical, flight controls, hydraulics, landing gear, pneumatics, fuel systems, ice and rain protection, navigation, fire protection, auxiliary power and power plants.

Requisite: Department consent.

Type: C

### **AVIA 232 Air Traffic Controller Training 3-0-3**

Preparatory Course in fundamentals of Air Traffic Control and the National Airspace System. Students are introduced to the intricate procedures, rules, systems and phraseology used today for controlling air traffic in the domestic and international arena. This course is complimented by one or more field trips to local traffic facilities.

Requisite: AVIA 131.

Type: C

### **AVIA 240 Aircraft Dispatcher Practical I 3-0-3**

This course prepares the student for the FAA Dispatcher computer test to include: Regulations, Equipment, Navigation & Facilities, Aerodynamics, Performance, Weight and Balance, Flight Operations, Emergencies, Hazard & Flight Physiology, Meteorology & Weather Service, based on the Federal Aviation Regulations, ASA and Gleim Test Prep Books.

Requisite: AVIA 101, AVIA 131, AVIA 141, AVIA 201, AVIA 260 or equivalent transfer credit in each.

Type: C

### **AVIA 241 Aircraft Dispatcher Practical II 3-0-3**

This course is designed to prepare the student for the FAA oral/practical exam to include: Flight Planning/Dispatcher Release, Preflight, Takeoff and departure, Inflight Procedures, Arrival, Approach and Landing Procedures, Post Flight Procedures, Abnormal and Emergency Procedures and Practical Dispatch Applications.

Requisite: AVIA 101, AVIA 131, AVIA 141, AVIA 201, AVIA 240, AVIA 260 or equivalent transfer credit in each.

Type: C

### **AVIA 251 Flight Instructor Theory 3-0-3**

An introduction to the fundamentals of flight instruction. A study of the performance and analysis of flight-training maneuvers. Prepares the pilot for the flight instructor written examination.

Requisite: AVIA 151, AVIA 201.

Type: C

### **AVIA 252 Flight Training – Instructor 3-0-3**

Flight instruction in preparation for the Flight Instructor Certificate. The material studied in AVIA 251 is applied in this course (available for course credit).

Requisite: Department consent.

Type: C

### **AVIA 254 Flight Train-Instrument Instructor 3-0-3**

Flight instruction in preparation for the addition of an instrument instructor rating to a flight instructor certificate (available for course credit).

Requisite: Department consent.

Type: C

### **AVIA 255 Flight Train-Multi Engine Instructor 3-0-3**

Flight instruction in preparation for the addition of a multi-engine rating to a flight instructor certificate (available for course credit).

Requisite: Department consent.

Type: C

### **AVIA 260 Aviation Meteorology 3-0-3**

This course provides current and future pilots an in-depth look at basic meteorological fundamentals. Discover the driving forces behind the global weather picture and the impacts on aviation pre- and in-flight weather. Subject matter covers basic atmospheric dynamics, weather chart analysis, storm structure, flight weather hazards and aviation weather products. The course has interactive lab activities including a comprehensive flight weather evaluation.

Requisite: None.

Type: C

### **AVIA 261 Aviation Management II 3-0-3**

Undergraduate course in airline management that builds on the AVIA 160 Aviation Management I (Introduction to Air Transportation).

This course provides an in-depth analysis of the airline characteristics, scope and economics focusing on airline management technical tools and management functions. Provides an historical perspective of the U.S. airlines, air transportation and regulators and associations. Familiarizes students with the US airline industry, management, organization and studies forecasting methods, marketing, scheduling, fleet planning, financing and labor relations. Examines basic management functions of planning, organizing and directing with a focus on airline management.

Requisite: AVIA 160.

Type: C

### **AVIA 262 Aviation High Altitude Meteorology 3-0-3**

Aviation High Altitude Meteorology consists of a study of high altitude weather systems and phenomena that exists primarily above 25,000 feet and the resultant effects on surface weather features. This course provides an overview of general atmospheric meteorology and climatology on a global basis encountered during enroute and terminal flight operations primarily by flight crews utilizing turbine aircraft. An in-depth study of obtaining global weather conditions and forecasts for pilots is also included.

Requisite: AVIA 260.

Type: C

### **AVIA 263 Flight Training Commercial Helicopter Part I 2-0-2**

During this course the student will initially refresh and reinforce helicopter maneuvers learned during the Private Pilot Training. The student will receive advanced instruction on ground operations, basic flight maneuvers, in-flight emergencies, flight using ground references, takeoffs, traffic patterns and landings. The student will also begin cross-country flight operations for the commercial certificate.

Requisite: AVIA 161 and AVIA 212 or consent of the coordinator.

Type: C

### **AVIA 264 Mgmt of Aircraft Maintenance 3-0-3**

A comprehensive overview of the structured aircraft maintenance and engineering programs established by the aircraft manufacturer and certified by the Federal Aviation Administration for Civil Aviation. Areas of emphasis include maintenance program development, maintenance documentation, the role of engineering, maintenance, maintenance support, quality control, reliability and safety within the program. This course provides the student with an overall understanding of the maintenance programs required for aircraft operating under FAR Part 121 in the commercial air carrier fleets.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **AVIA 265 Flight Training Commercial Helicopter Part II 2-0-2**

This course continues the Commercial Pilot Flight training with student training of Commercial maneuvers and operations as directed by their Instructor Pilot. Continued instruction will provide additional local and flight operations training to unfamiliar airports. Pinnacle and platform operations along with soft and short-field take-off and landing procedures and night operations will be accomplished. At the end of this course the student will be ready to complete the FAA check ride for the Commercial Rotary Wing Pilot Certificate.

Requisite: AVIA 263.

Type: C

### **AVIA 266 Airport Planning and Management 3-0-3**

A comprehensive examination of the management and operation of civil airports. Areas of emphasis include master planning, Federal Aviation Regulations dealing with airport operations, environmental issues, land use planning, airport capacity and delay, access factors, economic impacts, financial analysis and budgeting systems, security, liability, maintenance, professional qualifications and public relations.

Requisite: AVIA 101.

Type: C

### **AVIA 269 Multi-Engine Flight Theory 1-0-1**

An in-depth study of the fundamentals of multi-engine flight operations and aerodynamics. During this course the student will become familiar with high performance aircraft engine operation, electrical systems, fuel systems, landing gear systems (both hydraulic and electric), pressurization and aircraft performance calculations. A review of normal, abnormal, and emergency procedures required for multi-engine instructor and multi-engine ATP are accomplished.

Requisite: AVIA 101, AVIA 151, AVIA 201.

Type: C

### **AVIA 270 Flight Training Multi-Engine 1-0-1**

This course consists of the flight training to prepare students for the multi-engine rating. Emphasis will be placed on aircraft systems and engine.

(Available for course credit)

Prerequisite: Coordinator approval.

Requisite: Department consent.

Type: C

### **AVIA 271 Flight Instrument Helicopter Theory 3-0-3**

This course prepares the student to develop instructional techniques by learning the fundamentals of the learning process, elements of effective teaching, instructor candidate evaluation and testing, course development, lesson planning, classroom training techniques and aeronautical knowledge areas required for the Private and Commercial Rotorcraft Helicopter Certificate.

Requisite: Hold a Commercial Instrument Rotary Wing Pilot Certificate.

Requisite: Department consent

Type: C

### **AVIA 272 Flight Training Helicopter Instructor 2-0-2**

This course provides the flight instructor candidate with the flight training to accomplish the FAA practical test for a Rotary Wing Flight Instructor Certificate. Training includes ground operations, flight maneuvers for rotary wing and flight related emergency procedures. The applicant must meet the appropriate standards as listed in the FAA Airmen Certification Standards.

Requisite: Concurrent enrollment in or completion of AVIA 271.

Type: C

### **AVIA 273 Flight Instructor Helicopter Instrument Theory 2-0-2**

An advanced instructor course that prepares the student for the FAA Instrument Instructor Rotary Wing Knowledge Exam. Course contents includes; fundamentals of instruction, the learning process, elements of effective teaching, instructor candidate evaluation and testing, course developments lesson planning and classroom training techniques. The course also provides training on flight instruments, human factors, safe operations under IFR and IFR navigation, Instrument approaches and IFR enroute. In addition, the course provides training in ATC procedures, Federal Aviation Regulations for IFR flight, Helicopter IFR operations and Aviation Weather that includes recognition of critical weather conditions.

Requisite: AVIA 272 or coordinator approval.

Type: C

### **AVIA 274 Flight Training Helicopter Instrument Instructor 1-0-1**

An advanced instructor course that prepares the student to successfully accomplish the FAA Practical Test for the Instrument Instructor Rotary Wing Certificate. Training emphasis includes preflight preparation, preflight procedures, air traffic control clearances and procedures, flight by reference to instruments, navigation systems and instrument approach procedures. The instrument instructor candidate must the standards as outlined by the FAA Airmen Certification Standards.

Requisite: Concurrent enrollment in or completion of AVIA 273.

### **AVIA 280 Internship 0-15-3**

Provides an opportunity to gain experience in the aviation system (non-flight) after completion of prescribed aviation courses. Experience obtained will be through a joint effort on the part of industry, ATC, Airline, FBO, FAA and SWIC faculty. A written report is required.

Requisite: Department consent.

Type: C

### **AVIA 291 Airline Transport Pilot Ground 3-0-3**

An advanced ground course that has been designed to prepare the student for the Airline Transport Pilot written examination. Advanced instruction on light and heavy jet aircraft, FAR Parts 121 and 135 will be included. Course meets two weekends, for four days or supervised self-study is available. The final is taking the ATP written examination.

Requisite: Department consent.

Type: C

### **AVIA 292 Flight Training-ATP 3-0-3**

Flight instruction in preparation for the ATP rating in airplanes. The materials studied in AVIA 291 are applied in this course (available for course credit).

Requisite: AVIA 291.

Type: C

### **AVIA 299 Special Topics In Aerospace Variable up to (5)-(10)-(5)**

The student will apply aviation knowledge learned to solve problems using case studies, simulations, special or aviation management techniques. Semester credits will be based on the complexity of the problem.

Requisite: None.

Type: C

## Avionics

### **AVE 131 Intro to Avionics Installation 2-2-3**

This course provides introductory information for those desiring to seek employment in avionics installation. Covers introduction to avionics systems, basic principles of electricity, use of applicable test equipment, aircraft wiring diagrams, wire terminations and connections, construction of wiring harnesses and testing of those harnesses.

Requisite: None.

Type: C

### **AVE 141 Avionics Installation Trends 2-2-3**

This course builds off the foundations set in the Introduction to Avionics Installation course. Course provides the opportunity for students to learn where the "electrical highways" of the aircraft lead, how to build these connections and how to maintain and troubleshoot them.

Requisite: AVE 131.

Type: C

### **AVE 299 Internship Variable up to 0-(20)-(4)**

Allows students to earn academic credit for supervised on-the-job experience. Eighty hours of work per semester are required for each semester credit.

Requisite: Department consent.

Type: C

## Biology

### **BIOL 100 General Biology: Ecology, Evolution, & Genetics 3-2-4**

A laboratory course emphasizing scientific inquiry through the topics of cell structure and function, genetics, biodiversity, evolution, and ecology. Biological issues with personal and social implications will be introduced. Not intended for science majors.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-L1 900L

### **BIOL 101 Principles of Biology I 3-2-4**

A laboratory course emphasizing the fundamentals of organization, metabolism, photosynthesis, growth, genetics and evolution. Intended for science majors.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-BIO 910, IAI-L1 910L

### **BIOL 102 Principles of Biology II 3-2-4**

This course is a continuation of BIOL 101. Topics include the origin and phylogeny of life, biodiversity, comparative physiology, and ecology.

Requisite: BIOL 101 with a grade of "C" or better.

Type: T, IAI-BIO 910, IAI-L1 910L

### **BIOL 104 Biology for Elem Teachers 3-2-4**

This is a laboratory course emphasizing scientific inquiry through the topics of cells, energy, genetics, evolution, ecology and biodiversity. Intended primarily for the elementary education major, this class emphasizes inquiry-based lab investigations and their alignment to the Illinois Science Standards for K-8. Students may not receive credit for both BIOL 100 and BIOL 104.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-L1 900L

### **BIOL 105 Human Biology 3-2-4**

Essential principles of human anatomy and physiology are presented, including basic chemistry, microscopic investigation of cell and tissue samples, physiologic exercises, and an overview of the following body systems: body organization, basic chemistry, histology of tissues and the integumentary, skeletal, muscular, nervous systems and senses, endocrine, blood, heart and the circulatory system, lymphatic and immune systems, respiratory, digestion, urinary systems, and reproduction. This course is intended as a one semester survey course for certain health sciences and social programs.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **BIOL 106 Environmental Science 3-0-3**

A course designed to provide a broad understanding of the physical, biological and social aspects of the environment. Topics include basic ecological concepts, energy problems, natural resources, human population growth and environmental pollution. Possible solutions to these topics will be considered. This course does not meet the laboratory science requirement at SWIC.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-L1 905

### **BIOL 108 General Ecology 3-2-4**

An introduction to the principles of ecology: the interaction between organisms and the environment. Principles of energy flow, nutrient cycling, population ecology, biotic communities and human ecology will be considered. Field trips to natural areas, some of which are physically taxing, are an integral part of the course.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-L1 905L

### **BIOL 110 Introduction to Marine Biology Variable up to (3)-(4)-(5)**

This course is offered for variable credit in two increments, which may be taken together or separately.

Increment 1-lecture (three semester credits) focuses on both the biological and physical aspects of marine environment. Topics discussed include the historical perspectives of oceanography, intertidal zones, plankton, the ocean floor, marine reptiles, birds, mammals and pollution. Other related topics are discussed. Increment 1 taken by itself cannot be used to meet the laboratory science requirement at SWIC.

Increment 2-lab (two semester credits) provides a practical field experience through an on-site visit to a marine biology laboratory and field techniques are used to examine the biological and physical aspects of the marine environment. Increment 2 taken in conjunction with Increment 1 can be used to meet the laboratory-science requirement at SWIC.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **BIOL 151 Fundamental Botany 3-2-4**

This course considers the fundamental concepts of all living organisms as they relate to the plant kingdom, with primary emphasis on the structure and function of seed plants. Special consideration is given to biochemical makeup, cell and tissue anatomy, basic plant morphology and physiology, ecology and evolution.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **BIOL 157 Human Anatomy & Physiology I 4-2-5**

The course begins with a study of cells and tissues followed by a comprehensive anatomical and physiological study of the following human systems: nervous, endocrine, integumentary, skeletal, and muscular. Vertebrate dissections are required.

Requisite: Math placement above MATH 94 or MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **BIOL 158 Human Anatomy & Physiology II 4-2-5**

A comprehensive anatomical and physiological study of the following human systems: circulatory, immune, respiratory, digestive, urinary and reproductive. Aspects of microbiology are integrated into the course. Vertebrate dissections are required.

Requisite: BIOL 157 with a grade of "C" or better.

Type: T

### **BIOL 204 Vertebrate Zoology 2-4-4**

This course is the study of diversity, evolutionary history, anatomy, physiology and systematics of vertebrates and their closest relatives. The course includes a significant laboratory component that involves dissection of preserved vertebrates.

Requisite: BIOL 101 with a grade of "C" or better.

Type: T

### **BIOL 220 Intro to Cadaver Dissection 0-2-1**

This course is an introduction to human cadaver dissection with an emphasis on dissection techniques and gross anatomy of the human body. Students will work in small groups to perform supervised dissection of a human cadaver.

Requisite: BIOL 157 with a grade of "C" or better.

Requisite: Department consent.

Type: T

## Course Description Guide (continued)

### **BIOL 250 Microbiology** 3-2-4

This course is the study of the structure, metabolism, reproduction, heredity, evolution, ecological and pathological relationships of microbes including bacteria, viruses, fungi, yeasts and protozoa.

Requisite: BIOL 101 or BIOL 157 each with a grade of "C" or better.

Type: T

### **BIOL 270 Genetics** 3-2-4

This course takes a problem-solving approach to the study of three fundamental areas of modern genetics: transmission, molecular, and evolutionary genetics. Major principles in each area will be covered in sufficient detail to provide students with a broad understanding of the field. Laboratory experiments and activities will enhance and apply concepts covered in lecture.

Requisite: MATH placement above MATH 112 or MATH 112 with a grade of "C" or better; BIOL 101 with a grade of "C" or better.

Type: T

### **BIOL 299 Special Topics in Biology** Variable up to (4)-(6)-(4)

This course will give students an opportunity to investigate special topics or problems in biology, and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.

Requisite: None.

Type: T

## **BLA** – See *Construction Bricklayer*

## **Business** – See also *Accounting, Computer Information Systems, Culinary Arts and Food Management, Economics, Graphic Communications, Management, Marketing, Network Design and Administration, Paralegal Studies, Web Development and Administration, Web Technologies*

### **BUS 101 Introduction to Business** 3-0-3

A survey of the functional areas of business. Major topics include: the economic, legal, social and global environment in which modern businesses operate; social responsibilities of business; forms of business ownership; functions and responsibilities of managers; and fundamental concepts of marketing, accounting, finance, information management, and labor relations and human resource management.

Requisite: None.

Type: T

### **BUS 102 Business Mathematics** 3-0-3

This course covers the fundamental processes in mathematical computations used in business and consumer finance. Topics covered include: percentage; interest; consumer credit; cash and trade discounts; mark-up; payroll, property and income taxes; social security; amortization tables; time value of money; stocks; and bonds.

Students may receive credit for only one of the following: BUS 102 or MGMT 102

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.

Type: C

### **BUS 205 Economic and Business Statistics** 4-0-4

The following concepts and statistical techniques are included: measures of central tendency and variability; random variables and probability distributions; binomial, normal, and sampling distributions; estimation; tests of hypotheses; chi square tests; linear regression and correlation; and multiple regression. Statistical software projects are required. Students may receive credit for only one of the following: MATH 107, MATH 191, or BUS 205.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of "C" or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-BUS 901, IAI-M1 902

### **BUS 209 Business Computer Systems** 3-0-3

This course is designed primarily for students planning to pursue a baccalaureate degree with a major in a field of business. It covers the basics of management information systems from a business perspective. Hardware, operating systems, and applications software used in business enterprises are described. The course also discusses the role of the Internet, World Wide Web and e-commerce in modern business enterprises. It introduces application software offered in popular business computer packages, including word processing, database management, spreadsheets, and presentation software, and provides students with a limited amount of hands-on experience with this software.

Requisite: None.

Type: T, IAI-BUS 902

### **BUS 215 Business Law I** 3-0-3

An introduction to the history and philosophy of law and the American legal system. Discussed are fundamentals of contracts, agency and employment, commercial paper, and personal property and bailment. A lecture case approach is used.

Requisite: None.

Type: T

### **BUS 241 Fundamentals Of Finance** 3-0-3

This course provides critical financial information required for entrepreneurial success. Topics covered include: forms of ownership; break-even analysis; time value of money; balance sheets, cash flow statements, and income statements; forecasting; risk management; and personal financial management as it relates to business success. Students may receive credit for only one of the following: BUS 241 or MGMT 241.

Requisite: ACCT 105 or ACCT 110.

Type: T

### **BUS 280 Copyright/Trademark/Patent Law** 3-0-3

This course will provide students with an overview and understanding of the various intellectual property disciplines, including copyright, trade secret, trademark, and patent law. This course will emphasize both the theoretical and practical application of these areas of law. Students will be required to complete writing projects. Students may receive credit for only one of the following: BUS 280 or PARL 280.

Requisite: None.

Type: C

### **BUS 294 Special Topics/ Issues in Business** Variable up to (4)-(8)-(4)

Presents projects and topics in business by simulated experiences, observations, discussions, conferences, readings and individual research. Projects and topics will vary to meet individual interest and needs.

Requisite: None.

Type: C

## **Chemistry**

### **CHEM 100 Chemistry in Everyday Life** 3-2-4

A survey of chemistry in the context of the things that can or do affect us in our everyday lives. Topics include air and water quality, global warming, fossil, solar and nuclear fuels, acid rain, plastics and nutrition. This course is designed for transfer students in liberal arts, and elementary education majors.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 903L

### **CHEM 101 Introductory Chemistry** 3-4-5

Fundamental concepts in chemistry through discussion of the structure of matter, atomic theory, simple chemical calculations, the nature of chemical reactions, and introduction to organic chemistry. For students who have had no previous chemistry.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 902L

## Course Description Guide (continued)

### **CHEM 103 Introductory Organic & Biological Chemistry 3-4-5**

An overview course designed to give students a basic understanding of organic nomenclature, functional groups, basic organic reactions, and biological molecules such as enzymes, proteins, lipids, carbohydrates and nucleic acids. Requisite: CHEM 101 or CHEM 105 each with a grade of "C" or better. Type: T

### **CHEM 105 General Chemistry I 3-4-5**

Basic principles of inorganic chemistry with emphasis on atomic structure, bonding, stoichiometry, chemical reactions, thermochemistry, gas laws, periodicity, states of matter, and solutions. For the chemistry major, other science major, engineering, pre med, pharmacy and other pre-professional fields. Requisite: 1 yr HS Chemistry w/"C" or better & placement above or completion of MATH 112 w/"C" or better; or CHEM 101 w/"C" or better & math placement above or concurrent enrollment in MATH 112; & Reading placement above ENG 92 or completion of ENG 92. Type: T, IAI-CHM 911, IAI-P1 902L

### **CHEM 106 General Chemistry II 3-4-5**

Continuation of Chemistry 105 with special emphasis on kinetics, thermodynamics, solution chemistry, control of equilibrium, acid-base theory, solubility, electrochemistry, complex ions, and some nuclear chemistry. Requisite: CHEM 105 with a grade of "C" or better; Math placement above MATH 112 or completion of MATH 112 with a grade of "C" or better. Type: T, IAI-CHM 912

### **CHEM 201 Organic Chemistry I 3-4-5**

An introduction to organic chemistry dealing principally with structure, reaction mechanisms and properties of organic compounds; with special emphasis on alkanes, alkenes, alkyl halides, alcohols, and ethers. Requisite: CHEM 106 with a grade of "C" or better. Type: T, IAI-CHM 913

### **CHEM 202 Organic Chemistry II 3-4-5**

A continuation of Chemistry 201 with special emphasis on spectra, aldehydes, ketones, carboxylic acids, derivatives of carboxylic acids, amines, and phenols. Requisite: CHEM 201 with a grade of "C" or better. Type: T, IAI-CHM 914

### **CHEM 253 Quantitative Analysis 3-4-5**

Theory and practice of gravimetric and volumetric analysis. Some experience is gained in simple instrumental analysis. Requisite: CHEM 106 with a grade of "C" or better. Type: T

## Child Care Services

— See *Early Childhood Education*

## Chinese

### **CHIN 101 Elementary Chinese I 4-0-4**

This introductory language course focuses on establishing a solid foundation in the four basic skill areas of reading writing, listening comprehension and speaking in Mandarin Chinese. Students are also introduced to the history and cultures of the Chinese-speaking world. Requisite: Reading placement above ENG 91 or completion of ENG 91. Type: T

### **CHIN 102 Elementary Chinese II 4-0-4**

This introductory language course is a continuation of CHIN 101 and focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in Mandarin Chinese. Students are also introduced to the history and cultures of the Chinese-speaking world. Requisite: CHIN 101. Type: T

## Cisco Networking Academy

— See also *Network Design and Administration*

### **CISC 106 Introduction to Cybersecurity 1-0-1**

This course provides an overview of cybersecurity including the importance of cybersecurity, the characteristics and operation of malware, and options for defense against cyber threats. Students will also explore why cybersecurity is important in various industries. NOTE: Successful students will possess a basic understanding of networking concepts prior to enrolling. Requisite: None. Type: C

### **CISC 116 Cisco Cybersecurity Essentials 2-0-2**

Cybersecurity Essentials provides foundational knowledge of the security domains in the cyber world. The course introduces information security, systems security, network security, mobile security, and physical security. Additional topics include ethics and laws, related technologies, defense and mitigation techniques use in protecting businesses. The course discusses the characteristics and tactics of cyber criminals and explores the technologies, products, and procedures used by cybersecurity professionals to combat cybercrime. Requisite: CISC 106. Type: C

### **CISC 151 Cisco Network Essentials 3-2-4**

Cisco Network Essentials is the first of four courses leading to the Cisco Certified Network Associate certification. This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Semester offered: Fall. Requisite: Concurrent enrollment in CISC 152. Type: C

### **CISC 152 Cisco Routing and Switching 3-2-4**

Cisco Routing and Switching is the second of four courses leading to the Cisco Certified Network Associate certification. This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Semester offered: Fall. Requisite: CISC 151 with a grade of "C" or better. Type: C

### **CISC 153 Cisco Scaling Networks 3-2-4**

Cisco Scaling Networks is the third of four courses leading to the Cisco Certified Network Associate certification. This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. Students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Semester offered: Spring. Requisite: CISC 152 with a grade of "C" or better. Type: C

## Course Description Guide (continued)

### **CISC 154 Cisco Connecting Networks 3-2-4**

Cisco Connecting Networks is the last of four courses leading to the Cisco Certified Network Associate (CCNA) certification. This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. Students will prepare to take the CCNA certification exam.

Semester offered: Spring

Requisite: Concurrent enrollment in or completion of CISC 153 with a grade of “C” or better.

Type: C

### **CISC 187 Cisco CCNA Exam Preparation 2-0-2**

The Cisco CCNA Exam Preparation course emphasizes the important concepts of the Cisco CCNA certification exam. In addition to reinforcing and reviewing topics learned in previous CCNA courses, this course helps students with organizing and preparing for the exam. The course focuses on installing, configuring and troubleshooting networks. Specific topics include IP addressing, router configuration and routing protocols, LAN and WAN connectivity, network security and wireless technologies.

Requisite: CISC 154 with a grade of “C” or better.

Type: C

### **CISC 201 Cisco CCNA Security 3-2-4**

The Cisco CCNA Security course prepares students for the Cisco CCNA Security exam. Students will develop skills necessary to secure Cisco routers and switches and their associated networks. This course teaches students the configuration, troubleshooting and monitoring of network devices to maintain confidentiality, integrity and availability of data and devices. The course also includes technologies that networks use in their security infrastructure. The course includes an introduction to core security technologies as well as how to develop security policies and mitigate risks. Topics include developing a security infrastructure, recognizing threats and vulnerabilities to networks, and mitigating security threats. Students will have an opportunity to apply their knowledge through hands-on activities and case studies. NOTE: Students who meet the requisite through professional certification should contact the program coordinator.

Requisite: CISC 152 with a grade of “C” or better.

Type: C

### **CISC 221 Cisco Advanced Routing Configuration 3-2-4**

Cisco Advanced Routing Configuration is one of the courses leading to the Cisco Certified Network Professional certification. This course teaches students how to design, configure, maintain, and scale routed networks. Students learn to use VLSMs, private addressing, and NAT to enable more efficient use of IP addresses. This course teaches students how to implement routing protocols such as RIPv2, EIGRP, OSPF, IS-IS, and BGP. In addition, the course details the more important techniques used for route filtering and route redistribution. NOTE: Students who meet the requisite through professional certification should contact the program coordinator.

Requisite: CISC 154 with a grade of “C” or better.

Type: C

### **CISC 223 Cisco Multilayer Switching 3-2-4**

Cisco Multilayer Switching is one of the courses leading to the Cisco Certified Network Professional certification. This course introduces students about the deployment of the state-of-the-art campus LANS. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable scalable multilayer-switched LANs. Students will develop skills with VLANs, VTP, STP, inter-VLAN routing, redundancy, Cisco AVVID, QoS issues, campus LAN security, and transparent LAN services. NOTE: Students who meet the requisite through professional certification should contact the program coordinator.

Requisite: CISC 154 with a grade of “C” or better.

Type: C

### **CISC 241 Cisco Voice over IP 2-2-3**

This course provides an introduction to converged voice and data networks as well as the challenges faced by its various technologies. The course presents Cisco solutions and implementation considerations to address those challenges. In this course, students will learn about the architecture, components, functionality and features of Cisco Unified Communications Manager and Cisco Unified Communications Manager Express. Students will also learn Voice over IP and Quality of Service technologies and apply them to the Cisco Unified Communications environment. NOTE: Students who meet the requisite through professional certification should contact the program coordinator.

Requisite: CISC 152 with a grade of “C” or better.

Type: C

### **CISC 299 Special Topics in Cisco Networking Variable up to (4)-0-(4)**

This course presents projects and topics in Cisco Networking by simulated experiences, observations, discussions, conferences, readings and individual research. Projects and topics will vary to meet individual interest and needs.

Note: Requisite varies by topic.

Requisite: None.

Type: C

## Computer Aided Drafting

### **CAD 101 Basic Drafting 2-4-4**

This course is an introduction to sketching and computer aided drafting.

Topics such as orthographic, multiview, oblique, axonometric projection, lettering, sections, geometric construction, auxiliary views, and dimensioning provide the necessary foundation for pictorial communication.

Requisite: Concurrent enrollment in or completion of CAD 120.

Type: C

### **CAD 102 Intermediate Drafting 2-4-4**

This course is a continuation of CAD 101, including descriptive geometry, intersections and developments, welding symbols and welding nomenclature, threads and thread nomenclature, working drawings, and introduction to sheet metal bends allowances. Students work in groups to solve problems and create complete sets of drawings simulating the workforce environment.

Requisite: CAD 101, CAD 120.

Type: C

### **CAD 120 Introductory CAD 3-2-4**

This course is an introduction to Computer Aided Drafting. It will prepare students to operate the system and understand the applications of CAD to industry standards. Students will create, store, retrieve, edit, and print/plot commercial quality drawings. This course is offered as a dual credit course for area high schools. Credit does go towards the certificate and the associate degree in Computer Aided Drafting.

Requisite: None.

Type: C

### **CAD 200 Manufacturing Processes and CAD Drawings 3-2-4**

This course will introduce the student to various manufacturing processes and reverse engineering. Assembled mechanical components will be unassembled, measurements with use of micrometers, calipers, height gauge, thread gauges, and hole gauges will be taken to create sketches that will be used to create CAD drawings. Students will also be introduced to the various mill, lathe, and CNC equipment as it relates to the manufacturing process.

Requisite: CAD 102, CAD 220.

Type: C

### **CAD 201 Introduction to Architectural Drafting 1-2-2**

This course will introduce the student to plot plans, floor plans, elevation views, and foundation drawings. Students will create the necessary plans to create a scaled model of an architectural structure.

Requisite: CAD 102, CAD 220.

Type: C

## Course Description Guide (continued)

- CAD 202 Structures Drafting 2-2-3**  
This course is a continuation of CAD 210. Drawings created in CAD 201 and CAD 210 will be used to create window and door schedules, trusses, and other necessary structural features.  
Requisite: CAD 102, CAD 210, concurrent enrollment in or completion of CAD 220.  
Type: C
- CAD 203 Civil Engineering Drafting 2-2-3**  
This course covers all aspects of Highway design drafting. Including: typical sections, details, plan and profile drawing, cross sections, drainage basics, and subdivision drawing. Basic survey and roadway calculations are also included.  
Requisite: CAD 102, CAD 225.  
Type: C
- CAD 204 Manufacturing Drafting 2-2-3**  
This course will focus on the development of production quality drawings for the manufacturing industry. Topics include tolerancing components to achieve designed fit, geometric dimensioning and tolerance dimensioning techniques, advanced sheet metal bend allowances, and development of assembly level drawings. This course will utilize Autodesk Inventor software.  
Requisite: CAD 102, CAD 220, CAD 221.  
Type: C
- CAD 206 E & I Drafting 2-2-3**  
This course includes the drafting and design of electrical distribution and instrumentation for the chemical, petroleum, utility and other related industries.  
Requisite: CAD 102, CAD 220.  
Type: C
- CAD 208 Pipe Drafting 2-2-3**  
This course reviews aspects of pipe drafting including symbols, piping accessories, equipment, plot plans, piping plans, elevations, sections, isometrics, working drawings and field data.  
Requisite: CAD 102, CAD 220.  
Type: C
- CAD 210 HVAC/EL/Plumb Drafting 2-2-3**  
This course is a continuation of CAD 201. Drawings created in CAD 201 will be used to create plans and details of the heating, ventilation and air conditioning, power, lighting and plumbing systems for residential/commercial buildings.  
Requisite: CAD 201.  
Type: C
- CAD 220 Advanced CAD I 2-2-3**  
An advanced course in Computer Aided Drafting using AutoCAD where the latest industrial standards and procedures will be implemented. Topics include: advance drawing and modification commands, blocks, attributes, layouts and external references.  
Requisite: CAD 101, CAD 120.  
Type: C
- CAD 221 Advanced CAD II 3-2-4**  
This course begins the semester introducing computer aided drafting concepts to generate 3-D models utilizing SolidWorks software. This course takes an in-depth look at SolidWorks to generate solid model objects. The output of drawings will include detail, assembly, and other presentation drawings including 2-D drawings.  
Prerequisite: Keyboarding and Windows knowledge.  
Requisite: None.  
Type: C
- CAD 222 Machine CAD Post Assessment 1-0-1**  
This course will consist of an overview of American Society of Mechanical Engineers Computer Aided Drafting and machine drafting terminology the student has completed during the two years. Emphasis will be placed on machine terminology. Students will take the certification exam at the end of the semester.  
Requisite: CAD 200, CAD 221, concurrent enrollment in or completion of CAD 204.  
Type: C
- CAD 225 MicroStation CAD 2-2-3**  
The purpose of this of the course is to provide the student with an entry level understanding of the features, limitations, and considerations associated with the operation of MicroStation CAD software.  
Requisite: None.  
Type: C
- CAD 226 Introduction to Geometric Dimensioning & Tolerancing 1-2-2**  
This course will introduce the student to geometric dimensioning and tolerancing concepts as established by the American Society of Mechanical Engineers (ASME) Y14.5 standards.  
Requisite: CAD 102, CAD 220.  
Type: C
- CAD 230 3D Architectural CAD 1-2-2**  
This course focuses on 3-D modeling as it relates to architectural drafting utilizing Revit and 3D Max Autodesk software. Students will create 3-D models from floor plans and elevation views created in CAD 201.  
Requisite: CAD 102, CAD 220.  
Type: C
- CAD 231 Architectural CAD Post Assessment 1-0-1**  
This course will consist of an overview of American Society of Mechanical Engineers Computer Aided Drafting and architectural drafting terminology the student has completed during the two years. Emphasis will be placed on architectural terminology. Students will take the certification exam at the end of the semester.  
Requisite: CAD 201, CAD 210, concurrent enrollment in or completion of CAD 202.  
Type: C
- CAD 290 Supervised Internship I Variable up to 0-(30)-(6)**  
This course allows students to earn academic credit for supervised on-the-job experience. Five hours of work per week per semester is required for each hour of credit. The maximum number of internship semester credits permitted in the program is six.  
Requisite: Department consent.  
Type: C
- CAD 291 Supervised Internship II Variable up to 0-(30)-(6)**  
This course allows students to earn academic credit for supervised on-the-job experience. Five hours of work per week per semester is required for each hour of credit. The maximum number of internship semester credits permitted in the program is six.  
Requisite: Department consent.  
Type: C
- CAD 292 Supervised Internship III Variable up to 0-(30)-(6)**  
This course allows students to earn academic credit for supervised on-the-job experience. Five hours of work per week per semester is required for each hour of credit. The maximum number of internship semester credits permitted in the program is six.  
Requisite: Department consent.  
Type: C
- CAD 299 Special Topics in CAD Variable up to (6)-(12)-(6)**  
The application of drafting principles to specific problems. Case studies, simulations, special problems or problem-solving techniques will be used.  
Requisite: Department consent.  
Type: C

## Computer Information Systems

### **CIS 101 Computer Literacy Skills 1-0-1**

This course covers the skills necessary to use a computer, operating system, application software, and the Internet. Students learn to manage files and folders on fixed, removable, and cloud storage, exchange messages and attachments using communications software, search for information and download files from the Internet, and interact with instructor using a learning management system. Additional topics include defending malicious software and the proper and legal use of computers.

Note: Keyboarding skill recommended.

Requisite: None.

Type: T

### **CIS 120 Introduction to the PC 1-0-1**

This course introduces Windows-based microcomputers to those with little or no prior computer experience. Topics include terminology, keyboard usage, basic components of a computer system, beginning DOS commands, and an overview of possible computer applications.

Note: Keyboarding skill preferred.

Requisite: None.

Type: C

### **CIS 125 Operating System Basics 1-0-1**

This course will provide students with the information and skills they will need to master the basic components of the Windows operating system.

Note: CIS 120 or basic computer skills recommended.

Requisite: None.

Type: C

### **CIS 147 Fonts & Type 2-0-2**

This course will teach students the basic concepts and techniques necessary to use type as an element of design and more than just words on a page. The course is designed to look at font faces as well as families, and explores the use of not only the type face but how through the effective use of type tools and color it can interact with other graphics on the page to become a true element of design.

Note: CIS 120 or basic computer skills preferred. Recommended experience with Adobe Creative Software.

Requisite: None.

Type: C

### **CIS 148 Document Management 1-0-1**

This course will teach students the basic concepts and techniques necessary to create, review, edit, and modify Portable Document Format files. In addition, students will create documents for review which are both secure and available for comment by the reviewer who can then approve those documents by digitally signing off on them and then filling out and filing a form online created specifically for that purpose.

Note: CIS 120 or basic computer skills recommended.

Requisite: None.

Type: C

### **CIS 155 Basic Web Page Design 1-0-1**

This course is designed to teach students to apply the essential design skills required in developing successful web pages.

Note: CIS 120 or basic computer skills recommended.

Requisite: None.

Type: C

### **CIS 161 HTML Basics 1-0-1**

This course is designed to teach students to use the HyperText Markup Language to create web pages. Students will become acquainted with the hardware, software, and programming techniques required in creating and maintaining web documents and sites.

Note: CIS 125, CIS 160 or file management and Internet browser skills recommended.

Requisite: None.

Type: C

### **CIS 164 Internet Essentials 3-0-3**

Students will learn the most important Internet topics, including the history of the Internet, connecting to the Internet, basic email, integrated browser email software, and advanced Internet topics.

Note: CIS 125, CIS 181 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 165 Game Programming I 3-0-3**

This course is an introduction to game programming and game development. Students will use an object oriented programming language to learn fundamental programming concepts. Various predefined object types will be introduced and student will learn how to control object attributes and behaviors as they write event procedures containing variables, conditions, and loops. Topics will also include sound, animation, and graphics.

Note: CIS 125 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 168 Graphic Design 3-0-3**

This course is designed to teach students basic design vocabulary, elements, and principles. Individual elements of design such as line, shape, value, texture, space, size and color will be explored as they relate to electronically generated digital formats and print design. Students will create basic designs using appropriate software including illustrator, Flash, After Effects, and Photoshop.

Note: CIS 125 or CIS 181 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 171 Computer Graphics 3-0-3**

This course will teach students advanced design skills in creating vector graphics using Adobe Illustrator. Students will prepare original publications including logos and advertisements.

Note: CIS 125, CIS 181 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 172 PhotoShop 3-0-3**

This course will teach students how to scan, create, modify and reproduce photographs, artwork, and printed advertising pieces. Students will learn how to deal with all types of graphics and prepare them for print or Web applications. Students will be exposed to techniques and skills to prepare them for employment as a photo retouch artist, or graphic designer. Students will also be exposed to vector graphic elements and how they interrelate to Adobe Photoshop.

Note: CIS 125, CIS 181 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 173 Graphics and Animation 3-0-3**

This class will focus on using Adobe Animate to create graphic animations, developing buttons and menus, designing Flash web pages, sustaining a viable website and providing user interactive web pages. Course curriculum will cover Flash User Interface, using layers and timeline, Flash objects, sound/video, ActionScript Environment, debugging and using HTML. After taking this class, students will have a good understanding of Flash design, development, interactivity, usability and how to create a user-friendly web experience.

Note: CIS 174 or HTML coding proficiency recommended.

Requisite: None.

Type: C

### **CIS 174 HTML 3-0-3**

This course will teach students to create web pages using HTML and DHTML. They will create multimedia web pages with hypertext links, tables, frames, and forms. They will also be exposed to cascading style sheets, JavaScript programming, and dynamic content and layout.

Note: CIS 125 or CIS 181 and CIS 160 or CIS 164 or file management and Internet browser skills recommended.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **CIS 176 Web Development I 3-0-3**

This course allows students to develop a large graphic multimedia website with Dreamweaver. Web authoring, image editing, and website management tools give students a real world prospective.

Note: CIS 174 or HTML coding proficiency skills recommended.

Requisite: None.

Type: C

### **CIS 177 JavaScript Programming I 3-0-3**

This course will help students develop basic and advanced JavaScript programs. The techniques include the use of documents, Windows, conditional statements, and loops. Students will work with cookies, string and Math objects and other advanced functions. Multiple browsers and a current text editor will be used for demonstration and for class exercises and homework.

Requisite: CIS 180 or CIS 183 or CIS 184; CIS 174.

Type: C

### **CIS 178 Operating System Fundamentals 3-0-3**

This course introduces students to the command line interface. It uses the Microsoft Windows Command Prompt window, referred to as the MS-DOS prompt window in earlier versions. Practical hands-on applications are presented for the study of batch files and other non-GUI (graphical user interface) functions.

Note: CIS 120 or basic computer skills recommended.

Requisite: None.

Type: C

### **CIS 179 Computer User Support 3-0-3**

This course will enable students pursuing a help desk career to provide high-quality technical customer support in any situation. They will develop the skills they need to interact effectively and appropriately with customers, whether face-to-face, on the telephone, or in written documents.

Requisite: None.

Type: C

### **CIS 180 Introduction to Programming 3-0-3**

This course is an introduction to computer programming and software development. Students will use a visual development environment and an object oriented programming language to learn fundamental programming concepts. Various predefined object types will be introduced and students will learn how to control object attributes and behaviors as they write event procedures containing variables, conditions, and loops.

Note: CIS 125 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 181 Operating System/Windows 3-0-3**

This course will teach students important topics of Microsoft Windows. Instruction will include the organization of files with Windows Explorer, personalizing the Windows environment, bringing the World Wide Web to the desktop, searching for information, working with graphics, and managing Windows. The version of Windows will vary depending on the location of the course.

Note: CIS 120 or basic computer skills recommended.

Requisite: None.

Type: C

### **CIS 184 Visual Basic Programming I 3-0-3**

This course introduces the fundamentals of the Visual Basic programming language. Students develop Console and Windows Forms applications written in Visual Basic using the Visual Studio development environment. Procedural programming topics include variables, control structures, built-in functions and data types, arrays, self-defined subroutines and functions written in Visual Basic. Object oriented programming topics include instantiation, encapsulation, class, property, method, and constructor declarations. The course ends with an introduction to collections, and language integrated queries.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; and one of the following CIS 180, CIS 187, CIS 250, CIS 252.

Type: C

### **CIS 185 Intro to Information Technology 3-0-3**

This course provides an overview to the field of computer information systems. The history of computers, computer hardware and software, programming concepts, processing techniques, application software, file structures, data storage concepts, and data communications are included.

Requisite: None.

Type: T

### **CIS 187 Java Programming I 3-0-3**

This course is designed to teach students the basic concepts and skills necessary to create programs using the Java Programming language. Programs will include various control structures and techniques used in creating interactive programs for the Web. Object oriented programming techniques will be used.

Requisite: CIS 180 or CIS 183 or CIS 184 or CIS 194 or CIS 250 or CIS 252.

Type: C

### **CIS 195 Introduction to Databases 3-0-3**

This course is an introduction to database concepts using relational database management systems. Students are introduced to the fundamentals of the relational model using various relational products and practical case studies. Topics include structured query language, data modeling, database design, and database administration. Products include SQL Server, MySQL, Oracle, and/or Microsoft Access.

NOTE: CIS 125 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 210 Web Design and Usability 3-0-3**

This course familiarizes the student with those techniques necessary to develop websites that meet the organization's objectives and usability goals. The major emphasis of this course will focus on making websites more usable for all users, including those with disabilities.

Requisite: CIS 174.

Type: C

### **CIS 212 Intro to XML 3-0-3**

This course introduces the student to Extensible Markup Language, a language used in creating special purpose markup languages. Students will be introduced to both the structure of XML and its applications. Topics include how to define your own tags, how XML is used in data interchange, and how XML can be used to deliver web services.

Requisite: CIS 180 or CIS 183 or CIS 184; CIS 174.

Type: C

### **CIS 230 Video Graphics 3-0-3**

This course will teach students the introduction to digital video storytelling and editing. Students will learn the foundation for video import, export and editing functions. It will incorporate photographs, titles, graphics, animation and audio, capturing, editing, and rendering and digital video.

NOTE: CIS 125 or file management skills.

Requisite: None.

Type: C

### **CIS 241 Visual Basic for Applications 3-0-3**

The course is designed for students who want to further their database skills by learning how to identify database requirements, analyze and design database applications, and develop (program) complete applications. Students will learn project planning and development, structured design and programming techniques, testing and debugging, and documentation of actual database applications using Microsoft Access.

NOTE: (CIS 184 or CIS 252) and OAT 185 or database skills and experience with programming language recommended.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **CIS 246 Systems Development & Designs I 3-0-3**

This course introduces the student to basic approaches and methods used in the development of integrated business information systems. Topics include systems study and analysis, specification writing, data flow diagrams, systems flowcharting, data collection techniques, file design, determination of equipment requirements, and reporting methods. Typical business information problems will be analyzed using case studies.

Requisite: CIS 185 or CIS 180.

Type: C

### **CIS 250 C++ Programming I 3-0-3**

This course is an introduction to the rules for coding computer programs in the language C++. In addition to coding, entering, running, and verifying programs, students will use library files to complete the programming process. Students will learn about basic programming concepts and object-oriented concepts. They will develop solutions to problems using selection statements and looping structures. Programs covering a variety of simple applications emphasizing array and object-oriented concepts are written, compiled and executed by students. Programs will be run using the command line and/or using VisualStudio's Integrated Development Environment depending on the language used.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; and one of the following CIS 180, CIS 184, CIS 187, CIS 252.

Type: C

### **CIS 252 C# Programming I 3-0-3**

This course introduces the fundamentals of the Visual C# programming language. Students develop Console and Windows Forms applications written in Visual C# using the Visual Studio development environment. Procedural programming topics include variables, control structures, built-in functions and data types, arrays, self-defined subroutines and functions written in Visual C#. Object oriented programming topics include instantiation, encapsulation, class, property, method, and constructor declarations. The course ends with an introduction to collections, and language integrated queries.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; and one of the following CIS 180, CIS 184, CIS 187, CIS 250.

Type: C

### **CIS 256 Web Site Development 3-0-3**

Students will use the skills learned in previous classes to plan, design, create, and publish dynamic, database-driven websites to a web server using PHP. The work completed in this course should demonstrate the student's ability to design and manage a complex website.

Requisite: CIS 174, CIS 177, CIS 180, CIS 195.

Type: C

### **CIS 257 Electronic Publishing 3-0-3**

This course will teach students to write, assemble and design publications using Adobe InDesign electronic desktop publishing software. Students will prepare publications from four broad categories: reports and proposals; directories, price lists, and catalogs; tables, and charts; and newsletters and magazines.

NOTE: CIS 125 or CIS 181 or file management skills recommended.

Requisite: None.

Type: C

### **CIS 259 Current Web/Graphic Technology 3-0-3**

This course is designed to familiarize students with the most current technology and its impact on web and graphic design. Because this is such a fast-paced field, the course will continually be updated to match the needs of the changing graphic and web design occupations. Topics include content management systems, Adobe suite application integration, current graphic and web development marketing trends and current software applications including graphic design, web design and online content marketing. Interpersonal skills, teamwork, communication skills and ethical considerations applicable to today's graphic and web environment will be developed and practiced.

Requisite: CIS 174.

Type: C

### **CIS 260 C++ Programming II 3-0-3**

This course is a continuation of the beginning C++ programming class. The course builds upon object-oriented concepts such as inheritance, function overloading, and polymorphism. Students apply techniques of dynamic memory to build arrays and objects that can adjust memory requirement at run time. Addition topics include the exploration of input/output capabilities and the string processing capabilities of the language.

Requisite: CIS 250.

Type: C

### **CIS 262 C# Programming II 3-0-3**

This course is a continuation of C# language topics, including exception handling, delegates, inheritance, polymorphism, and interfaces. Students will use the Visual C# language to develop advanced software components and class libraries in Visual Studio.

Requisite: CIS 252.

Type: C

### **CIS 263 Data Access 3-0-3**

This course is an introduction to data access. Students use an integrated development environment and multiple object oriented programming languages to create user interfaces that query and manipulate data from a variety of data providers. Students will create datasets that define data tables, queries, constraints and relationships. Students will also learn techniques to query in-memory data structures, handle errors in a multi-user environment, and use visual tools to create reports.

Requisite: CIS 252, CIS 275

Type: C

### **CIS 264 ASP 3-0-3**

This course teaches students how to create dynamic, data driven web applications using Microsoft's Active Server Pages. Students use MS Visual Studio and one or more programming languages to create Web applications that execute in the context of an IIS compatible web server and are accessed through a web browser. Students will learn to manipulate data sources using command objects, and present data using various server-side data controls. Students will also design custom server-side controls that encapsulate business logic. Additional topics include state preservation, data binding, web services, and master pages.

Requisite: CIS 174, CIS 252, CIS 275.

Type: C

### **CIS 265 Windows Mobile Development 3-0-3**

This course introduces students to mobile computing concepts using Microsoft technologies. Students will work with common controls and layouts to develop Windows 8 and Window Phone 8 apps in Microsoft Visual Studio and Blend. Code is written in C# and XAML. Students also learn about MVVM and data binding, and will publish apps to the Windows Store.

Requisite: CIS 252.

Type: C

### **CIS 266 Database Design 3-0-3**

This course is a survey of logical and physical database design theory. Students learn to analyze database system requirements and produce formal requirement specifications. Students will create models of database systems by identifying various system entities and their relationships. This includes eliminating anomalies using normalization and developing entity relationship (ER) and UML diagrams that represent the system's logical structure. Additional topics include cardinality, weak and strong entities, and orthogonality. Students will also use popular data modeling software tools.

Requisite: CIS 195.

Type: C

### **CIS 272 Advanced Photoshop 3-0-3**

This course is designed for students to acquire an advanced knowledge of the tools and techniques of the Adobe Suite photo editing tools, as they are applied to graphic design, multi-media and other studio art applications. The course will cover: advanced editing, special effects, 3-D environment and project based work for portfolios.

Requisite: CIS 172.

Type: C

## Course Description Guide (continued)

### **CIS 273 Advanced Graphics and Animation 3-0-3**

This course is an introduction to one of the industry's most popular motion graphics software tools. Students produce animations through key framing, text, masking, mattes and 3-D space. Compositing, video, film and title sequences are emphasized.

Requisite: CIS 172, CIS 173.

Type: C

### **CIS 274 Android Mobile Development 3-0-3**

Students will learn to use the Android SDK, Android Development Tools (ADT) along with Java and Eclipse, a popular integrated development environment (IDE) to develop apps for Android devices. Students will learn fundamental programming concepts using Java to create, edit, debug and compile projects in Android. Also covers the process of preparing and publishing Android applications to the Android Market.

Requisite: CIS 187.

Type: C

### **CIS 275 SQL 3-0-3**

This course introduces students to Structured Query Language, the universal language used to control all relational database management systems. Students will learn to create, manipulate, and query data in a database using SQL commands.

NOTE: CIS 195 or database skills recommended.

Requisite: None.

Type: C

### **CIS 277 jQuery 3-0-3**

In this course, students will learn how to implement jQuery into any website and be able to use built-in methods to create the following types of components: dynamic page content, form validation, animated drop down/fly out navigation, and animated slider banners.

Requisite: CIS 177.

Type: C

### **CIS 281 Database Programming 3-0-3**

This course is designed to teach students procedural programming using a relational database product. Students use fundamental language elements, including variables and control structures, to create and work with procedures, functions, and packages within the context of a popular relational database management system.

Requisite: CIS 180, CIS 275.

Type: C

### **CIS 282 Database Application Development 3-0-3**

This course is continuation of CIS 281. Students will learn to develop applications for entering and displaying database data and will create an integrated database project. They will also learn to develop user database interfaces using dynamic web pages.

Requisite: CIS 275.

Type: C

### **CIS 283 Database Administration 3-0-3**

This course is an introduction to database administration. Students will install and configure a relational database management system, create and remove database instances, monitor and optimize performance, import and export data, configure logical and physical storage, manage users and roles, grant and revoke user and object privileges, and backup and restore databases.

Requisite: CIS 275.

Type: C

### **CIS 284 Visual Basic Programming II 3-0-3**

The course is a continuation of Visual Basic language topics, including exception handling, delegates, inheritance, polymorphism, and interfaces. Students will use the Visual Basic language to develop advanced software components and class libraries in Visual Studio.

Requisite: CIS 184.

Type: C

### **CIS 287 Java Programming II 3-0-3**

This course is designed to expand the subject material covered in the Java Programming class. Topics include the continuation of Java programming techniques and use of the common Java API. Subjects may include IO, JDBC, threads, Swing, and other packages found in the Java SDK. Students will continue their study of the Apache Tomcat Web server and will be introduced to the Eclipse IDE.

Requisite: CIS 187.

Type: C

### **CIS 288 JSP 3-0-3**

This course will teach the basics of dynamic Web page development using Java Servlets and JavaServer pages. Course curriculum will cover the role of dynamic site generation, how Servlets and JavaServer pages are used to generate dynamic content, and how to set up a development environment for creating Servlets/JSP. After taking this class, students will have a good understanding of the uses of Servlets/JSP, the Servlet/JSP life cycle, and a basic understanding of the best practices involved in their development.

Requisite: CIS 174, CIS 187.

Type: C

### **CIS 296 Web and Graphics Internship 3-0-3**

The student will complete a special assignment with an approved employer for 160 hours of related work experience. Evaluation of the student's performance will be a cooperative effort between the employer and the instructional staff.

The primary purpose of the field project is to give the student an opportunity to gain meaningful work experience. NOTE: Minimum GPA of 2.5. Students should be enrolled in the last semester of study prior to graduation.

Requisite: Department consent.

Type: C

### **CIS 297 Information Technology Internship 1-10-3**

The student will complete a special assignment with an approved employer for 160 hours of related work experience. Evaluation of the student's performance will be a cooperative effort between the employer and the instructional staff.

The primary purpose of the field project is to give the student an opportunity to gain meaningful work experience. NOTE: Minimum GPA of 2.5. Students should be enrolled in the last semester of study prior to graduation.

Requisite: Department consent.

Type: C

### **CIS 299 Topics in CIS Variable up to (4)-0-(4)**

CIS 299 is designed to enhance the student's understanding of a particular information processing technology or application. Current technologies, software, and cases relating to the information processing environment will be presented and discussed.

Note: Requisite varies by topic.

Requisite: None.

Type: C

## Construction Bricklayer

### **BLA 118 Construction Bricklayer Apprentice I 3-2-4**

This course will acquaint the student with some of the basic knowledge of the bricklaying trade. Material covered in the first year will include history, manufacturing processes and structural properties of masonry materials. Types of mortar and sand will also be covered.

Requisite: None.

Type: C

### **BLA 128 Construction Bricklayer Apprentice II 3-2-4**

Materials covered in this course will include manufacturing processes and structural properties of masonry materials. This course is a continuation of BLA 118.

Requisite: BLA 118.

Type: C

## Course Description Guide (continued)

### **BLA 138 Construction Bricklayer Apprentice III 3-2-4**

This course of study will introduce the student to the tools, math and blueprints used in the bricklaying trade. Material will include the trowel, brick hammer, blacking chisel, story pole, and spacing ruler. Trade arithmetic, blueprints, and sketching will also be covered.

Requisite: BLA 128.

Type: C

### **BLA 148 Construction Bricklayer Apprentice IV 3-2-4**

Materials covered in this course will include the trowel, brick hammer, blacking chisel, story pole, and spacing ruler. Trade arithmetic, blueprints and sketching will also be covered. This course is a continuation of BLA 138.

Requisite: BLA 138.

Type: C

### **BLA 258 Construction Bricklayer Apprentice V 3-2-4**

This course is designed to give the three-year apprentice some practical shop work along with his on-the-job training. Material covered will include motion study, structural patterns, and laying of units.

Requisite: BLA 148.

Type: C

### **BLA 268 Construction Bricklayer Apprentice VI 3-2-4**

Materials covered will include motion study, structural patterns and laying of units. This course is a continuation of BLA 258.

Requisite: BLA 258.

Type: C

### **BLA 299 Special Topics in Construction Bricklaying Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the construction bricklayers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Construction Carpentry

### **CCA 116 Health & Safety I 1.5-1-2**

This course enhances the student's ability to recognize and address hazards involved in residential, commercial, and industrial construction work. This class is designed to help meet the industry demand for a trained workforce. It addresses OSHA safety regulations and safe operating practices related to hazards in construction and the safe use of elevated work platforms.

Requisite: None.

Type: C

### **CCA 117 Shop Orientation 1.5-1-2**

This course is an introductory course whose purpose is to help the beginning-level apprentice become proficient in basic print reading. The apprentice will also be able to recognize and address hazards involving the use of shop power tools as they construct various projects. An introduction is given to the elements of prints, such as lines, symbols, dimensions and notes. Emphasis is placed on both construction drawings (plans, elevations, sectionals, details, and specifications) and shop safety, through lecture and classroom exercises.

Requisite: None.

Type: C

### **CCA 118 Concrete Formwork I 1.5-1-2**

This course is the first of two courses designed to introduce students to basic hands-on concrete forming applications and systems, hardware use, multiple anchoring procedures, use of concrete terminology, and provide the skills needed for psychomotor techniques in concrete construction. Students will also learn how to work with others to make the job more efficient.

Students will achieve building layout procedures, establish elevations, install footings formwork, and foundation formwork. Students will also be given an opportunity to read forming diagrams.

Requisite: None.

Type: C

### **CCA 119 Concrete Formwork II 1.5-1-2**

This course is the second of two courses designed to introduce basic hands-on concrete forming applications and systems, hardware use, multiple anchoring procedures, use of concrete terminology, and provide the skills needed for psychomotor techniques in concrete construction. Students will also learn how to work with others to make the job more efficient. Students will achieve building layout procedures, establish elevations and install foundations. Students will be given the opportunity to read forming diagrams. Students will also be introduced to commercial concrete stair forming, insulated concrete forms, piling, and commercial footings and foundations.

Requisite: None.

Type: C

### **CCA 126 Residential Framing I 1.5-1-2**

The Residential Construction course will cover basic home building procedures for sub floor and wall framing. Emphasis will be placed on preparing students to start the lay-out process required for residential home building. Procedures followed and taught will be current field methods used by today's residential carpenters.

Requisite: None.

Type: C

### **CCA 127 Residential Framing II 1.5-1-2**

The Residential Construction course will cover basic home building procedures including the roof framing and basic stair building. Procedures followed and taught will be current field methods used by today's residential carpenters. This class consists of classroom lecture and study, along with hands on shop time constructing a small house with stairs and a hip roof.

Requisite: None.

Type: C

### **CCA 128 Interior Systems Framing I 1.5-1-2**

This course is the first of two courses covering interior systems for carpenters. The emphasis will be on rough framing with metal studs. Students will gain knowledge and develop skills necessary to read commercial prints, layout projects with a laser plumb, level, and square, to be used to erect their projects with metal studs. Coursework will be performed according to the latest codes and the USG Cooperation Handbook.

Requisite: None.

Type: C

### **CCA 129 Interior Systems Framing II 1.5-1-2**

This course is the second of two courses covering interior systems for carpenters. The emphasis will be on rough framing and finishes with metal studs. In this course, students gain knowledge and skills necessary to read commercial prints, layout projects with a laser plumb, level, erect a project with metal studs, plumb, level, and square. Student projects will consist of walls with doors and borrow lights, ceiling joists that overhang to the front, soffits under overhangs, over framing to simulate a storefront, install acoustical ceilings, level, square, develop correct elevation, install drywall, drywall trims per plan, install hollow metal doors, and frames per plan. These activities will be completed according to the latest codes and USG handbook.

Requisite: None.

Type: C

### **CCA 165 Construction Carpentry Internship I 0-20-4**

The Construction Carpentry Internship I course has been developed and established as the on-the-job component of the Construction Carpentry Apprenticeship program. This course will reinforce both knowledge and skills of the apprentice by hands-on experience relating to topics such as the interpretation of drawings and layout, rough framing, roof framing, exterior and interior finish work for the modern home or light commercial building, heavy timber construction and reinforced concrete structures. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman carpenter.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **CCA 236 Millwright Basics I 1.5-1-2**

A mechanical print is a detailed plan of what is to be installed, constructed, or assembled. It contains all of the information necessary to complete a project and may include multiple views, detailed instructions, and precise information about the size and promotion of what is to be built. Reading mechanical prints correctly helps ensure that project is completed properly. This workshop discusses how to read a mechanical print. It introduces the type of prints that may be encountered by a millwright. It also describes the information provided on a print and how to use the information effectively. This course will also address OSHA safety regulations and safe work practices related to hazards in millwright work. Training will be delivered through classroom instruction and a series of hands-on exercises designed to evaluate the proficiency of the student.

Requisite: None.

Type: C

### **CCA 237 Millwright Basics II 1.5-1-2**

Millwright Basics II class is an introduction course whose purpose is to help the beginning-level apprentice become proficient in the safe and accurate manipulation of the tools specific to millwright field. The apprentice will learn to recognize and address hazards involving the use of millwright power tools as they construct various shop projects. An introduction is given to the jobs and tasks specific to millwright trade, as modern machinery is manufactured according to very exact sizing, weight, and quality standards. For this reason, it is vital that the millwright possess the skills necessary to use precision tools necessary to perform safely and effectively on any jobsite. Training will be delivered through classroom instruction and a series of hands-on exercises designed to evaluate the proficiency of the student. Written quizzes and a final exam will also be utilized to evaluate the student's ability to identify specific tools and manipulate them to a job-like setting.

Requisite: None.

Type: C

### **CCA 238 Carpentry Welding Basics I 1.5-1-2**

This is the first course of two courses designed to introduce students to basic hands-on cutting and welding processes. Students will also learn this course will provide welding and cutting safety, welding terms and definitions, weld positions, joint design, weld symbols, weld discontinuities, base and filler metal identification. Students will be provided the skills needed for psychomotor techniques in commercial welding. Students will also learn how to work with others to make the job more efficient.

Requisite: None.

Type: C

### **CCA 239 Carpentry Welding Basics II 1.5-1-2**

This is the second course of two whose purpose is to introduce welder qualification and certification, American Welding Society testing procedures and standards, nondestructive testing, and destructive testing. Vertical up shielded metal arc welding will be the main concentration.

Requisite: None.

Type: C

### **CCA 246 Safety Orientation I 1.5-1-2**

This course is one of two courses designed to introduce students to the safe use of elevated work platforms or scaffolding. This course enhances the student's ability to recognize and address hazards involved in residential, commercial, and industrial construction work. This class is designed to help meet the industry demand for a trained workforce. It addresses OSHA safety regulations and safe operating practices related to hazards in construction and the safe use of scaffolding. Scaffolding Erection provides information and guidance for calculating capacity and contributory leg loads. It introduces criteria for all scaffold types and provides methods for platform construction and assembly techniques for frame, tube and clamp, and system scaffolds. It discusses scaffold access and egress and safe use guidelines, including fall protection and falling object protection. It presents the training requirements for scaffold erectors, dismantlers, and users and provides clarification of the difference between a competent person and a qualified person.

Requisite: None.

Type: C

### **CCA 247 Safety Orientation II 1.5-1-2**

This course is intended to supplement the hands-on experience gained in instruction on rigging techniques and hardware. It introduces the subject by beginning with the history of rigging, followed by information about safety, wire rope, chain construction, slings, hardware, and knot-tying techniques. This will be followed by discussion on rigging procedures that cover common hitch configuration, hardware and sling attachments, working with different types of cranes, and directing crane movements with hand and voice signals used by riggers to signal crane operators.

Requisite: None.

Type: C

### **CCA 248 Interior/Exterior Trim 1.5-1-2**

The Interior/Exterior trim class will cover basic procedures and proven methods of installation for vinyl siding, kitchen cabinets, and finish trim moldings. Procedures followed and taught will be current field methods used in the construction industry. This class consists of classroom work along with hands-on shop experience, although shop time will make up the majority of the class, students will learn safety, procedures, terminology, and estimating in the classroom before proceeding to the shop area.

Requisite: None.

Type: C

### **CCA 249 Intermediate Prints 1.5-1-2**

This course will provide the student with print reading experience in residential and light commercial construction. Print reading fundamentals, construction materials, light frame construction utilized in residential, and light commercial building are covered in detail. Heavy emphasis is placed on residential, commercial building, and the Americans with Disabilities Act code requirements. The student will be introduced to job specifications and how they relate to job prints, mechanical and electrical prints, and schedules for all interior finish products. The course will prepare the student with realistic project experience for future employment.

Requisite: None.

Type: C

### **CCA 270 Construction Carpentry Internship II 0-20-4**

The Construction Carpentry Internship II course has been developed and established as the on-the-job intermediate component of the Construction Carpentry Apprenticeship program. This course will reinforce both knowledge and skills of the apprentice at an intermediate level by hands-on experience relating to topics such as the interpretation of drawings and layout, rough framing, roof framing, exterior and interior finish work for the modern home or light commercial building, heavy timber construction and reinforced concrete structures. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman carpenter.

Requisite: None.

Type: C

### **CCA 290 Construction Carpentry Internship III 0-20-4**

The Construction Carpentry Internship III course has been developed and established as the on-the-job advanced component of the Construction Carpentry Apprenticeship program. This course will reinforce both knowledge and skills of the apprentice at an advanced level by hands-on experience relating to topics such as the interpretation of drawings and layout, rough framing, roof framing, exterior and interior finish work for the modern home or light commercial building, heavy timber construction and reinforced concrete structures. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman carpenter.

Requisite: None.

Type: C

## Construction Cement Mason

### **CMA 113 Construction Cement Mason Apprenticeship I 3-2-4**

This course will acquaint the student with some of the practical knowledge of the cement masons trade. Material covered in this first course will include information about job opportunities, concrete materials and quality mix concrete.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **CMA 114 Introduction To Construction Plastering 3-2-4**

This course will explore exterior and interior plastering systems common to the industry. Instruction and demonstration will introduce the student to the applied math, tools, and safety regulations of all new employees.

Requisite: None.

Type: C

### **CMA 123 Construction Cement Mason Apprenticeship II 3-2-4**

This course will introduce the student to information concerning tools, placing and finishing concrete slabs, how to estimate during hot weather, and concreting in cold weather.

Requisite: CMA 113.

Type: C

### **CMA 124 Construction Plastering Materials & Systems 3-2-4**

This course is an extension of CMA 114. Materials will include working conditions, exterior insulation and finishing systems, backing materials and an overview of scaffolding systems.

Requisite: CMA 114.

Type: C

### **CMA 133 Construction Cement Mason Apprenticeship III 3-2-4**

This course is designed to give the second year apprentice practical experience in handling transit level and laying out buildings. The care and use of the hand tools will also be covered.

Requisite: CMA 123.

Type: C

### **CMA 134 Construction Plastering Principles 3-2-4**

This course is an extension of CMA 124. Materials will include working conditions, exterior insulation and finishing systems, backing materials and an overview of scaffolding systems.

Requisite: CMA 124.

Type: C

### **CMA 144 Construction Plastering Applications 3-2-4**

This course will introduce materials used in construction plastering. Materials will include veneer plaster, grouting, and fireproofing.

Requisite: CMA 134.

Type: C

### **CMA 245 Construction Cement Mason Apprentice IV 3-2-4**

This course is designed to give the second-year apprentice practical knowledge in math, concrete figuring and blueprint reading. Also included will be job-site safety and safe work practice.

Requisite: CMA 133.

Type: C

### **CMA 254 Plaster Substrates and Finishes 3-2-4**

This course will introduce the student to substrates and various plastering materials, application and mixing procedures.

Requisite: CMA 144.

Type: C

### **CMA 255 Construction Cement Mason Apprenticeship V 3-2-4**

This course will include information concerning drafting, types of form layouts and the setting of forms. The course will also include new materials and methods developed for the industry.

Requisite: CMA 245.

Type: C

### **CMA 264 Advanced Plastering Techniques 3-2-4**

This course is a continuation of CMA 254. It will cover plastering finishes, applying plaster and the finishing techniques for each type of application. An introduction to blueprint reading will also be included.

Requisite: CMA 254.

Type: C

### **CMA 265 Construction Cement Mason Apprenticeship VI 3-2-4**

This course will acquaint the student with practical knowledge of cement troweling machines, CMT paving and blueprint reading. A short course in first aid will also be included.

Requisite: CMA 255.

Type: C

### **CMA 274 Principles of Plaster Material 3-2-4**

This course will include cement plaster on metal lath cement block and bricks, below grade foundations. It will include an introduction to molding and ornamentation using plaster.

Requisite: CMA 264.

Type: C

### **CMA 284 Plaster Molds and Ornamentation 3-2-4**

This course will include an introduction to plaster ornamentation using various techniques. It will also include Blueprint Reading and Estimating for plasterers.

Requisite: CMA 274.

Type: C

### **CMA 299 Special Topics for Cement Masons Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the construction cement masons' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Construction Electrical Program

### **IEW 110 Intro to Math Apps for the IBEW 2-0-2**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include basic math concepts, units and conversion, metric system, square roots, solving algebraic equations, scientific notation, and basic principles of geometry, vector, ratios and proportions.

Requisite: Department consent.

Type: C

### **IEW 111 IBEW Electrician Inside Wireman I 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include job site safety, electrician's tools, material rigging, basic conduit bending, electrical calculations and basic blueprint reading.

Requisite: Department consent.

Type: C

### **IEW 112 IBEW Electrician Inside Wireman II 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include direct current theory, series and parallel circuits, circuit calculations and national electrical code.

Requisite: None.

Type: C

### **IEW 113 IBEW Electrician Inside Wireman III 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include codeology as it relates to the National Electrical Code, measuring processes used in the electrical industry, intermediate conduit bending, and hydraulic, mechanical and hand benders.

Requisite: None.

Type: C

### **IEW 114 IBEW Electrician Inside Wireman IV 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include inductance and capacitance in AC circuits, National Electrical Code standards relating to transformers, transformer theory, transformer design and calculations, wiring methods and devices.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **IEW 118 IBEW Elec Wireman Internship I 0-20-4**

This course is designed to compliment classroom instruction for the Construction Electrical Specialist program. This on-the-job component will reinforce both knowledge and skills of the apprentice by hands-on experience relating to topics such as the wiring of residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician. Requisite: Department consent. Type: C

### **IEW 131 IBEW Electrician Residential I 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include job site safety, introduction to the National Electrical Code, basic algebra, basic trigonometric functions, DC Theory, electrician's tools, material rigging, basic electrical calculations. Requisite: Department consent. Type: C

### **IEW 132 IBEW Electrician Residential II 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include direct current theory, series and parallel circuits, circuit calculations, basic blueprint reading and the National Electrical Code. Requisite: None. Type: C

### **IEW 138 IBEW Elec Residential Internship I 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist program. The on-the-job component will consist of work relating to the wiring of residential installations and specialized electrical systems for residential applications. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician. Requisite: Department consent. Type: C

### **IEW 141 IBEW Electrician Lineman I 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include job site safety, electrician's tools, material and equipment rigging and handling, OSHA standards, electrical hazard awareness, flagging, specific climbing and digging equipment, protective line devices, personal protective equipment, and the introduction to electron and electrical theory. Requisite: Department consent. Type: C

### **IEW 142 IBEW Electrician Lineman II 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include emphasis on job-site safety, Lock-out/Tag-out OSHA standards, electrical hazard awareness, Ohm's Law, electrical theory and calculations, guy installations, line conductions, insulators, excavating and shoring, planning and designing for underground systems. Requisite: None. Type: C

### **IEW 145 IBEW Elec Lineman Internship I 0-20-4**

This course is designed to complement classroom instruction for the construction electrical specialist program. The on-the-job component will reinforce both knowledge and skills of the apprentice by hands-on experience relating to topics such as the wiring of electrical service to residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician. Requisite: Department consent. Type: C

### **IEW 151 IBEW Electrician Installer/Tech I 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include safety, tools and fastening devices, rigging, cable installation, bonding and grounding according to the National Electrical Code, fiber-optics, and blueprint reading. Requisite: Department consent. Type: C

### **IEW 152 IBEW Electrician Installer/Tech II 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include history of labor and the apprenticeship program, the National Electrical Code, metric conversions, basic algebra, DC Theory, series and parallel circuits. Requisite: None. Type: C

### **IEW 153 IBEW Electrician Installer/Tech III 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include direct current combination circuits, alternating current circuits, telephone systems, security and alarm systems and the National Electrical Code. Requisite: None. Type: C

### **IEW 154 IBEW Electrician Installer/Tech IV 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include the use of TIA/EIA Standards, Life Safety Systems, Network cabling, LAN Systems, interface of telephone and sound systems, and the National Electrical Code. Requisite: None. Type: C

### **IEW 157 IBEW Elec Installer/Tech Internship I 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist program. The on-the-job component will consist of work relating to telecommunications installation; which includes telephone, fire alarm, security, fiber-optics, CCTV home automation, nurses call systems, the National Electrical Code and testing of various systems. All of the on-the-job work-related activities will be performed under the direct supervision of a qualified Telecommunications Installer/Technician. Requisite: Department consent. Type: C

### **IEW 211 IBEW Electrician Inside Wireman V 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include AC/DC review, semiconductors, transistors, SCRs, amplifiers, and electronic applications. Requisite: None. Type: C

### **IEW 212 IBEW Electrician Inside Wireman VI 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include the National Electrical Code Article 250, electrical theory to grounding, grounded conductor, service grounding, earth testing, WYE and DELTA three-phase transformers, and load calculations. Requisite: None. Type: C

### **IEW 213 IBEW Electrician Inside Wireman VII 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include lightning protection, fiber optics, motor constructions, motor installations, motor protection, motor controls, and schematic diagrams. Requisite: None. Type: C

### **IEW 214 IBEW Electrician Inside Wireman VIII 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include digital logic, ladder logic, logic circuits and controls, AC motor speed controls, programmable logic controllers basics, operation, and installation; designing and programming PLC; air conditioning and refrigeration systems, cable tray, motor control circuits and protection, and hazardous locations. Requisite: None. Type: C

## Course Description Guide (continued)

### **IEW 215 IBEW Electrician Inside Wireman IX 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include fire alarm systems-operation, installation, maintenance, troubleshooting; fundamentals of instrumentation and equipment used for calibration; telephone wiring and introduction to TIA/EIA standards and codes; air conditioning systems and basic security systems.

Requisite: None.

Type: C

### **IEW 216 IBEW Electrician Inside Wireman X 3.5-1-4**

This course is part of the IBEW Apprenticeship Program. The topics to be covered include solar power systems, high voltage maintenance and testing, power problems, power quality, power harmonics, automation networks, National Electrical Codes for special conditions, and NEC calculations.

Requisite: None.

Type: C

### **IEW 218 IBEW Elec Wireman Internship II 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist program. The on-the-job component will reinforce both knowledge and skills of the apprentice by hands-on experience relating to topics such as the wiring of residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician.

Requisite: Department consent.

Type: C

### **IEW 233 IBEW Electrician Residential III 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include blueprint reading, codeology as it relates to the National Electrical Code, Single and three-phase transformers, and comparison of alternating current and direct current theory along with emphasizing the importance of job site safety.

Requisite: None.

Type: C

### **IEW 234 IBEW Electrician Residential IV 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include the National Electrical Code for proper sizing and installation of services, feeders, branch circuits, specialty equipment, conduit bending, signaling circuits, fire alarm and security circuits, along with emphasizing the importance of job site safety.

Requisite: None.

Type: C

### **IEW 235 IBEW Electrician Residential V 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include RL, RC, and RLC circuits, National Electrical Code calculations, motor control, telephone and sound systems.

Requisite: None.

Type: C

### **IEW 236 IBEW Electrician Residential VI 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include National Electrical Code calculations for pool and fountains, home automation structured for the future, fire & security systems, UPS systems, solar power & generation, fiber optics and local area networks.

Requisite: None.

Type: C

### **IEW 238 IBEW Elec Residential Internship II 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist program. The on-the-job component will consist of work relating to the wiring of residential installations and specialized electrical systems for residential applications. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician.

Requisite: Department consent.

Type: C

### **IEW 241 IBEW Electrician Lineman III 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include emphasis on job site safety, hazardous communication, metering devices, distribution circuits, the principles of three phase alternating current, transformers, blueprint fundamentals, symbols, specifications, electrical drawings and diagrams, introduction to using a transit, reading maps, plans and profiles, and construction standards/NESC.

Requisite: None.

Type: C

### **IEW 242 IBEW Electrician Lineman IV 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include emphasis on job-site safety, cable types, sizes, splicing and terminations, fault indicators, explosives, mobile cranes, lifting and digging operations, hot line tools, tower footings and erections, joining high-line conductors, street lighting and traffic signals, over voltage protection, phasing and typing-in circuits and overload capabilities of electrical equipment.

Requisite: None.

Type: C

### **IEW 243 IBEW Electrician Lineman V 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include emphasis on job site safety, testing ground resistance, maximeters, a review of alternating current, inductance, capacitors, fiber optics and codes and standards, rubber protective devices, live line maintenance, extra high voltage primary metering and fusing, fuse principles, substation equipment, construction and safety procedures, oil circuit breakers, air break switches, watt hours and watt-hour meters.

Requisite: None.

Type: C

### **IEW 244 IBEW Electrician Lineman VI 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include emphasis on job site safety, fault currents, testing for line faults, voltage regulation, step regulators and tap changing transformers, capacitors and capacitor switching, lightning protection, wind energy, photovoltaics, labor management, foremanship and a comprehensive review on transformers, insulator testing, live line maintenance, substation control equipment, power factor, power harmonics, and blueprints.

Requisite: None.

Type: C

### **IEW 245 IBEW Elec Lineman Internship II 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist Program. The on-the-job component will reinforce both knowledge and skills of the apprentice by hands-on experience relating to topics such as the wiring of electrical service to residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journeyman electrician.

Requisite: Department consent.

Type: C

### **IEW 251 IBEW Electrician Installer/Tech V 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include inductive and capacitive reactance, diodes, power supplies, transistors, amplifiers, oscillators, CCTV, and security systems.

Requisite: None.

Type: C

### **IEW 252 IBEW Electrician Installer/Tech VI 3.5-1-4**

This course is a continuation of the IBEW Apprenticeship Program. The topics to be covered include CCTV surveillance systems, security ID systems, home automation theater, audio & video, nurse call systems, high performance testing of cabling systems, along with grounding and bonding according to the National Electrical Code.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **IEW 257 IBEW Elec Installer/Tech Internship II 0-20-4**

This course is designed to complement classroom instruction for the Construction Electrical Specialist program. The on-the-job component will consist of work relating to telecommunications installation; which includes telephone, fire alarm, security, fiber-optics, CCTV home automation, nurses call systems, the National Electrical Code and testing of various systems. All of the on-the-job work-related activities will be performed under the direct supervision of a qualified Telecommunications Installer/Technician.

Requisite: Department consent.

Type: C

### **IEW 299 Special Topics in Construction Electrical Specialist Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the construction electrical specialists' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Construction Ironworker

### **IWA 119 Construction Ironworker Apprentice I 3-2-4**

The ironworker apprentice in the first course is introduced to the basic information about his trade. Materials covered will include basics in blueprint reading, welding, safety and rigging.

Requisite: None.

Type: C

### **IWA 129 Construction Ironworker Apprentice II 3-2-4**

This course is basically an extension of the first semester course. More information is given in blueprint reading, welding, safety and rigging.

Requisite: IWA 119.

Type: C

### **IWA 139 Construction Ironworker Apprentice III 3-2-4**

This is the first section course of an apprentice's second year training. Instruction will be in trade math, blueprints, structural, safety, welding and rigging.

Requisite: IWA 129.

Type: C

### **IWA 249 Construction Ironworker Apprentice IV 3-2-4**

This is the second semester of the apprentice's second year training. This instruction will include information in trade math, blueprints, structural, safety, welding and rigging. Although the units of study are the same, the material is more detailed and technical each semester.

Requisite: IWA 139.

Type: C

### **IWA 259 Construction Ironworker Apprentice V 3-2-4**

This course is the first semester of the ironworker's third year. The material covered will be included in three basic units of instruction. These units of instruction are blueprints and drawings, welding, structural, reinforcing, safety and ornamental ironwork.

Requisite: IWA 249.

Type: C

### **IWA 269 Construction Ironworker Apprentice VI 3-2-4**

This course is the second semester of the ironworker's third year. This course completes the apprentices formal classroom related training. The units of instruction will be the same as used in IWA 259. The material offered in this course, along with new materials, will include a review of the five previous courses of study.

Requisite: IWA 259.

Type: C

### **IWA 279 Construction Ironworker Apprentice VII 3-2-4**

This course will supplement the fourth year apprentices on-site work experience with classroom instruction. The course will include reading blueprints for metal buildings; advanced rigging, welding and safety as they relate to metal buildings will also be addressed.

Requisite: IWA 269.

Type: C

### **IWA 289 Construction Ironworker Apprentice VIII 3-2-4**

This course will supplement the fourth year apprentices on site work experience with classroom instruction. The course will include advanced blueprint reading, commercial glass installation, commercial fencing, welding and safety training.

Requisite: IWA 279.

Type: C

### **IWA 299 Special Topics in Ironworking Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the Construction Ironworkers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Construction Management Technology

### **CMT 150 Construction MGT Internship I 0-20-3**

### **CMT 151 Construction MGT Internship II 0-20-4**

### **CMT 201 Construction MGT Internship III 0-20-4**

### **CMT 251 Construction MGT Internship IV 0-20-4**

Provides experience in construction management. Each student will be required to be employed in a construction related field. The student will be monitored by experienced supervisory personnel. The student will be required to document and work a minimum of 240 to 320 clock hours per semester.

Requisite: Department consent.

Type: C

### **CMT 100 Introduction to Construction 3-0-3**

Introduces the student to the basic fundamentals of the construction industry. Includes construction terminology, processes and procedures.

Requisite: None.

Type: C

### **CMT 102 Construction Documents 3-0-3**

Orients the student to construction blueprints and specifications. Emphasis on how to read and interpret all types of working drawings used in the construction industry.

Requisite: None.

Type: C

### **CMT 103 Construction Materials & Methods I 3-0-3**

A comprehensive study of the materials and methods used in building construction. Emphasis on structural materials.

Requisite: None.

Type: C

## Course Description Guide (continued)

- CMT 105 Computer Applications for Construction 3.5-1-4**  
Building Information Modeling (BIM) allows construction professionals to communicate with the AEC community and workforce when virtual projects are a project requirement. BIM modeling results in three-dimensional virtualized buildings that contain information typically found in plans and specifications, allowing designers and constructors to communicate freely without confined barriers that result in adversarial relationships between owner, builder and designer. BIM's virtual world brings us an unprecedented amount of control and knowledge before the shovel hits the ground. The first semester of BIM introduces students to steps necessary for constructing a 3-D model using Autodesk REVIT software. 2-D projects including plans and specifications of constructed buildings will be used for modeling and identification of assembly parts and products. The resulting 3-D model will provide necessary experience and familiarity for students to continue with the second semester of BIM.  
Requisite: None.  
Type: C
- CMT 145 Building Trades Craft Survey I 3-2-4**  
The construction students will explore the basic trades' skills required to complete a modern building project. The course will survey carpentry, ironwork, laborer's work, sheetmetal and concrete finishing.  
Requisite: None.  
Type: C
- CMT 146 Building Trades Craft Survey II 3-2-4**  
The construction students will explore the basic trades' skills required to complete a modern building project. The course will survey painting, bricklaying, electrical and plumbing/pipefitting.  
Requisite: CMT 145.  
Type: C
- CMT 147 Energy Auditor 3.5-1-4**  
This course provides students with training in preparation for the Building Performance Institute written exam for the BPI Building Analyst Professional Certification. This course is based on the core competencies for the Weatherization Assistance Program developed by the Weatherization Trainers Consortium. The course also is compliant with the BPI Building Analyst Professional Standards. Instruction will include principles of energy, energy and the building shell, air leakage, insulation, windows and doors, heating, cooling, water heating, health and safety and energy audits. Students will complete the following coursework for seminars and certifications in: Lead for Renovation EPA and OSHA 10-Hour Card. The BPI certification written test is given the following day after the classroom training is completed. The BPI certification is contingent upon the successful completion of one field audit.  
Requisite: Department consent.  
Type: C
- CMT 148 Weatherization Specialist 3.5-1-4**  
This course provides students with training in preparation for the Building Performance Institute written exam for the BPI Envelope Professional Certification or Residential Building Envelope Whole House Air Leakage Control Installer. This course also prepares students for the BPI field exam portion of the certification. This course is based on the review core competencies for the Weatherization Assistance Program developed by the Weatherization Trainers Consortium. The course also is compliant with the BPI Building Analyst Professional Standards. Instruction will include review principles of energy, energy and the building shell, air leakage, insulation, windows and doors, heating, cooling, water heating, health and safety and energy audits. The BPI certification is contingent upon the successful completion of one field audit and successful completion of written examination.  
Requisite: Department consent.  
Type: C
- CMT 149 Weatherization II 0.5-2-1.5**  
This course provides students with training in preparation for the Building Performance Institute oral and field practicum evaluation for RBE-WHALCI certification. This course is compliant with BPI RBE-WHALCI standards. Instruction will include insulation, air leakage, duct insulation, duct leakage, air barriers, IC and non-IC rated lighting, door seals and gaskets, and material selection for proper dams. The BPI certification oral and practicum exam is given within 14 days of completion of the course. The BPI certification is contingent upon the successful completion of oral and field practicum. The course will also in OSHA Health and Safety training.  
Requisite: Department consent.  
Type: C
- CMT 152 Construction Materials & Methods II 3-0-3**  
A comprehensive study of the materials and methods used in building construction. Emphasis on closure and finishes.  
Requisite: None.  
Type: C
- CMT 153 Construction Estimating 3-0-3**  
The methods and procedures used in estimating construction costs.  
Requisite: CMT 102.  
Type: C
- CMT 200 Advanced Blueprint Reading For Building Trades I 3-0-3**  
The class emphasizes an understanding of the skills, the application and coordination of the contract documents that are used for large building and civil construction projects. Architectural documents of current building projects, as well as engineering drawings and specs will be reviewed and studied in detail.  
Requisite: CMT 102.  
Type: C
- CMT 204 Basic Engineering for Builders 3-0-3**  
The course will provide the student with a basic understanding of engineering principles that are used to build a building.  
Requisite: CMT 102, CMT 103, GT 105.  
Type: C
- CMT 205 International Building Code 3-0-3**  
The scope of this code covers all buildings except detached one- and two-family dwellings and townhouses not more than three stories in height. This comprehensive code features time-tested safety concepts, structural, and fire and life safety provisions covering means of egress, interior finish requirements, comprehensive roof provisions, seismic engineering provisions, innovative construction technology, occupancy classifications, and the latest industry standards in material design. It is founded on broad-based principles that make possible the use of new materials and new building designs.  
Requisite: CMT 102, CMT 103, CMT 152.  
Type: C
- CMT 206 Building Systems 3-0-3**  
This course incorporates the most recent building codes, specialty codes and other regulatory requirements impacting the design of mechanical, electrical, plumbing and structural systems. Sustainable design principals are applied to the selection, design and construction of these systems. Students will develop basic vocabulary and understanding of how commonly used systems function while gaining understanding of commissioning principles and procedures related to building system LEED certification.  
Requisite: CMT 102, CMT 103.  
Type: C
- CMT 244 Occupational Safety & Health I 3-0-3**  
Familiarizes students with a total accident prevention program and safety movement. Concepts of safety education with special emphasis placed on obligations, responsibilities, principles and practices necessary in understanding accident prevention. For those individuals interested in or having direct responsibilities for the implementation and/or operation of an accident-prevention program.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

### **CMT 253 Construction Estimating-Cost Accounting II 3-0-3**

The methods and procedures used by the construction industry in estimating construction costs. Computer estimating using Paces and Means software will be covered extensively. A continuation of CMT 153.

Requisite: CMT 153.

Type: C

### **CMT 257 Construction Planning & Scheduling 3-0-3**

The student will get an understanding of principles and details of critical path and precedence planning methods and bar charts used in project planning. The course will utilize Microsoft Project software to allow hands-on preparation of schedules of actual projects.

Requisite: None.

Type: C

### **CMT 258 Contracts & Claims 3-0-3**

This course will offer material that will make the job-site foreman and project manager aware of the factors that cause legal problems that result in litigation. How to read a contract and when not to sign also will be covered. Topics will include contract language, liability, tort liability, contract documents and breach of contract.

Requisite: None.

Type: C

### **CMT 265 Advanced Computer Applications 3-2-4**

Building Information Modeling (BIM) is not an "end all" solution. It's important to recognize use the software will bring great advantage to the process of construction as we move from a fragmented 2-D documentation system that is inherently unintelligent, to one that is centrally based and able to parametrically analyze model data almost instantly. In our legacy system, individual drawings and lines have no value other than their printed form.

This second semester class uses the intelligent model produced in semester one of purposes for system integration, clash detection, constructability modeling, estimating, scheduling and related pre-construction tasks.

Requisite: CMT 105.

Type: C

### **CMT 268 Project Administration 3-0-3**

The course will cover all the important business and legal aspects of construction management. To include: project delivery, responsibilities, resident project representatives, documentation, computers in CPM, law, safety, meetings, negotiations, operations, payments, changes to contract, claims and disputes, through project.

Requisite: CMT 102, CMT 103, CMT 153, CMT 257, CMT 244.

Type: C

### **CMT 299 Problems in Construction Variable up to (4)-(8)-(4)**

Application of construction principles to specific problems through case studies, special projects or problem-solving procedures.

Requisite: None.

Type: C

## Construction Painting & Decorating

### **PDA 117 Painting & Decorating Apprentice I 3-2-4**

This course is designed to introduce the first-year apprentice to painting and decorating. He/she will be given information and instruction in the fundamentals of the trade to supplement his/her on-the-job training.

Requisite: None.

Type: C

### **PDA 127 Painting & Decorating Apprentice II 3-2-4**

This course is designed to introduce the first-year apprentice to the painting and decorating trade. He/she will be given information and instruction in the fundamentals of the trade to supplement his/her on-the-job training. This course is an extension of PDA 117.

Requisite: PDA 117.

Type: C

### **PDA 137 Painting & Decorating Apprentice III 3-2-4**

This course is designed to provide the more experienced apprentice instruction in the phase of the trade that requires detailed information about materials and their uses. The second-year course is divided into two parts. Material covered will include color, tinting, graining, dyes and sealers.

Requisite: PDA 127.

Type: C

### **PDA 147 Painting & Decorating Apprentice IV 3-2-4**

This course is designed to give the more experienced apprentice instruction in the phases of trade that require detailed information about materials and their uses. Material to be covered will include wall preparation, scaffolding and safety.

Requisite: PDA 137.

Type: C

### **PDA 257 Painting & Decorating Apprentice V 3-2-4**

This third year course is designed for the more experienced apprentice. Information covered in this course will include procedures seldom used in the trade. Blueprint reading and estimating will also be covered. This will be a two-semester course.

Requisite: PDA 147.

Type: C

### **PDA 267 Painting & Decorating Apprentice VI 3-2-4**

Information covered in this course will include procedures seldom used in the trade. Blueprint reading and estimating will also be covered. This course is an extension of PDA 257.

Requisite: PDA 257.

Type: C

### **PDA 278 Painting & Decorating Apprentice VII 3-2-4**

This course will supplement the fourth-year apprentices on-site work experience with classroom instruction. The course will include blueprint reading, types of wall paper and their application, power equipment used for painting, specialized painting techniques and safety training.

Requisite: PDA 267.

Type: C

### **PDA 288 Painting & Decorating Apprentice VIII 3-2-4**

This course will supplement the fourth-year apprentices on-site work experience with classroom instruction. The course will include power cleaning, hazardous waste collections/disposal, dry wall taping and finishing, sign painting, estimation, and safety.

Requisite: PDA 178.

Type: C

### **PDA 299 Special Topics in Construction Painting Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the pipefitting/plumbers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their special requirements.

Requisite: None.

Type: C

## Construction Sheetmetal

### **SMA 114 Construction Sheetmetal Apprenticeship I 3-2-4**

This course will acquaint the student with some of the basic knowledge of the sheetmetal trade. Materials covered in the first course will include information about tools, equipment and pattern development.

Requisite: None.

Type: C

### **SMA 124 Construction Sheetmetal Apprenticeship II 3-2-4**

This course will introduce the student to more related information about tools, equipment, sheetmetal fittings and their fabrication.

Requisite: SMA 114.

Type: C

## Course Description Guide (continued)

### **SMA 134 Construction Sheetmetal Apprenticeship III 3-2-4**

This course is designed to give the second-year apprentice practical experience working with shop-work problems. Items covered will include layout and welding of sheetmetal fittings.

Requisite: SMA 124.

Type: C

### **SMA 144 Construction Sheetmetal Apprenticeship IV 3-2-4**

This course is designed to give the second-year apprentice practical experience working with shop-work problems. Items covered will include round layouts, 45- and 90-degree tees, tools, and equipment.

Requisite: SMA 134.

Type: C

### **SMA 154 Sheet Metal Applications 0-2-1**

This course is an extension of SMA 114 and will include the use of basic hand tools common to the trade, and the construction and fabrication of sheet metal objects with the use of simple pattern development templates.

Requisite: Concurrent enrollment in or completion of SMA 114.

Type: C

### **SMA 164 Sheet Metal Duct Design 0-2-1**

This course is an extension of SMA 124 and will include the use of hand tools common to the trade and the construction of fittings and duct work corrections common to the sheet metal trade.

Requisite: Concurrent enrollment in or completion of SMA 124.

Type: C

### **SMA 174 Sheet Metal Fastening Systems 0-2-1**

This course is an extension of SMA 134 and will include the use of welding and soldering to fabricate sheet metal fittings.

Requisite: Concurrent enrollment in or completion of SMA 134.

Type: C

### **SMA 184 Sheet Metal Construction 0-2-1**

This course is an extension of SMA 144 and will include pattern development for 45- and 90-degree elbows and fittings.

Requisite: Concurrent enrollment in or completion of SMA 144.

Type: C

### **SMA 214 Sheet Metal Caulks and Sealant 0-2-1**

This course is an extension of SMA 264 and will include the application of brazing as a water seal along with the type of sealing materials.

Requisite: Concurrent enrollment in or completion of SMA 214.

Type: C

### **SMA 224 Sheet Metal Layout 0-2-1**

This course is an extension of SMA 274 and will include triangulation pattern, development problems, and fabrication using MIG welding.

Requisite: Concurrent enrollment in or completion of SMA 274.

Type: C

### **SMA 234 Sheet Metal Installation 0-2-1**

This course is an overview of previous work and a review of previous experience. Activities will include pattern development, welding, brazing and fabrication.

Requisite: Concurrent enrollment in or completion of SMA 284.

Type: C

### **SMA 244 Sheet Metal Pattern Development 0-2-1**

This course is an extension of SMA 254 and will include problems in radial line development of cones and intersections. Gas tungsten arc welding will be used for fastening.

Requisite: Concurrent enrollment in or completion of SMA 254.

Type: C

### **SMA 254 Construction Sheetmetal Apprenticeship V 3-2-4**

This course is designed to give the third-year apprentice practical shop work problems concerning radial line development and heli-arc welding.

Requisite: SMA 114.

Type: C

### **SMA 264 Construction Sheetmetal Apprenticeship VI 3-2-4**

This course is designed to give the third-year apprentice practical shop work problems concerning welding, brazing and radial line pattern development.

Requisite: SMA 254.

Type: C

### **SMA 274 Construction Sheetmetal Apprenticeship VII 3-2-4**

This course is designed to give the apprentice experience and knowledge in new materials and methods used in the sheetmetal trade. Layout problems involving triangulation will be given. MIG welding, cutting and brazing will also be covered.

Requisite: SMA 264. Department consent.

Type: C

### **SMA 284 Construction Sheetmetal Apprenticeship VIII 3-2-4**

This course will include a review of all work covered in the previous seven semesters of apprenticeship. It will also include shortcut methods of triangulation layout. A welding test will also be given.

Requisite: SMA 274. Department consent.

Type: C

### **SMA 299 Special Topics in Construction Sheetmetal Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the construction sheetmetal workers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Culinary Arts and Food Management

### **CUL 101 Introduction to Culinary Arts 1-0-1**

This course is designed to introduce students to the food service industry and the culinary arts program at SWIC. Students will explore the importance of hospitality and culinary organizations such as the National Restaurant Association Educational Foundation and American Culinary Federation and what the organizations mean to their education/industry career. Class time will focus on uniform requirements, knife skills, equipment safety training, MyCulinaryLab and material data safety sheets training. An understanding of program expectations will be outlined. This course must be completed with a passing grade before students can enroll in lab classes.

Requisite: None.

Type: C

### **CUL 105 Food, Beverage & Labor Cost Control 3-0-3**

The course will examine cost control techniques of successful and effectively operated hospitality businesses. The primary focus will be on food, beverage, labor and supply controls. Topics include numerous operational formulas designed to enable effective control over food, beverage, and supply inventories, effective and profitable pricing controls, sales controls, and labor controls. The course will detail various aspects of auditing an establishment based on standard operational practices and costing methods.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; or MGMT 102 with a grade of "C" or better.

Type: C

### **CUL 110 Professional Food Preparation I 3-4-5**

Introduction to the kitchen and cooking. Lectures focus on safety, sanitation, kitchen equipment operations, basic cooking, and basic food science. Lab work includes knife skills, lunch and dinner preparation, stocks and sauces, and teamwork in a kitchen environment. Uniform with chef's toque, knife(s), and thermometer are requirements for this course. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 116 or concurrent enrollment.

Type: C

## Course Description Guide (continued)

### **CUL 111 Professional Food Preparation II 3-4-5**

This course is a continuation of CUL 110 Professional Food Preparation I. Through the use of lab and lecture, students will move to more complex menus, including meats, poultry and seafood. They will study the proper storage and preparation of these items. A group, class project will expose the student to menu planning, preparation and presentation of a multi-course meal. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 110, CUL 116. Type: C

### **CUL 112 Advanced Professional Cooking 2-2-3**

Advanced Professional Cooking is an advanced food preparation course designed to help prepare students for careers and to help professional cooks advance their careers in the culinary arts as practiced today in top quality American food service operations. Requisite: CUL 110, CUL 111, CUL 116. Type: C

### **CUL 113 Soups, Stocks, and Sauces 1-4-3**

This course is designed for students who are seeking to expand their knowledge and practical skill in soup, stock, and sauce preparation. Students will learn a variety of preparation methods and how each particular soup, stock, and/or sauce relates to different dining scenarios. Students will receive detailed instruction in understanding complex soup, stock, and sauce recipes and the food science underlying each item's creation. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 101, CUL 116 or concurrent enrollment. Type: C

### **CUL 114 Garde Manger 1-4-3**

This course is designed for those students who are seeking to expand their knowledge of the art and craft of the cold kitchen. Students will learn preparation methods for cold sauces, soups, salads, forcemeats, sausages, pates, terrines, cured and smoked foods. Cheeses, hors d'oeuvres, appetizers, relishes, compotes, and condiments will be prepared, presented, and tested for taste. Various presentations will be covered. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 110, CUL 111, CUL 116. Type: C

### **CUL 115 Table Service 2-0-2**

This course is dedicated to various forms of table service. Everything from general job descriptions to the specific placement of silver and glassware. Learn how the French and Russians dine. Experience the art of napkin folding and other final touches that give tables that special flair. Coursework includes importance and development of job descriptions, hand-on training and developing training workshops aimed at production of service. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 101, CUL 116 or concurrent enrollment. Type: C

### **CUL 116 Food Service Sanitation 1-0-1**

This course is designed to educate students in the importance of sanitation in food preparation. Topics emphasized are safe food environments, pest control and local, state, and federal codes. An additional fee of \$35 must be paid to the State of Illinois upon satisfactory completion of the course. Requisite: None. Type: C

### **CUL 118 Fundamentals of Meat Processing 1-4-3**

This course is designed for students who are seeking to expand their knowledge and practical skill in meats identification, analysis, and cutting. Students will learn a variety of preparation methods for beef, lamb, poultry, pork, and fish. Detailed instruction in understanding desired characteristics of particular products, proper form, grading, and to particular meats will be discussed in detail. Requisite: CUL 101, CUL 116 or concurrent enrollment. Type: C

### **CUL 123 Legal Aspects of Food Service Management 3-0-3**

This course is designed for those students who are seeking a down-to-earth explanation of legal subjects relevant to food service. The course will focus on employee relations, food liability, liquor liability, patron civil rights and federal regulations that are of concern to food service managers. Requisite: None. Type: C

### **CUL 126 Food Service Sanitation Refresher 0.5-0-0.5**

This course enables students to meet the Illinois Department of Public Health requirement to complete re-certification. Lectures focus on all the aspects of food service sanitation required for re-certification including sources of food contamination, creating and maintaining the safe food environment, and state and local public health codes. Requisite: CUL 116. Type: C

### **CUL 127 Baking & Pastry 1-2-2**

A general introduction to the baking of breads, cookies, cakes, pastry dough, puff pastry, danish and eclairs. Learn how to prepare beautiful and tempting baked goods. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 101, CUL 116 or concurrent enrollment. Type: C

### **CUL 128 Advanced Professional Baking 1-2-2**

This course provides students with challenging baking and pastry concepts and emphasis on complex recipes. The course focuses on the study and preparation of breads, tortes, cake decorating, cheesecakes, custards, puddings, Bavarian creams, mousses and other baked goods. Through lecture and hands-on application, students will prepare recipes from scratch. They will study proper preparation, scaling, measuring and mixing techniques. An understanding of numerous types of flours, yeasts and the ability to troubleshoot problems will be developed through demonstration and laboratory exercises. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 101, CUL 116, CUL 127. Type: C

### **CUL 129 Cake Decorating I 1-2-2**

This course is designed to expose students to the proper procedure for producing traditional and contemporary cakes. Emphasis will be placed on decoration of cakes including proper use of a pastry bag and various tips, writing with chocolate, use of piping and other techniques. Butter cremes, royal icing and moldable icing (fondant) will be emphasized in this class. Additional hours outside regularly scheduled class time will be required to complete projects. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit. Requisite: CUL 101, CUL 116 or concurrent enrollment. Type: C

## Course Description Guide (continued)

### **CUL 130 Cake Decorating II** 1-2-2

This course is designed to build upon techniques learned in Cake Decorating I. Emphasis will be placed on intermediate and advanced techniques with buttercream, royal icing and moldable icing (fondant), as well as contemporary cake sculpting techniques. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 116, CUL 129.

Type: C

### **CUL 131 Experimental Baking Techniques** 1-2-2

This course provides the opportunity to discover functions of bakeshop ingredients through lab experiments and explore the chemical and physical changes in foods that occur during baking. Topics include wheat and grains, sugar and sweeteners, fats and oils, egg products, leavening agents and dairy products. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 116 or concurrent enrollment.

Type: C

### **CUL 132 Ice Cream & Frozen Desserts** 1-2-2

This course is designed for those students who are seeking to expand their knowledge of the art and craft of frozen desserts. Students will learn how to prepare assorted frozen classical and non-traditional desserts with proper methods and techniques. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 116 or concurrent enrollment.

Type: C

### **CUL 133 Sustainable Kitchen** 1-2-2

This course focuses on the knowledge, skills and techniques needed to create a sustainable commercial kitchen. Participants will learn to utilize an indoor (hydroponic herb garden) and outdoor (raised bed herb garden) which will supply fresh herbs for the culinary lab classes as well as microgreens for salad applications. Students will create and maintain kitchen waste programs for composting. They will explore the application of rain barrel irrigation for outdoor gardens. Culinary plant (s) identification and commercial kitchen usage along with local product availability will introduce students to industry methods and trends to include sustainable opportunities in food production.

Requisite: None.

Type: C

### **CUL 200 Culinary Competition Techniques** 1-2-2

This course is designed to help individuals develop and practice skills necessary for successful completion of American Culinary Federation competencies for a certified culinarian. The course will focus on competition techniques established in accordance with the American Culinary Federation guidelines. Course assignments will focus on culinary skills in food production, garde manger, and baking as outlined by the ACF competencies for practicums.

Requisite: CUL 110, CUL 111, CUL 114.

Type: C

### **CUL 206 Menu Development & Pricing** 3-0-3

This course will teach you how to create effective menus utilizing various formats, colors, sizes and menu items. This course will cover development and pricing for salad bars, buffets, and general catering events. By understanding menu pricing, find out how profitability can be increased.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; or MGMT 102 with a grade of "C" or better.

Type: C

### **CUL 209 Hospitality Management** 3-0-3

This course is designed to assist students in becoming better managers and to put them at the leading edge of the hospitality industry. Students will study such topics as supervision, communication, training, motivation, decision making and a variety of other leadership qualities that are related to the hospitality industry.

Requisite: None.

Type: C

### **CUL 212 Food Service Purchasing** 3-0-3

This course is designed to give the student fundamental answers to the problems encountered in food service purchasing. The course will address development of purchasing specifications, vendor sourcing, sourcing quality, quality control, pricing, inventory control, receiving and storage and other aspects involved with food service purchasing.

Requisite: CUL 101, MGMT 102.

Type: C

### **CUL 228 Culinary Nutrition for Food Service** 3-0-3

This course is designed to help individuals develop a better understanding of the importance of nutrition. Communicating with nutritional specialists is also an important part of food preparation. Items to be covered will include nutrition in industry, eating habits, recipe development and trends in nutrition.

Requisite: None.

Type: C

### **CUL 230 Internship I** 0-15-3

The student will be assisted in finding a position in a hands-on field experience of 240 hours. This will enable the student to apply classroom theories to actual situations. Students will be graded on participation and on written reports which describe their experience.

Requisite: Department consent.

Type: C

### **CUL 231 Internship II** 0-15-3

The student will be assisted in finding a position in a hands-on field experience of 240 hours. This will enable the student to apply classroom theories to actual situations. Students will be graded on participation and on written reports which describe their experience.

Requisite: Department consent.

Type: C

### **CUL 232 Advanced Decorating Techniques** 2-4-4

This course provides students with challenging baking and pastry concepts and emphasis on complex recipes. The course focuses on the study of advanced methods and mediums used in the pastry art industry. Through lecture and hands-on application, students will prepare recipes from scratch. They will study proper preparation, scaling, measuring and mixing techniques. This course will focus on an understanding of numerous techniques in sugar, chocolate, moldable mediums, gelatin designs, advanced fondant, gum paste, marzipan, royal icing and pastillage.

Requisite: CUL 101, CUL 116, CUL 129, CUL 130.

Type: C

### **CUL 233 Contemporary Plating Techniques** 1-2-2

This course is designed for those students who are seeking to expand their knowledge of the art and craft of food presentations. Focus of class will elevate student's foundational knowledge on presentation of food mediums. They will be introduced to different styles and cultural influences in plating techniques.

NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 110, CUL 116, CUL 128.

Type: C

### **CUL 234 Breads, Rolls & Pastries** 1-2-2

This course provides students with challenging baking and pastry concepts with emphasis on bread and pastry recipes. The course focuses on the study and preparation of breads, tortes, pastries, pies, mousses and other baked goods. Through lecture and hands-on application, students will prepare recipes from scratch. They will study proper preparation, scaling, measuring and mixing techniques. An understanding of numerous types of flours, yeasts and the ability to troubleshoot problems will be developed through demonstration and laboratory exercises. NOTE: Students who have not completed CUL 116 but possess a valid ServSafe® Food Protection Manager Certification or Illinois Food Handler Certification should contact the program coordinator for CUL 116 credit.

Requisite: CUL 101, CUL 110, CUL 116, CUL 128.

Type: C

## Course Description Guide (continued)

### **CUL 299 Special Topics/Culinary Arts Variable up to (4)-(6)-(4)**

This course will focus on the study of specific topics in the food service industry. The student will be given case studies, simulation, special projects in cooking or problem solving procedures.

Requisite: None.

Type: C

## Early Childhood Education

### **ECE 110 Introduction to Early Childhood Education 3-0-3**

Designed to familiarize students with the current philosophy of early childhood education, guidance techniques, classroom design, early childhood education teacher responsibilities, strategies for home-center collaboration, and the curriculum in early childhood education settings. Students will review the different types of early childhood education arrangements in the United States, including infant/toddler and school age programs. Federal laws, licensing and regulatory requirements for programs serving children birth to 12 years are covered. The history of educating children birth to 12 years will be addressed. Observations of children in selected early childhood settings will be required. This course is accepted statewide by four-year institutions for students majoring in early childhood education.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **ECE 112 Growth & Development of Children 3-0-3**

Designed to cover the theories of Erikson, Piaget, Vygotsky and others as a foundation to understanding the physical, social/emotional, cognitive, language and aesthetic developmental milestones in children prenatally to 12 years. The influence of family, community, gender, race, and socio-economic factors on development will be addressed. Observations in selected early childhood settings will be required. NOTE: This course is accepted statewide by four-year institutions for students majoring in early childhood education.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-ECE 912

### **ECE 114 Child Health Maintenance 3-0-3**

Designed to address the health, safety and nutritional issues related to children in early childhood settings. Communicable illnesses, prevention methods, child care regulations, treatments for common injuries, legal mandates for reporting abuse and neglect, effects of violence on children, nutritional needs and menu planning will all be covered.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: C

### **ECE 116 Children with Special Needs 3-0-3**

Designed to provide the student with knowledge and skill related to caring for children with special needs due to deviations in growth and developmental patterns. Methods of assessing needs and helping the child to meet these needs will be stressed. Observations at select agencies will be required.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements; ECE 110, ECE 112.

Type: C

### **ECE 118 Early Childhood Practicum I 1-10-3**

Designed to apply theory to practice while caring for small groups of children in cooperating early childhood agencies. Students will have one hour of lecture/discussion per week and 150 hours of supervised experiences, which may include caring for children with special needs. The 150 hours must be completed by the 15th week of the semester. Students must be able to perform with reasonable accommodation the essential functions as specified on the practicum application.

Requisite: Department consent.

Type: C

### **ECE 121 Early Childhood Curriculum 3-0-3**

Surveys the theory and methods related to planning and maintaining a early childhood curriculum for preschool children. Students devise educational plans for children in individual, small group, and in large group learning situations. The importance of play as an avenue for learning is addressed in the following curricular areas: language, science, art, math, music, dramatic play, blocks, and sensory play.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements; ECE 110, ECE 112.

Type: C

### **ECE 122 Infant and Toddler Care 3-0-3**

Examines the fundamentals of infant and toddler development, including planning and implementing programs in group care settings. Emphasizes meeting physical, social, emotional, and cognitive needs of children from birth to three years. Specific infant and toddler child care issues to be addressed are scheduling, preparing age appropriate activities, health and safety policies and procedures, record keeping, designing effective learning environments, and reporting to parents.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements; ECE 110, ECE 112.

Type: C

### **ECE 125 Early Childhood Administration 3-0-3**

Examines the skills needed for establishing and managing early childhood programs. Emphasizes such topics as developing effective interpersonal communication techniques, staff selection and development, establishing programming and management philosophies and relevant policies, budgeting, record keeping, and overview of state licensing standards.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements; ECE 110, ECE 112.

Type: C

### **ECE 200 ECE Leadership & Supervision 3-0-3**

This course will provide the student with knowledge of the leadership role in early childhood education. Effective supervision strategies will be examined.

Additional topics include professionalism, ethical behavior, and advocacy.

Requisite: ECE 110, ECE 112.

Type: C

### **ECE 210 Understanding & Guiding Behavior of Young Children 3-0-3**

This course is designed to address the guidance and teaching techniques that will promote positive behavior in young children. The course will review developmental theories and practical strategies for working with young children and their families. The effects of the environment and adult/child interactions will be explored.

Requisite: ECE 110, ECE 112.

Type: T

### **ECE 250 Child, Family and Community 3-0-3**

This course focuses on the child in the context of family, school and community. Specific issues such as diversity, professionalism, and social policies will be discussed. The course will also promote awareness and effective use of community resources and partnership building. Parent education, changing families, and legal responsibilities of those involved in the care of children will be addressed.

Requisite: ECE 110, ECE 112.

Type: T

### **ECE 299 Special Topics/Early Childhood Variable up to (4)-0-(4)**

An in-depth study of various areas in early childhood education presented through lectures, discussions, and/or individual research and readings by the students. Topics will vary.

Requisite: ECE 110, ECE 112.

Type: C

## Earth Science

### ES 101 Earth Science 3-2-4

In this course, students will learn how and why Earth is the way it is, and why humans should care. A systems-based approach to Earth Science will be utilized which incorporates components of geology (such as the rock cycle and plate tectonics), meteorology (including winds and weather), the hydrosphere (water in the geosphere, atmosphere and oceans), astronomy (the sun and Earth's place in space), and climatology. Students in ES 101 will use the tools of science to find patterns in nature, which is useful when considering how humans interact with and are affected by our natural world. Students will analyze climate change, our need and use of natural resources (possibly including water, mineral, and energy resources), and causes and impacts of natural hazards (possibly including flooding, earthquakes, volcanoes, and severe storms).

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 905L

### ES 102 Physical Geology 3-2-4

Examine what materials comprise the Earth, what processes shape the earth and will understand how geologists study the Earth. Specific topics include Earth's interior, plate tectonics, earthquakes, details of the rock cycle and geologic time. Lab activities stress but aren't limited to rock and mineral identification as well as topographic map use. Students will also use scientific methods to study the earth. ES 101 is not a prerequisite for this course.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 907L

### ES 114 Earth and the Environment 3-2-4

Students in this course will explore the ways people impact and are impacted by our Earth. Students will evaluate factors that determine how and which water, mineral and energy resources are used, and apply sustainability concepts to critique the costs and benefits of natural resource use. Both scientific and societal aspects of natural hazards, such as earthquakes, volcanoes, landslides, and floods will also be studied. Finally, impacts of human activities, such as population growth, pollution, land-use change, and global climate change will be interwoven throughout.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 908L

### ES 180 Historical Geology 3-2-4

An introduction to the geologic evolution of the earth with emphasis on North America. Investigated will be the principles, methods, procedures and problems of interpreting Earth history from rock sequences, fossils and geologic maps.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 907L

### ES 250 Introduction to Meteorology 3-2-4

This course provides an introduction to general meteorology and atmospheric sciences. It includes the composition and structure of the atmosphere and characteristics that affect the atmosphere, such as solar and terrestrial radiation, pressure and atmospheric circulation, and moisture. Additionally, the development of weather systems, such as storm systems, hurricanes, weather fronts and cloud development will also be examined. Laboratory sessions emphasize modern weather instruments and the synthesis/interpretation of weather data.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 905L

### ES 299 Problems in Earth Science Variable up to (3)-(6)-(4)

A seminar for in-depth study of current topics in the earth sciences. Readings, literature reviews, discussion and individual research emphasized. Topics vary according to student and instructor interest.

Requisite: None.

Type: T

## Economics

### ECON 115 Introduction to Economics 3-0-3

ECON 115 is a survey of macro- and microeconomic principles to acquaint the student with economic concepts, institutions, and policies. Credit will not be given if this course is taken after ECON 201 or ECON 202; students needing more than one course in economics should take ECON 201 and ECON 202.

Requisite: None.

Type: T, IAI-S3 900

### ECON 201 Principles of Economics I (Macro) 3-0-3

ECON 201 is a one-semester introduction to macroeconomics. Major topics include the production possibilities model, basic supply and demand analysis, measurement and interpretation of gross domestic product, inflation, and unemployment, classical and Keynesian theories, aggregate supply and aggregate demand, money and banking, the Federal Reserve System, fiscal and monetary policies, and the determinants of long-run economic growth.

Requisite: None.

Type: T, IAI-S3 901

### ECON 202 Principles of Economics II (Micro) 3-0-3

ECON 202 is a one-semester introduction to microeconomics. Major topics include the theory of consumer choice, the price elasticity of demand, costs of production, price and output determination in different product market structures, wage and employment determination in labor markets, government policies to deal with market failures such as monopoly, public goods and externalities, the gains from trade based on comparative advantage, and an overview of current economic problems and issues facing the United States.

Requisite: None.

Type: T, IAI-S3 902

## Education

### ED 101 College Success Strategies Variable up to (3)-0-(3)

College Success Strategies is designed to introduce the student to the college experience and help develop the attitudes, strategies, habits, relationships, and knowledge necessary for success. Emphasis will be placed on understanding student rights and responsibilities, developing note-taking strategies, time management skills, and improving study skills. Other topics include self-discovery, interpersonal skills, college survival techniques, transition to college, and transferring to other collegiate institutions. Additional exploration of personal interests/skills, learning styles, goals, and making effective career choices are interrelated skills that will be developed. Time will also be spent exploring personal pathways to career choices and successful skills for preparing to enter the workforce. Students will complete the Myers-Briggs (MBTI) personal assessment to assist in exploring personal choices and skills.

Requisite: None.

Type: T

### ED 120 Paraprofessional Test Prep Variable up to (2)-0-(2)

This pass/fail course for paraprofessional educators is intended to prepare candidates for the WorkKeys and ParaPro tests that are used by the State of Illinois to certify paraprofessionals. The certification standards addressed in the course are required for compliance with the federal government's No Child Left Behind Act. Five learning modules will be covered, including an introduction to assessments, reading, writing, mathematics and test taking strategies. The course will include practical application examples and situations similar to those found on the WorkKeys and ParaPro tests. Students will gain a better understanding of how they learn as adults and effective strategies for test preparation.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **ED 252 Educational Psychology 3-0-3**

Educational psychology is a survey course introducing students to major areas related to teaching and learning. It explores motivation, intelligence, creativity, evaluation, measurement, growth and development learning perspectives. It focuses on the learning process and the impact of culture on learning styles. It may include observational experiences. Students may not receive credit for both ED 252 and PSYC 252.

Requisite: PSYC 151.

Type: T

### **ED 255 Introduction to Education 3-0-3**

This course is an introduction to the field of education, examining the different aspects of education as a profession. The organizational structure, education reform, finance, and curriculum of schools at the federal, state, and local levels will be discussed. Current issues in education, basic instructional strategies, teacher responsibilities, and cultural diversity, along with overviews of the social, historical, and philosophical foundations of education will be addressed. Instructional technology use will be demonstrated and experienced. Transferring to a four-year education program and state requirements for licensure will also be addressed. Students should plan schedules in advance for 20 hours of field experience at an assigned school site 2-4 hours per week. Placements will be assigned through Junior Achievement (teach JA lessons). Students must complete fingerprinting prior to placement (will be arranged for as part of course). Students should also be prepared to submit a cleared tuberculosis test result before entering most school (student responsible for paying and arranging this test). Online sections may be required to attend an orientation prior to the start of class (instructor will notify as needed).

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **ED 256 Field Experience in Education Variable up to (1)-(6)-(3)**

This course is intended for education majors. It may be taken for a maximum of three semester credits in the final semester before transfer to a four-year institution or entry into the workforce. One semester credit is equivalent to 30 hours of experience in partner school classrooms. The course is designed to provide students with the opportunity to gain additional experience in the classroom prior to transfer to four-year institutions. Students will be observing classrooms in their specific areas of interest (special education, elementary education, early childhood education, or secondary education). (This course requires assigned field experience in a school setting. Hours will vary dependent upon the course hours registered for by the student.)

\*May be taken as independent study course. (See Education coordinator the semester before).

Requisite: Department consent.

Type: T

### **ED 257 Education TAP Test Prep 1-0-1**

Emphasis will be placed on preparation for successful completion of the exam required for admission to a school of education program. For the state of Illinois, this test is currently called the TAP (Test of Academic Proficiency).

For students transferring to Missouri (CBASE) and most other states (Praxis I), the material covered will also be helpful in preparing for SOE admission tests. Successful test taking and alleviating test anxiety strategies will also be covered. ED 255 or ECE 110 is highly encouraged, but not required.

Requisite: None.

Type: T

### **ED 260 Introduction to Educational Technology 3-0-3**

This course is designed to provide pre-service and in-service educators with an introduction to the field of educational technology. The theory and practice of educational technology will be discussed and applied. This hands-on, project-based course will also present a systematic framework for integrating various technologies (such as software applications, multimedia, and the internet) into the curriculum. In addition, students will be introduced to the concept of the education portfolio.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **ED 265 Introduction to Special Education 3-0-3**

This is a survey course that presents the historical, philosophical and legal foundations of special education, as well as an overview of the characteristics of individuals with disabilities. The diversity of the populations of individuals with disabilities will be studied. The Individuals with Disabilities Education Act (IDEA) will be examined as well as the programs that serve special education populations as a result of this act. Students should plan schedules in advance for 30 hours of field experience at an assigned school site 2-4 hours per week. Students must complete fingerprinting prior to placement (will be arranged for as part of this course). Students should also be prepared to submit a cleared tuberculosis test result before entering most schools (student responsible for paying and arranging this test). Online sections may be required to attend an orientation prior to the start of class (instructor will notify as needed).

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **ED 267 Diversity in 21st Century Schools 3-0-3**

This course is designed to examine the concept of diversity in 21st century American public schools. We will examine the impact that immigration has on public schools including the growth of ESL, the impact of standardized testing on non-English speaking populations, special education services, graduation requirements, and religious accommodations for non-Judeo Christian populations. We will assess the impacts of the Civil Rights Act, ESEA and Title IX legislation on opportunities for women and minorities. We will investigate emerging issues including gay, lesbian and transgendered youth, homeless teenagers, gender segregated classrooms, and the inclusion of children with disabilities into regular traditional classes.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **ED 270 Classroom Management 3-0-3**

This course is designed to examine the many facets of effectively managing a classroom. The course will examine the characteristics of effective educators including interpersonal skills, conflict resolution, classroom organizational techniques, instructional design, effective discipline plans, and effective communication (with parents, administrators, and the public at large.)

Assessment types and strategies will be a component of the course. Requisite: ED 255, Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **ED 280 Introduction to Teaching Reading 3-0-3**

This is an introductory course in the field of reading, designed for elementary (K-9) and early childhood (preK-3) education majors. Students will gain an overview of the field by examining such topics as reading definitions, theories of the reading process, the role of affect, emergent literacy, word recognition and vocabulary development, comprehension, instructional methodologies, and reading assessment. Students cannot receive credit for both ED 280 and ENG 280.

Requisite: ED 255, ENG 101 with a grade of "C" or better.

Type: T

### **ED 293 Children's Literature 3-0-3**

Primarily for the prospective early childhood or elementary teacher, the course emphasizes the selection and presentation of literature for preschool and elementary-age children. Students will be acquainted with the wide variety of children's literature books available and the possibilities of children's literature in the learning process. Assignments may include the production of a portfolio of critiques of children's literature books (of up to 100), demonstration of classroom applications using children's literature at different grade levels, development of multimedia and creative instructional materials, participation in literature circles using chapter books, participation in service learning projects, demonstration of storytelling skills, and the creation of a themed text set. (students may not receive credit for both LIT 293 and ED 293.)

Requisite: ENG 101 with a grade of "C" or better.

Type: T

## Course Description Guide (continued)

### **ED 299 Special Topics in Education Variable up to (4)-0-(4)**

An in-depth study of various areas in education presented through lectures, discussions, and/or individual research and readings by the students. Topics will vary.

Requisite: None.

Type: T

## Electrical/Electronic Technology

### **EET 101 Intro to Electricity & Electronics 3-4-5**

This course is designed as the beginning course for those entering the electrical and/or electronics career field. The course's primary focuses are to (1) inform students about the variety of specialty areas, categories of work relevant to the field, and educational requirements and opportunities that can lead to successful employment; (2) introduce students to the fundamental principles of electricity, basic DC and AC electrical circuits, electrical/electronic components, electrical/electronics diagrams; and (3) provide the opportunity for students to become skilled in using common test equipment and tools used to construct, install, measure, and repair electrical wiring and cabling, and electrical/electronic systems and equipment. Students will learn to perform complete electrical analysis of complex DC and AC circuits consisting of resistors, capacitors, inductors and transformers connected in various series, parallel, and series-parallel configurations. Course will cover applications of these components in common electrical circuits and will begin teaching students basic troubleshooting skills.

Requisite: None.

Type: C

### **EET 102 Electrical/Electronics Computer Applications 1.5-1-2**

This course is designed to familiarize students with computer applications and software routinely used in the electrical and electronics career field. Course covers basic principles of computer operation, use of productivity software common to the workplace, and technical applications frequently used by electrical or electronic technicians to design, draw, construct, and simulate/test electrical circuits and systems.

Requisite: None.

Type: C

### **EET 111 Electrical Circuits 2-2-3**

This course continues the study of electrical and electronic circuits by going more in-depth in electrical circuit analysis. Students will learn to perform complete electrical analysis of complex DC and AC circuits consisting of resistors, capacitors, and inductors connected to various series, parallel, and series-parallel configurations. Course will cover applications of these components of common electrical circuits and will begin teaching students basic circuit troubleshooting skills.

Requisite: EET 101,GT 104.

Type: C

### **EET 121 Electronic Devices and Circuits 2-2-3**

This third course in electrical and electronic fundamentals introduces the student to theory, design, and application of a wide variety of semiconductor devices and circuits. Lab experiments continue to build the students' competence in the use of test equipment and tools in constructing and analyzing the performance of electronic circuits and devices. Computer simulation will also begin to be used to test more complex circuits.

Requisite: EET 101.

Type: C

### **EET 131 Electrical Wiring Practices 1.5-3-3**

Course is designed to provide the student with the basic knowledge and skills necessary to install, repair, and estimate costs for wiring of residential, commercial, industrial and/or specialized electrical systems. Students will learn the principles of and get hands on experience on how to safely and properly wire electrical circuits and devices according to the National Electrical Code.

Requisite: EET 101.

Type: C

### **EET 200 Digital Electronic Circuits 2-2-3**

Knowledge of electronics will be expanded in this course to include the principles and operation of digital devices and circuits used in computers and automated industrial/commercial equipment. Breadboarding of logic elements into functional circuits in laboratory projects/computer simulation will validate and reinforce classroom learning.

Requisite: EET 101.

Type: C

### **EET 201 Wind and Solar Power Installation and Maintenance 1.5-1-2**

This course is designed to introduce students to the basic concepts and equipment involved in installing and maintaining photovoltaic electrical systems and wind turbine electrical systems. Students will learn how to connect various types of wind and solar electrical systems such as stand-alone or interconnected electrical systems. Content includes advantages and disadvantages, component identification and operation, and hands-on operation, analysis and evaluation of working photovoltaic and wind power systems

Requisite: None.

Type: C

### **EET 205 Digital Electronic Circuits II 3.5-1-4**

This course continues the study of digital concepts. Introduces digital arithmetic and associated circuits, expands knowledge of counters and shift registers, explores integrated circuits families, decoders, multiplexers, interfacing, and memory devices. Laboratory exercises and computer simulation emphasize concepts learned in the classroom.

Requisite: EET 200.

Type: C

### **EET 210 Introduction to Microprocessors 3.5-1-4**

This course is designed as an introduction to microprocessor hardware and software fundamentals. It will emphasize the use of the microprocessor in industrial/commercial control. Laboratory work will include assembly language programming of a microprocessor trainer.

Requisite: EET 200.

Type: C

### **EET 225 Microprocessor Interfacing 3.5-1-4**

The principles of interfacing the microprocessor to analog and digital circuitry will be covered in this course. Input/output, serial/parallel data transfer and circuit isolation and loading principles are included. Laboratory exercises will require construction of external circuits to be interfaced with an operating microprocessor.

Requisite: EET 210.

Type: C

### **EET 231 Introduction to Robotics 3.5-1-4**

This course provides a comprehensive approach to learning the technical aspects of robotics. The course covers robotic principles, power supplies and movement systems, sensing and end-of-arm tooling, and control systems. The course also covers typical programming techniques for basic robots as well as larger industrial robots.

Requisite: EET 101.

Type: C

### **EET 232 Instrumentation Fundamentals 3.5-1-4**

This course will provide the fundamental principles of automatic process control. It will include primary measurement, transmission, and control. Laboratory work will consist of demonstrations, the use of test equipment for calibration and hands-on exercises. This course will assist the student in becoming familiar with primary elements, transducers, recorders, indicators and controllers.

Requisite: EET 101.

Type: C

## Course Description Guide (continued)

### **EET 234 Instrumentation Systems 3.5-1-4**

This course is designed to reinforce and build on topics learned in instrumentation fundamentals. The student will gain comprehensive knowledge of measurement, transmission, control and documentation. This course will have special emphasis on hardware, calibration, and troubleshooting.  
Requisite: EET 232.  
Type: C

### **EET 235 Programmable Logic Controllers 2-2-3**

This course offers electricians, maintenance mechanics, or electronic technicians a first course in programmable logic controllers. It focuses on the underlying principles of how PLCs work and provides practical information about installing, programming, and maintaining a PLC as a separate stand-alone automated control component. No previous knowledge of PLC systems or programming is necessary. This course presents PLCs in a generic sense, and the content is broad enough to allow the information to be applied to a wide range of PLC models. All topics are covered in small segments, developing a firm foundation for each concept and operation before advancing to the next. Each topic covered contains a variety of generic programming assignments that are compatible with most types of PLCs.  
Requisite: EET 200.  
Type: C

### **EET 238 Special Purpose Electrical Devices and Wiring 2.5-1-3**

This course is designed for students desiring to enter the residential or commercial electrician field. It provides the student with an overview of knowledge and skills regarding special purpose electrical devices and circuits that electricians may encounter on the job. Covers basic instrumentation concepts such as flow, pressure, temperature sensors and controls; basic principles and electrical aspects of heating, ventilation, and air conditioning; and principles of other wiring and cabling commonly encountered such as computer network cabling, coaxial cable systems, audio/video, telephone, fiber optics, alarm system and lighting systems; and an introduction to programmable logic controllers  
Requisite: EET 101.  
Type: C

### **EET 239 Advanced PLCs 2-2-3**

This course will expand students' knowledge of programmable logic controllers from stand-alone use to being an integral part in a larger automated manufacturing system. Students will learn how to connect and program Contrologix 5000 PLCs to monitor and control various components in a system and then learn how to network multiple PLCs into an integrated system. Emphasis will be on using analog devices. Course will continue with the introduction of using PanelView and other HMI devices and then work with the PLC and HMI software packages to build a complete working machine control system.  
Requisite: EET 235.  
Type: C

### **EET 240 Motors and Drives 2-2-3**

Presented in this course will be construction features, principles of operation and characteristics of DC and AC motors and variable-speed drives. The testing and troubleshooting of motors will be covered along with connecting and programming variable-speed drives. Lab work will include demonstrations and hands-on work with various motors and drives including basic test equipment.  
Requisite: EET 101.  
Type: C

### **EET 241 Electrical Power, Motors & Controls 2.5-1-3**

An additional course for students desiring to enter the residential or commercial electrician field. This course provides an overview of the concepts, operation and application of a variety of components, control devices and electrical systems frequently encountered by electricians. Course includes theoretical and practical application of electrical power systems, single/three phase power circuits, transformers, motors and generators, and motor controls.  
Requisite: EET 101.  
Type: C

### **EET 242 Electrical Control Systems I 3.5-1-4**

The intent of this course is to introduce the student to electrical drawings, which are the electrician's primary means of communication. The rules for working with line diagrams will be covered as well as the principles of operation and application of the components used to make up electrical control circuits. The classroom study of the text and workbook will be supplemented by lab projects whenever practical.  
Requisite: EET 101.  
Type: C

### **EET 243 NEC for Industrial/Commercial 3-0-3**

Advanced studies of the terms and concepts that are required for proficiency in the interpretation of electrical codes and regulations. Based on the National Electrical Code and a review of practical electrical field knowledge and industrial/commercial qualifying exams. This course prepares the student for future career advancements that involve testing by various regulatory agencies. Of particular interest to electricians, contractors, inspectors, and pre-architecture/engineering students.  
Requisite: EET 101.  
Type: C

### **EET 244 Electrical Control Systems II 2-2-3**

This course is intended to supplement and expand the knowledge required in control systems. More complex circuitry will be presented along with applications to specific equipment requirements. Concepts of power distribution, principles of operation and application of more control devices and troubleshooting concepts will be covered.  
Requisite: EET 240, EET 242.  
Type: C

### **EET 246 Power Generation/Distribution 2-2-3**

This course will cover the generation, transmission and distribution of electric power. The components and methods used to accomplish this will be included along with the safety procedures that are necessary in handling high voltage electricity.  
Requisite: EET 244.  
Type: C

### **EET 247 DC Crane Controls 3.5-1-4**

This course is designed for persons to become knowledgeable in the principles of electrical overhead traveling cranes. Students will learn to read and understand various electrical diagrams and be able to apply safe working procedures related to the maintenance of several of the major types of equipment operating time control equipment. Troubleshooting and corrections of most electrical problems found in DC crane controls and periodic preventive maintenance inspections will be covered.  
Requisite: EET 240.  
Type: C

### **EET 250 Microcomputer Maintenance-Beginning 2-2-3**

This is the first of a three-course sequence for the Microcomputer Technology degree. This course is for people who want to learn how to upgrade, repair, maintain, and troubleshoot microcomputers. This course covers state-of-the-art hardware and accessories. Coverage includes: hardware operation, hardware/software interaction, motherboards and their components, memory, installing, configuring and troubleshooting integrated drive electronics hard drives, introduction to personal computer networking, and the role of the PC technician in logical troubleshooting. This course helps to prepare the student for a successful result on the Computer Technology Industry Association (CompTIA) A+ PC Hardware (Core) exam  
Requisite: EET 200.  
Type: C

## Course Description Guide (continued)

### **EET 252 Microcomputer Maintenance-Intermediate 2-2-3**

This is the second of a three-course sequence for the Microcomputer Technology degree. This course is for people who want to upgrade, repair, maintain, and troubleshoot microcomputers. This course covers state-of-the-art hardware and accessories. Coverage includes: Learning the personal computer boot process and use of command line programming, introduction into electricity and power supplies, floppy drives and other removable media, installing and troubleshooting peripheral input/output devices, video cards, monitors, and modems, the use of personal computers on the Internet, understanding the basics of the Small Computer Systems Interface and installing and configuring SCSI hard drives and devices. This course helps to prepare the student for a successful result on the Computer Technology Industry Association (CompTIA) A+ PC Hardware (Core) exam.  
Requisite: EET 250.  
Type: C

### **EET 255 Microcomputer Maintenance-Advanced 2-2-3**

This is the third of a three-course sequence for the Microcomputer Technology degree. This course is for people who want to upgrade, repair, maintain, and troubleshoot microcomputers. This course covers state-of-the-art hardware and software. Coverage includes: Understanding, installing, managing, and troubleshooting the Windows 9x, Windows NT Workstation, Windows 2000 Professional, and Windows XP Professional architectures, supporting notebook computers and personal digital assistants, installing, troubleshooting and sharing printers, and guidelines for assembling a personal computer from separately purchased parts. This course helps to prepare the student for a successful result on the Computer Technology Industry Association (CompTIA) A+ PC Hardware (Core) exam and the CompTIA A+ PC Operating System exam.  
Requisite: EET 252.  
Type: C

### **EET 256 Preparation for A+ Certification 2-2-3**

Throughout this course you will learn all of the technical skills necessary to become an A+ certified technician. These skills will be learned through a series of hands-on lab exercises and review questions designed to teach and improve your PC configuration and troubleshooting skills which are necessary to function as a PC support or helpdesk technician. Students may receive credit for only one of the following: EET 256 or NETW 130.  
Requisite: NETW 101 or CISC 151 or EET 255.  
Type: C

### **EET 260 Communication Electronics I 2-2-3**

First in a three-course sequence for communication electronics degree. An introduction to digital and data transmission techniques. Terminal and network protocols and limitations are explored.  
Requisite: EET 101.  
Type: C

### **EET 269 Electrical/Electronics Tech Capstone 1.5-1-2**

This course is designed as a capstone class for Electrical/Electronics Technology Associate in Applied Science students who are preparing to graduate and enter the workforce. Course will summarize all electrical and electronics courses students took to fulfill their degree requirements. Additionally course will cover information students need to prepare for their job search such as resume writing, interviewing skills, preparation for employment testing, customer service skills, and other information students need for a successful career in the electrical and electronics field.  
Requisite: None.  
Type: C

### **EET 290 Supervised Internship I Variable up to 0-(30)-(6)**

Allows students to earn academic credit for supervised on-the-job experience. Eighty hours of work per semester are required for each semester credit.  
Requisite: Department consent.  
Type: C

### **EET 291 Supervised Internship II Variable up to 0-(30)-(6)**

Allows students to earn academic credit for supervised on-the-job experience. Eighty hours of work per semester are required for each semester credit.  
Requisite: Department consent.  
Type: C

### **EET 292 Supervised Internship III Variable up to 0-(30)-(6)**

Allows students to earn academic credit for supervised on-the-job experience. Eighty hours of work per semester are required for each semester credit.  
Requisite: Department consent.  
Type: C

### **EET 293 Supervised Internship IV Variable up to 0-(30)-(6)**

Allows students to earn academic credit for supervised on-the-job experience. Eighty hours of work per semester are required for each semester credit.  
Requisite: Department consent.  
Type: C

### **EET 299 Special Topics in Electricity/ Electronics Variable up to (4)-(8)-(4)**

This course will cover topics or problems in the electrical and electronics field and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.  
Requisite: None.  
Type: C

## Emergency Medical Services

### **EMS 105 First Responder – EMS 4-0-4**

This course is designed to provide training in all aspects of emergency medical care. It is for rescuers who are not emergency medical technicians and who do not transport patients to a hospital. The majority of training time is devoted to the practical aspects of emergency care. NOTE: Occasional Saturdays may be required for specialized instruction and testing. The dates, times and locations will be announced the first day of class. This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.  
Requisite: None.  
Type: C

### **EMS 110 Emergency Medical Technician 4-8-8**

Provides students with overall role and responsibility of the emergency medical technician in performing emergency care. The student will develop skill in assessment and in emergency treatment procedures short of those rendered by physicians or by allied health personnel under the direct supervision of a physician. Note: Occasional Saturdays may be required for specialized instruction and testing. The dates, times and locations will be announced the first day of class. This course requires access to a reliable Internet connection to complete weekly online assignments. Students must be competent computer and internet users. A criminal background check and drug testing is required for this course. Details are provided the first day of class. For more information contact 618-235-2700, ext. 5355. The basic fee for these tests are included in lab fees, however additional fees may be required for students who have resided in states other than Missouri and Illinois.  
Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: C

### **EMS 115 EMT-Basic Recertification Topics Variable up to (5)-0-(5)**

Current trends in emergency medical prehospital care are presented at the EMT-Basic level to assist practitioners in achieving recertification experiences for both state and national recognition.  
Requisite: Department consent.  
Type: C

### **EMS 116 EMT Certification Review 0.5-0-0.5**

This course will provide students with the opportunity for an academic review of the information required and study strategies needed to prepare for the National Registry of Emergency Medical Technicians certification examination or Illinois licensure examination. This class will include two opportunities to complete a timed, computerized full length examination that will identify both areas of strength and weakness, as well as offer specific suggestions for remedial activities.  
Requisite: Completion of EMS 110 or current Illinois EMT licensure.  
Type: C

## Course Description Guide (continued)

### **EMS 205 Paramedic I 7.25-2.5-8.5**

The first of four didactic courses designed to provide the student with the knowledge and skills necessary to perform as a paramedic as well as meet state and national classroom and lab standards for certification. Topics covered in this section include anatomy and physiology review, airway management, assessment skills, intravenous therapy, and trauma.

Requisite: Program admission.

Type: C

### **EMS 206 Paramedic II 3.75-1.5-4.5**

The second of four didactic courses designed to provide the student with the knowledge and skills necessary to perform as a paramedic as well as meet state and national classroom and lab standards for certification. Topics covered in this section include pharmacology, cardiovascular emergencies, ECG interpretation and arrhythmias.

Requisite: EMS 205, EMS 210, EMS 220 each with a grade of "C" or better.

Type: C

### **EMS 207 Paramedic III 3.5-1-4**

The third of four didactic courses designed to provide the student with the knowledge and skills necessary to perform as a paramedic as well as meet state and national classroom and lab standards for certification. Topics covered in this section include respiratory and other medical emergencies, environmental emergencies, obstetrical emergencies, pediatrics and neonatology.

Requisite: EMS 206, EMS 211, EMS 221 each with a grade of "C" or better.

Type: C

### **EMS 208 Paramedic IV 4.25-1.5-5**

The last of four didactic courses designed to provide the student with the knowledge and skills necessary to perform as a paramedic as well as meet state and national classroom and lab standards for certification. Topics covered in this section include toxicology, behavioral emergencies, geriatrics, special patient populations and EMS operations.

Requisite: EMS 207, EMS 212, EMS 222 each with a grade of "C" or better.

Type: C

### **EMS 210 Paramedic Clinical Practice I 0-7.5-2**

The first of four clinical courses designed to provide the student, under supervision, with observation experience, practice and application of patient assessment as well as other paramedic skills and procedures in the clinical environment. This course is designed to meet state and national clinical standards for certification. Clinical settings include emergency department and operating room.

Requisite: Program admission.

Type: C

### **EMS 211 Paramedic Clinical Practice II 0-15-1**

The second of four clinical courses designed to provide the student, under supervision, with observation, experience, practice and application of patient assessment as well as other paramedic skills and procedures in the clinical environment. This course is designed to meet state and national clinical standards for certification. Clinical settings usually include various hospital and clinical areas.

Requisite: EMS 205, EMS 210, EMS 220 each with a grade of "C" or better.

Type: C

### **EMS 212 Paramedic Clinical Practice III 0-15-1.5**

The third of four clinical courses designed to provide the student, under supervision, with observation, experience, practice and application of patient assessment as well as other paramedic skills and procedures in the clinical environment. This course is designed to meet state and national clinical standards for certification. Clinical settings usually include various hospital and clinical areas.

Requisite: EMS 206, EMS 211, EMS 221 each with a grade of "C" or better.

Type: C

### **EMS 213 Paramedic Clinical Practice IV 0-15-1.5**

The last of four clinical courses designed to provide the student, under supervision, with observation, experience, practice and application of patient assessment as well as other paramedic skills and procedures in the clinical environment. This course is designed to meet state and national clinical standards for certification. Clinical settings usually include various hospital and clinical areas.

Requisite: EMS 207, EMS 212, EMS 222 each with a grade of "C" or better.

Type: C

### **EMS 220 Paramedic Field Internship I 0-6-1**

The first of five field internship courses designed to provide the student, under supervision, with experience by observing patient assessment as well as other paramedic skills and procedures in the EMS field environment. This course is designed to meet state and national field internship standards for certification. The field internship will typically take place on an ambulance.

Requisite: Program admission.

Type: C

### **EMS 221 Paramedic Field Internship II 0-6-0.5**

The second of five field internship courses designed to provide the student, under supervision, with experience by observing patient assessment as well as other paramedic skills and procedures in the EMS field environment. This course is designed to meet state and national field internship standards for certification. The field internship will typically take place on an ambulance.

Requisite: EMS 205, EMS 210, EMS 220 each with a grade of "C" or better.

Type: C

### **EMS 222 Paramedic Field Internship III 0-6-0.5**

The third of five field internship courses designed to provide the student, under supervision, with experience by observing patient assessment as well as other paramedic skills and procedures in the EMS field environment. This course is designed to meet state and national field internship standards for certification. The field internship will typically take place on an ambulance.

Requisite: EMS 206, EMS 211, EMS 221 each with a grade of "C" or better.

Type: C

### **EMS 223 Paramedic Field Internship IV 0-12-1**

The fourth of five field internship courses designed to provide the student, under supervision, with experience by observing patient assessment as well as other paramedic skills and procedures in the EMS field environment. This course is designed to meet state and national field internship standards for certification. The field internship will typically take place on an ambulance.

Requisite: EMS 207, EMS 212, EMS 222 each with a grade of "C" or better.

Type: C

### **EMS 224 Paramedic Field Internship V 0-12-2**

The last of five field internship courses designed to provide the student, under supervision, with experience by observing patient assessment as well as other paramedic skills and procedures in the EMS field environment. This course is designed to meet state and national field internship standards for certification. The field internship will typically take place on an ambulance.

Requisite: EMS 208, EMS 213, EMS 223, FS 160, FS 280 each with a grade of "C" or better.

Type: C

### **EMS 299 Special Topics In EMS Variable up to (4)-0-(4)**

Application of emergency medical principles to specific problems current in EMS through case studies, simulation, special class projects or problem-solving procedures. Projects and topics will vary to meet specific interests and needs.

Requisite: None.

Type: C

## Engineering

### ENGR 103 Engineering Graphics 2-4-4

This course in engineering graphics is for all students in the engineering transfer program. Both traditional and microcomputer based computer-aided drafting will be used to produce technical drawings. Topics covered include: lettering, technical sketching, orthographic views, sections, isometrics, obliques, dimensioning, and descriptive geometry.  
Requisite: None.  
Type: T, IAI-EGR 941

### ENGR 251 Surveying 2-2-3

Provides the participant with an understanding of the use of the transit, level, tape, Theodolites and total stations, fundamental surveying procedures, and land surveying. It is recommended that students have completed algebra, geometry and trigonometry courses before enrolling.  
Requisite: None.  
Type: C

### ENGR 263 Analytical Mechanics - Statics 3-0-3

The application of the principles of mechanics to problems of equilibrium. Topics include resultants, equilibrium, center of gravity, and moments of inertia.  
Requisite: PHYS 204, MATH 203 each with a grade of "C" or better.  
Type: T, IAI-EGR 942

### ENGR 264 Analytical Mechanics-Dynamics 3-0-3

The application of the principles of mechanics to problems of motion and acceleration. Topics include plane motion, force, mass and acceleration, work and energy; impulse and momentum.  
Requisite: ENGR 263, MATH 203 each with a grade of "C" or better.  
Type: T, IAI-EGR 943

### ENGR 271 Electrical Circuits 3-0-3

An introduction to DC and AC circuit analysis. Topics include network analysis of resistive and transient circuits.  
Requisite: MATH 205, PHYS 205 each with a grade of "C" or better.  
Type: T, IAI-EGR 931

### ENGR 275 Mechanics of Solids 3-0-3

A prerequisite course for many upper division engineering courses. Topics include elastic deformations and stresses in two-dimensional structural elements caused by axial, bending, shear, and torsion loads; stress-strain relationships; Mohr's Circle; elementary design concepts.  
Requisite: ENGR 263 with a grade of "C" or better.  
Type: T, IAI-EGR 945

## English

### ENG 91 Reading Comprehension 3-0-3

English 91 is the first course in a two-course sequence designed to help students become lifelong critical readers. ENG 91 focuses on the five language arts: thinking, reading, writing, speaking, and listening. Students work toward mastery of the knowledge, comprehension, and application levels of reading and are introduced to the reading levels of analysis, synthesis, and evaluation, which are emphasized in ENG 92 (Intermediate Reading). A variety of materials may be employed, such as textbooks, newspapers, novels, expository essays and articles, short stories, and other outside readings. Students are encouraged to use the Success Center, and in some instances, may be required to do so. Successful completion of all developmental reading/writing courses is required for admission to ENG 101 Rhetoric and Composition I.  
Requisite: Reading placement above GSBS 60 or completion of GSBS 60.  
Type: P

### ENG 92 Critical Reading 3-0-3

English 92 is the second course in a two-course sequence that comprises the SWIC Developmental Reading Program, the ultimate goal of which is to aid students' development into lifelong critical readers and learners. The objective of ENG 92 is to promote students' mastery of critical reading of college-level materials. Students use textbooks and novels that are more challenging than those used in ENG 91. Students registering for ENG 92 are expected to have already mastered literal and inferential comprehension, which is the subject matter of ENG 91. Successful completion of required developmental reading/writing courses is required for admission to ENG 101 Rhetoric & Composition I.  
Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: P

### ENG 95 Building Writing Strategies 3-0-3

ENG 95 is designed to help students to see themselves as writers, to be aware of their own writing processes, and to honestly self-evaluate their own writing. This class focuses on fluency: the use of pre-writing and drafting techniques that enable students to overcome writer's block and create large amounts of non-redundant text, full of meaningful examples, reasons, details, descriptions, anecdotes, and evidence. This class also covers revising, editing, the recursive nature of the writing process, and the value of collaboration. Students write multiple essays, culminating in a portfolio crafted for an audience consisting of writing faculty. Students whose scores on the English placement test indicate they need help in improving their composition skills are required to take and pass this course as requisite for ENG 96 or ENG 101. The course offers three hours of non-transferable credit.  
Requisite: ENG 95 Placement.  
Type: P

### ENG 96 Preparing for College Writing 3-0-3

English 96 is designed to help students to see themselves as writers, to be aware of their own writing processes, and to honestly self-evaluate their own writing. This course covers the entire recursive writing process, from pre-writing and drafting to revising and editing. The same emphasis on fluency started in English 95 is maintained. In addition, the course requires students to demonstrate improved critical thinking in the writing of clear, well-focused essays that anticipate and address potential concerns of the audience, and connect to that audience through a mature, logical, and persuasive voice. Students do multiple revisions, culminating in a portfolio crafted for an audience consisting of writing faculty. Students whose scores on the English placement test indicate they need help in improving their composition skills are required to take and pass this course as requisite for ENG 101. The course offers three hours of non-transferable credit.  
Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.  
Type: P

### ENG 101 Rhetoric & Composition I 3-0-3

English 101 is designed to help students write papers for a variety of general and specific audiences. Students will learn to recognize features that make writing effective, and learn different strategies writers use while prewriting, drafting, revising, and editing. Students will learn to read their own work more critically and to constructively criticize the work of others. The course also provides a brief introduction to the writing of source-supported papers and methods of documenting sources.  
Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-C1 900

### ENG 102 Rhetoric and Composition II 3-0-3

English 102 focuses on the processes of academic inquiry and source-supported writing, while continuing to practice prewriting, drafting, revising, and editing strategies. Students will gain experience using a variety of research methods including interview, observation, survey, peer-reviewed journals, electronic databases, and other written/visual/aural texts or artifacts. Students will use reflection to critically analyze and evaluate information and ideas from a variety of sources, and use such sources effectively in their own writing.  
Requisite: ENG 101 with a grade of "C" or better.  
Type: T, IAI-C1 901R

## Course Description Guide (continued)

### ENG 103 Technical Communication 3-0-3

This course focuses on effective technical and professional communication. Students will learn to read professional situations rhetorically, considering the needs, attitudes, and assumptions of their audiences, as well as the demands and limitations imposed by different contexts. The course stresses writing, collaboration, critical thinking and reading, and effective uses of technology in communication. Note: This course is considered an alternative to English 102 in Associate in Applied Science programs, and therefore is not automatically transferable to all four-year colleges.

Requisite: ENG 101.

Type: C

### ENG 107 Creative Writing 3-0-3

A workshop course to give direction and criticism to students who want to write fiction, non-fiction or poetry. Students are part of a critical circle. They submit material to the group and critique work of others. After practicing the craft of writing, students are encouraged to submit manuscripts to an off-campus publisher.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### ENG 108 Modern Grammars 3-0-3

This course is designed to improve theoretical knowledge of grammar and sentence structure. It will focus on sentence elements, syntax, grammar, and punctuation, as well as construction of sentences to convey meaning effectively. The course will also provide a brief sampling of various topics in grammar, language, and linguistics. In addition, students will discuss the development of the English language.

Requisite: None.

Type: T

### ENG 200 Service Learning 2-2-3

This course gives students the opportunity to provide service to their communities through volunteer work. The course combines community service and classroom instruction with a focus on critical reflective thinking, civic responsibility, and social awareness. Students will be assigned to or choose an agency, community action group, or educational facility for service based upon their skills, knowledge, and general interests. Main topics of the course will include: volunteerism, civic/social responsibility, civic engagement, social issues, empowerment, professionalism, and other social issues topics. Students cannot receive credit for both ENG 200 and SRV 200.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

### ENG 207 Advanced Creative Writing 3-0-3

English 207 is designed as a sequel to English 107 so as to provide students with advanced instruction in fiction, poetry and dramatic writing, and to offer further advanced critical evaluation of student work and the work of professional writers in a workshop environment.

Requisite: ENG 107.

Type: T

### ENG 280 Introduction to Teaching Reading 3-0-3

This is an introductory course in the field of reading, designed for elementary (K-9) and early childhood (preK-3) education majors. Students will gain an overview of the field by examining such topics as reading definitions, theories of the reading process, the role of affect, emergent literacy, word recognition and vocabulary development, comprehension, instructional methodologies, and reading assessment. Students cannot receive credit for both ED 280 and ENG 280.

Requisite: ED 255, ENG 101 with a grade of "C" or better.

Type: T

### ENG 299 Special Topics in English Variable up to (4)-0-(4)

Special topics and issues in English presented through lectures, discussions, readings, and/or individual assignments and research projects. Topics vary each semester. Course may be taken more than once if different topics are covered.

Requisite: Department consent.

Type: T

## Film

### FILM 105 Screenwriting I 3-0-3

An introduction to movie writing, with an emphasis on the short narrative script. Students will learn the conventions of screenplay format, gain experience using screenwriting software, and practice techniques for crafting believable characters, effective dialog, and suspense.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

### FILM 115 Film Appreciation 3-0-3

An introduction to film study, with an emphasis on how moviemaking techniques like cinematography, editing, set design, and sound are used for artistic and dramatic effect. In addition to watching and discussing films of different genres and time periods, students will learn about different critical approaches to film and how historical, political, and cultural contexts shape films.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-F2 908

### FILM 140 Video Editing I 1-5-3

This course provides an introduction to the principles of videos editing using Final Cut Pro editing software. Students will learn to create smooth, effective edits following the conventions of continuity editing. Students will also learn how to do basic sound editing, log and transfer video footage, organize files and workflow, create graphics such as titles and credits, and export finished projects.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### FILM 150 Moviemaking I 1-5-3

Provides an introduction to motion picture production using digital video. Students will gain experience in all aspects of the production stage of the moviemaking process, including operating digit video cameras and DSLR's, setting up and operating lighting equipment, capturing location sound, and serving in all the main crew positions found on professional film sets.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### FILM 205 Screenwriting II 3-0-3

A continuation of FILM 105, in which students will write a feature-length screenplay. Students will gain further practice creating effective film stories, while adhering to proper screenplay format. In addition, students will focus on the conventions of narrative feature scripts such as three-act structure, character arcs, plot points and reversals, etc. Students will continue to develop skills in giving and receiving constructive feedback of their peers' work and revision. Student will also work on marketing their script by creating a logline and treatment, and pitching their idea orally.

Requisite: FILM 105 with a grade of "C" or better.

Type: T

### FILM 215 Film History 3-0-3

A survey of the history of motion pictures, with an emphasis on important cinematic movements, directors, and technological innovations that have impacted the direction of the art form.

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-F2 909

### FILM 225 Film and Literature 3-0-3

A study of the relationship between film and literature. This course will analyze the literary aspects of narrative films, including plot, setting, character, theme, point of view, etc., as well as examining film adaptations of literary works (novels, plays, short stories, graphic novels, and others) and the similarities and differences between the different media.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

## Course Description Guide (continued)

### **FILM 230 Sound Design 1-5-3**

A hands-on course in sound design, sound editing, and sound mixing for video and film. Using Apple Final Cut Pro, students will learn how to edit dialog, clean up location audio, add sound effects and ambient sound, create music using loop, place music into video projects effectively, and create a balanced final mix of audio levels. The course will also provide an introduction to setting up and recording ADR (automated dialog replacement), and Foley sound effects.

Requisite: FILM 140 with a grade of "C" or better.

Type: T

### **FILM 240 Video Editing II 1-5-3**

A continued hands-on workshop in digital video editing. Student will edit a variety of narrative, informative, and experimental projects. There will be a focus on more complex editing techniques such as chroma keying, compositing, color correction, working with stills and round footage, and advanced sound editing.

Requisite: FILM 140 with a grade of "C" or better.

Type: T

### **FILM 250 Moviemaking II 3-0-3**

A continued hands-on experience with motion picture production, with an increased emphasis on the duties of the director through preproduction (casting, shotlisting, storyboarding, scheduling), production (working with actors and crew throughout the stages of auditions, rehearsals, and shooting) and post-production (editing, sound design, and promotion). Students will also gain more in-depth experience with lighting, camera movement, and other aspects of digital cinematography. Each student will plan and direct their own short film project.

Requisite: FILM 140, FILM 150 each with a grade of "C" or better.

Type: T

### **FILM 260 Documentary Moviemaking I 3-0-3**

Provides an introduction to documentary movie production. Working individually or in pairs, students will research, plan, shoot, and edit an original short documentary movie. Students will also study some of the major types of documentaries (biographical, historical, ethnographic, experimental, issue-based, and others) and important documentary directors. The main focus of the course, however, will be production: identifying a good documentary subject, conducting interviews, shooting visually interesting footage, getting good location sound, and finding a story or pattern that can serve as an organizing principle while editing.

Requisite: FILM 140, FILM 150 each with a grade of "C" or better.

Type: T

### **FILM 261 Documentary Moviemaking II 3-0-3**

Provides continued hands-on experience with documentary movie production. Each student will be expected to produce and direct a longer, more in-depth documentary which involves more research and higher production quality. Students will also be expected to conduct independent research into the work of a documentary filmmaker of their choosing.

Requisite: FILM 260 with a grade of "C" or better.

Type: T

### **FILM 280 Digital Cinematography 1-5-3**

This course provides hands-on instruction in cinematography for all types of digital video production. Emphasis will be placed on understanding and controlling exposure, focal length, depth of field, composition, and color balance. Students will also practice advanced lighting techniques, creating time-lapse videos, and post-production methods of improving image quality such as color correction, cropping, chroma keying, and compositing.

Requisite: FILM 150 with a grade of "C" or better.

Type: T

### **FILM 298 Special Topics in Film Production 3-5-3**

A hands-on course in a specific area of film/video production. Topics will vary and may include (but are not limited to) the following: Specific aspects of the production process such as lighting, production design, and acting for the camera; topics in postproduction such as visual effects and scoring; and video production in specific genres such as experimental video, music videos, animation, etc.

Requisite: FILM 140 or FILM 150 each with a grade of "C" or better; certain topics may have other prerequisites.

Type: T

### **FILM 299 Special Topics in Film Study 3-0-3**

An in-depth study of one particular topic or aspect of film. Topics will vary with each course topics may include (but are not limited to) the following: a specific film genre; a cinematic period or movement; a particular regional or national cinema; a film technique such as musical score, special effects, or lighting; or the work of a particular film director or writer.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

## Fire Science

### **FS 100 Fire Fighter A 3-2-4**

This is the first of three courses designed to prepare a fire fighter trainee to become a certified fire fighter according to standards set by the National Fire Protection Association. It includes instruction in fire service history and organization, fire fighter safety, fire behavior, personal protective equipment, portable fire extinguishers, water supply, fire hose, fire streams, and ladders.

NOTE: Students must be an active member of a fire department.

Requisite: Department consent.

Type: C

### **FS 101 Principles of Emergency Services 3-0-3**

This course provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics.

Requisite: None.

Type: C

### **FS 102 Fire Behavior & Combustion 3-0-3**

This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled.

Requisite: None.

Type: C

### **FS 110 Fire Prevention 3-0-3**

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education.

Requisite: None.

Type: C

### **FS 115 Fire Fighter B 2-2-3**

This is the second of three courses designed to prepare a fire fighter trainee to become a Certified Fire Fighter according to standards set by the National Fire Protection Association. It includes instruction in rescue, building construction, forcible entry, ventilation, and fire control.

Requisite: FS 100.

Type: C

### **FS 116 Building Construction for Fire Protection 3-0-3**

This course provides the components of building construction that relate to fire and life safety. The focus of this course is on fire fighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

Requisite: FS 100 or FS 101.

Type: C

### **FS 120 Fire Service Vehicle Operator 1-0-1**

This course is designed to give fire science personnel the basic knowledge and skills to safely perform fire service vehicle operations according to state and national standards. Note: Coordinator Permission required to enroll.

Requisite: Department consent.

Type: C

## Course Description Guide (continued)

- FS 130 Fire Fighter C 1-2-2**  
This is the third of three courses designed to prepare a fire fighter trainee to become a certified fire fighter according to standards set by the National Fire Protection Association. It includes instruction in ropes and knots, fire protection systems, salvage, overhaul, protection of fire scene evidence, fire department communications, fire prevention, and public education.  
Requisite: FS 115.  
Type: C
- FS 131 Fire Protection Systems 3-0-3**  
This course provides information relating to the features of design and operation of fire alarm systems, water based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.  
Requisite: FS 110 or FS 130.  
Type: C
- FS 159 Fire Suppression & Rescue 0.5-0-0.5**  
This is a refresher course for active fire department personnel. The successful student shall possess the skills necessary to properly function as a member of a fire suppression and rescue company.  
Requisite: Department consent.  
Type: C
- FS 160 Technical Rescue Awareness 0.5-0-0.5**  
This course is designed to introduce the student to the risk of structural collapse, rope, confined space, vehicle and machinery, water, wilderness, and trench rescues.  
Requisite: Department consent.  
Type: C
- FS 170 Strategy & Tactics 3-0-3**  
This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire grounds.  
Requisite: FS 101 or FS 130.  
Type: C
- FS 181 Haz Mat First Responder Variable up to (2.5)-(1)-(3)**  
The successful student shall possess the skills necessary to operate as a hazardous materials first responder at the operations level according to national regulations and standards.  
Requisite: Department consent.  
Type: C
- FS 200 Fire Service Instructor I 3-0-3**  
The successful student shall possess the skills necessary to operate as a Fire Service Instructor I according to standards set by the National Fire Protection Association.  
Requisite: FS 130.  
Type: C
- FS 201 Fire Officer I 3-4-5**  
The successful student shall possess the skills necessary to operate as a company fire officer according to standards set by the National Fire Protection Association.  
Requisite: FS 130.  
Type: C
- FS 205 Fire Apparatus Engineer 3-0-3**  
A study of the operation of fire apparatus and the theory of hydraulics as used in fire protection. Emphasis is placed on the safe and proper use of fire apparatus and the application of hydraulic principles in fire protection problems.  
Requisite: FS 130.  
Type: C
- FS 206 Fire Protection Hydraulics 3-0-3**  
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.  
Requisite: FS 110 or FS 130.  
Type: C
- FS 210 Fire Service Instructor II 3-0-3**  
The successful student shall possess the skills necessary to operate as a Fire Service Instructor II according to standards set by the National Fire Protection Association.  
Requisite: FS 200.  
Type: C
- FS 211 Fire Officer II 2-2-3**  
The successful student shall possess the skills necessary to operate as a multi-company fire officer according to standards set by the National Fire Protection Association.  
Requisite: FS 201.  
Type: C
- FS 231 Fire Service Administration 3-0-3**  
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis is on fire service leadership from the perspective of the company officer.  
Requisite: FS 101.  
Type: C
- FS 233 Occup Safety & Health 3-0-3**  
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization.  
Requisite: FS 101 or FS 130.  
Type: C
- FS 237 Legal Aspects of FS 3-0-3**  
This course introduces the federal, state, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases.  
Requisite: FS 101 or FS 130.  
Type: C
- FS 260 Vehicle Rescue Operations 3-0-3**  
The successful student shall possess the skills necessary to operate as a rescue technician at the vehicle and machinery operations-level according to standards set by the National Fire Protection Association.  
Requisite: FS 160 or EMS 105 or EMS 110.  
Type: C
- FS 262 Rope Rescue I & II 3-0-3**  
The successful student in this course shall possess the rope rescue skills necessary to perform low angle rescue.  
Requisite: FS 160 or EMS 105 or EMS 110.  
Type: C
- FS 264 Confined Space Rescue I & II 3-0-3**  
The successful student shall possess the skills necessary to perform a safe and effective confined space rescue at the operations level.  
Requisite: FS 262.  
Type: C
- FS 266 Trench Rescue I & II 3-0-3**  
The successful student shall possess the skills necessary to perform a safe and effective water rescue according to the applicable NFPA standards.  
Requisite: FS 160.  
Type: C
- FS 268 Water Rescue I & II 3-0-3**  
The successful student shall possess the skills necessary to perform a safe and effective water rescue according to applicable NFPA standards.  
Requisite: FS 160, FS 262.  
Type: C

## Course Description Guide (continued)

### **FS 280 Hazardous Materials – Awareness** Variable up to (1.5)-0-(1.5)

This course is designed to provide the educational components required for individuals who may come in contact with a hazardous materials incident. Requisite: Department consent.  
Type: C

### **FS 282 Hazardous Materials Technician A** 3-0-3

The successful student shall possess the skills necessary to operate at a hazardous materials incident as a first responder at the operations level and hazardous materials incident commander. Requisite: FS 181.  
Type: C

### **FS 285 Hazardous Materials Chemistry** 3-0-3

This course provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters. Requisite: FS 101 or FS 130.  
Type: C

### **FS 299 Special Topics In Fire Science** Variable up to (4)-0-(4)

Application of fire science principles to specific problems through case studies, simulation, special projects, or problem-solving procedures. Prerequisite: Coordinator permission - employed by a fire department or fire brigade. Requisite: Department consent.  
Type: C

## French

### **FREN 101 Elementary French I** 4-0-4

This introductory language course focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in French. Students are also introduced to the history and cultures of the French-speaking world. Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T

### **FREN 102 Elementary French II** 4-0-4

This introductory language course is a continuation of FREN 101 and focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in French. Students are also introduced to the history and cultures of the French-speaking world. Requisite: FREN 101.  
Type: T

### **FREN 201 Intermediate French I** 4-0-4

Continued development of listening, speaking, reading and writing skills in French. Grammar review. Cultural and literary readings, compositions. Course is conducted almost entirely in French. Requisite: FREN 102.  
Type: T

### **FREN 202 Intermediate French II** 4-0-4

Continued development of listening, speaking, reading and writing skills in French. Grammar review. Cultural and literary readings, compositions. Course is conducted almost entirely in French. Requisite: FREN 201.  
Type: T, IAI-H1 900

### **FREN 299 Special Topics in French** Variable up to (4)-0-(4)

An in-depth study of various areas in French language and culture presented through lectures, discussions, and/or individual research and readings by the students. Topics will vary. May include travel/study activities. Requisite: None.  
Type: T

## Geography

### **GEOG 143 Travel/Study Tour** 3-0-3

An in-depth study of various world regions via travel. The regions emphasized vary each semester the course is offered. The course may be taken more than once for credit under different itineraries. Requisite: None.  
Type: T

### **GEOG 151 Geography of the United States and Canada** 3-0-3

A systematic investigation of environmental conditions and geographic patterns of human activities in the United States and Canada. Attention is given to physiography, climate, human occupancy patterns, economic activities, and human-environment relations. Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T

### **GEOG 152 World Regional Geography** 3-0-3

This course introduces the basic concepts and tools of geography through a survey of the various regions of the world. Students will use spatial ideas and frameworks to explore and evaluate the causes of and interrelationships between environmental conditions and uneven patterns of human activities across the globe. Completion of this course fulfills the Non-Western Culture requirement for graduation from Southwestern. Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S4 900N

### **GEOG 202 Economic Geography** 3-0-3

This course investigates the changing geography of the global economy. Topics covered include economic globalization, trade and investment, production, and regional development. Completion of this course fulfills the Non-Western Culture requirement for graduation from Southwestern. Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S4 903N

### **GEOG 240 Geographic Info Systems I** 3-0-3

This course is a hands-on introduction to the Geographic Information Science. Students will combine a conceptual understanding of cartography and geodetic science with a working knowledge of GIS software to perform geospatial data analysis and produce professional-quality maps. Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T

### **GEOG 241 Geographic Info Systems II** 3-0-3

In this course, students will both expand their conceptual understanding of geospatial science and learn additional practical GIS software skills. The course focuses on remote sensing and raster data analysis, with additional attention given to 'spatially enabling' various types of data for use in a GIS. Requisite: GEOG 240.  
Type: T

### **GEOG 299 Special Topics In Geography** Variable up to (3)-0-(3)

An in-depth study of selected areas of geography. Individual research is emphasized. Topics vary each semester. This course may be taken more than once for credit under different topics. Requisite: Sophomore standing, one course in geography.  
Type: T

## German

### **GERM 101 Elementary German I 4-0-4**

This introductory language course focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in German. Students are also introduced to the history and cultures of the German-speaking world.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: T

### **GERM 102 Elementary German II 4-0-4**

This introductory language course is a continuation of GERM 101 and focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in German. Students are also introduced to the history and cultures of the German-speaking world.

Requisite: GERM 101.

Type: T

### **GERM 201 Intermediate German I 4-0-4**

Continued development of listening, speaking, reading and writing skills in German. Grammar review. Cultural and literary readings, compositions. Course is conducted almost entirely in German.

Requisite: GERM 102.

Type: T

### **GERM 202 Intermediate German II 4-0-4**

Continued development of listening, speaking, reading and writing skills in German. Grammar review. Cultural and literary readings, compositions. Course is conducted almost entirely in German.

Requisite: GERM 201.

Type: T, IAI-H1 900

### **GERM 299 Special Topics in German Variable up to (4)-0-(4)**

An in-depth study of various areas in German language and culture presented through lectures, discussions, and/or individual research and readings by the students. Topics will vary. May include travel/study activities.

Requisite: None.

Type: T

## GT – See *Technical Mathematics*

## Health & Exercise Science

### **HES 101 Coed Volleyball 0-2-1**

This is a beginning course in volleyball stressing individual skills, basic rules and strategy.

Requisite: None.

Type: T

### **HES 102 Coed Basketball 0-2-1**

This is a beginning course in basketball stressing individual skills, basic rules, strategy, history, and terminology.

Requisite: None.

Type: T

### **HES 105 Bowling 0-2-1**

This is an elementary course stressing basic skills, rules, and strategy.

Requisite: None.

Type: T

### **HES 106 Golf 0-2-1**

This is a practical course in golf, primarily for beginners.

Requisite: None.

Type: T

### **HES 107 Beginning Swimming 0-2-1**

Introduction to basic elementary swimming, stressing orientation to water and the basic strokes.

Requisite: None.

Type: T

### **HES 108 Intermediate Swimming 0-2-1**

This course stresses a review of the basic skills and additional arm strokes and leg movements necessary in mastering the following: free, breast, butterfly, and back strokes. In addition, students will be instructed in safety and survival skills and basic rescue techniques in the water.

Requisite: HES 107.

Type: T

### **HES 110 Strength Training 0-2-1**

A study of the fundamental principles involved in body building, including progressive resistance exercises.

Requisite: None.

Type: T

### **HES 112 Coed Softball 0-2-1**

A beginning course in softball stressing individual skills, basic rules, strategy, history and terminology.

Requisite: None.

Type: T

### **HES 113 Beginning Tennis 0-2-1**

A beginning course in the basic skills of tennis including tennis rules, strategy, and scoring.

Requisite: None.

Type: T

### **HES 114 Intermediate Tennis 0-2-1**

Designed as both a comprehensive review of strokes learned at the beginning level and an opportunity to add the lob, drop shot and smash to the players basic stroke skills. More emphasis on singles and doubles play is given than at the beginning level.

Requisite: HES 113.

Type: T

### **HES 115 Personal Defense-Karate I 0-2-1**

Introduction to basic karate techniques for self-defense and body-toning exercises. No previous training necessary.

Requisite: None.

Type: T

### **HES 116 Personal Defense-Karate II 0-2-1**

Advanced karate techniques, physical conditioning and philosophical teachings of karate.

Requisite: HES 115.

Type: T

### **HES 118 Personal Defense-Kodokan Judo I 0-2-1**

Beginning course in self-defense, stressing the fundamentals of Kodokan Judo.

Requisite: None.

Type: T

### **HES 119 Personal Defense-Kodokan Judo II 0-2-1**

Intermediate course in self-defense stressing the development of physical and mental coordination to a high degree of proficiency.

Requisite: HES 118.

Type: T

### **HES 120 Personal Defense-Kodokan Judo III 0-2-1**

Advanced course in self defense Kodokan Judo III offering serious students of judo an opportunity to earn an additional promotion in Nikyu-second-degree brown belt.

Requisite: HES 119.

Type: T

## Course Description Guide (continued)

<b>HES 124 Beginning Soccer</b> <b>0-2-1</b> Students learn the rules of the game, basic skills, basic drills, strategy and scoring. Requisite: None. Type: T	<b>HES 151 Personal Health and Wellness</b> <b>2-0-2</b> A study of vital health principles and problems using a wellness approach. Emphasis will be on the importance of making healthy lifestyle choices that affect individuals, families, and communities. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 128 Aerobic Exercise</b> <b>0-2-1</b> An exercise/dance course designed to introduce students to low impact aerobics, step and strength training, cardio-boxing, hi/lo aerobics and/or body sculpting. Requisite: None. Type: T	<b>HES 152 First Aid-Medical Self Help</b> <b>2-0-2</b> This course is designed to teach emergency care to be given to a victim in the event of accidental injury or sudden illness. Students will have the opportunity to obtain certification from the American Red Cross for Adult, Child and Infant CPR/AED and Standard First Aid. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 130 Physical Fitness I</b> <b>0-2-1</b> An introduction to and participation in an individual physical fitness program using a combination of resistance training and aerobic conditioning. After initial orientation and assessment, students will be provided opportunities to improve levels of muscular and cardiovascular fitness using a prescribed program of exercise. The student has the option of enrolling in a graded section or a pass/fail section at the time of registration. Requisite: None. Type: T	<b>HES 154 Nutrition, Exercise, &amp; Weight Management</b> <b>2-0-2</b> Designed to help the student better understand the relationship of dieting and exercise to obesity. Emphasis will be on the practical application of effective methods of weight management, including physical and behavior approaches. Fad diets, eating disorders, common problems of dieting, and proper eating habits will be studied. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 131 Physical Fitness II</b> <b>0-2-1</b> A continuation of physical fitness programming based upon individual improvement. Requisite: HES 130. Type: T	<b>HES 155 Physical Fitness &amp; Wellness</b> <b>2-0-2</b> Designed to help the student understand and evaluate wellness and exercise needs and develop an individual physical fitness program. The information presented represents a consensus of presently available scientific evidence in the areas of exercise physiology and health. It is recommended that students be enrolled in a physical fitness course such as HES 130, 131, 230 or 231. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 132 Pilates I</b> <b>0-2-1</b> This course focuses on strengthening and lengthening the entire body through the Pilates techniques of core conditioning and breathing. Requisite: None. Type: T	<b>HES 156 Individual Exercise and Health</b> <b>2-0-2</b> This course is designed to develop attitudes, strategies, and lifetime exercise habits for health. Emphasis will be placed on understanding the relationship between exercise and health over one's lifetime. It is recommended that students be enrolled in a physical fitness course such as HES 130, 131, 230 or 231. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 141 Yoga I</b> <b>0-2-1</b> An exercise course designed to introduce students to the breathing technique, postures, and benefits of yoga. Requisite: None. Type: T	<b>HES 158 Consumer Health</b> <b>3-0-3</b> This course is designed to help the student develop the skills and strategies necessary to make intelligent decisions regarding the purchase and the use of health products and services. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 142 Yoga II</b> <b>0-2-1</b> An exercise course designed to build upon techniques and skills mastered in Yoga I. Requisite: HES 141. Type: T	<b>HES 170 Introduction to Exercise Science</b> <b>3-0-3</b> An introduction to physical education and exercise science for those considering careers in teaching, health, fitness, or recreation. Topics include historical foundations, teacher preparations, exercise physiology, exercise and sport psychology, physical fitness and health, and career preparation. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T
<b>HES 145 Tai Chi</b> <b>0-2-1</b> Tai Chi or Tai Chi Chuan is a centuries old Chinese exercise for health, relaxation, meditation, self-defense, and self-cultivation. Tai Chi, a form of martial art, grew out of the Chinese art of fighting and many movements still show elements of self-defense. Unlike other forms of martial art, all movements are done slowly and gently and are designed to relax and develop the whole body. Tai Chi is considered a healing exercise because of its reputation for lessening many ailments. Requisite: None. Type: T	
<b>HES 146 Tai Chi Intermediate</b> <b>0-2-1</b> This course is designed to build upon the skills and techniques mastered in HES 145. Tai Chi or Tai Chi Chuan is a centuries old Chinese exercise for health, relaxation, meditation, self-defense, and self-cultivation. Tai Chi, a form of martial art, grew out of the Chinese art of fighting and many movements still show elements of self-defense. Unlike other forms of martial art, all movements are done slowly and gently and are designed to relax and develop the whole body. Tai Chi is considered a healing exercise because of its reputation for lessening many ailments. Requisite: HES 145. Type: T	

## Course Description Guide (continued)

### HES 172 Physical Fitness Testing & Prescription 3-0-3

This course is an introduction to the principles of exercise testing and prescription as they apply to fitness, health, and performance. Topics covered include the role of the health related components of fitness in health and performance, the physical fitness of normal and special populations, and the significance of cardiovascular programs through the life cycle.

Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### HES 180 Personal Trainer Certification Prep 4-0-4

This course introduces the fundamentals of personal training to help prepare students for a national fitness certification examination. Students will learn how to develop and implement an individualized approach to exercise leadership in healthy populations and/or those individuals with medical clearance.

Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.

Type: T

### HES 203 Baseball Theory 2-0-2

This course provides a professional preparation of coaches in baseball to include fundamentals of the game, maintenance of playing field, and team organization.

Requisite: Department consent.

Type: T

### HES 204 Basketball Theory 2-0-2

This course provides a professional preparation of coaches in basketball to include fundamentals of the game, rules of the game, and team organization.

Requisite: Department consent.

Type: T

### HES 216 Advanced Golf 0-4-2

Activity class with emphasis on developing the skills in golf. Laboratory participation is required. This course is intended for students with low established handicaps (under 10 USGA handicap).

Requisite: Department consent.

Type: T

### HES 221 Elementary School Activities 2-0-2

Study of the age characteristics of elementary school children together with indoor and outdoor activities applicable to the different grade levels. Presentation practice and a notebook of activity descriptions, references and materials required.

Requisite: None.

Type: T

### HES 230 Physical Fitness III 0-2-1

A continuation of physical fitness programming based upon individual improvement.

Requisite: HES 131.

Type: T

### HES 231 Physical Fitness IV 0-2-1

A continuation of physical fitness programming based upon individual improvement.

Requisite: HES 230.

Type: T

### HES 299 Spec Topics: Hlth & Ex Science Variable up to (4)-(4)-(4)

This course will cover special topics or problems in health and exercise science and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.

Requisite: None.

Type: T

## Health Information Technology

### HIT 101 Health Information Intro 1-2-2

This course covers: introduction to the Health Information Management field including orientation to various health care delivery systems (example: hospitals, ambulatory care, etc.), health information departments, the medical record, documentation requirements, the medical staff, role(s) of the health information technologist, the American Health Information Management Association, ethics, accrediting and licensing bodies (example: Joint Commission), and forms design. The student practices basic medical record techniques in the college laboratory and observes health information department functions through field trip(s) to area health care facilities and/or practical or simulated applications. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: Program admission.

Type: C

### HIT 110 Health Information Nomenclature I 2-0-2

This course is designed to introduce the student to the nomenclature used in the health information fields so that he/she may function professionally as he/she engages in oral and written communication, record analysis, coding, quality improvement activities, abstracting medical data, research, teaching and training employees, and preparing reports using medical language. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: Program admission.

Type: C

### HIT 130 Intro to Computers for HIT 3-0-3

This course focuses on healthcare administration applications of software, including word processing, spreadsheets, databases, and presentation graphics. The course is designed to assist students to acquire basic computer skills in word processor, spreadsheet, database, and presentation applications with a focus on navigation and accuracy; discussing and demonstrating how these applications are used in the healthcare environment; introducing methods to assemble and analyze patient data for the purpose of improving patient care and controlling costs. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: Program admission.

Type: C

### HIT 151 Pathophysiology 3-0-3

This course is designed to introduce the student to the study of diseases, disease processes and medical conditions. Through this class the student will acquire knowledge about surgical procedures used to treat these diseases. In addition, the student will learn about medications, laboratory tests and diagnostic resources used to detect and inhibit these conditions. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: HIT 101, HIT 110 each with a grade of "C" or better.

Type: C

### HIT 160 Health Data Management 1-2-2

This course is a continued study of medical record/health information management practices including: health information technology applications and health information (medical record) functions, filing systems, record organization methodologies (assembly, scanning, etc.), quantitative and qualitative analysis, correspondence procedures and resume development and writing. The student practices basic health information (medical record) techniques in the college laboratory and observes overall health information (medical record) department functions through field trips to area health care facilities and/or practical or simulated applications. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 101 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **HIT 161 Microcomputer Applications in HIT 1-4-3**

This course will provide an overview of basic information technology concepts and its application to health care and associated delivery systems, the electronic health record or computerized medical record and the health information management department. The software laboratory assignments will focus on computer techniques in spreadsheet design, database management, work processing/transcription, and other health care applications. Topics include spreadsheet design, word processing/transcription, data collection/analysis, archival systems, data sources/sets, quality and integrity of health care data including introduction to the chargemaster, reimbursement methodologies, etc. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 101, HIT 110, HIT 130 each with a grade of "C" or better.  
Type: C

### **HIT 170 Health Information Nomenclature II 2-0-2**

This course is a continuation of Health Information Nomenclature I. It is designed to teach the student proper spelling, pronunciation and meanings of medical terms. It is vitally important for the student to be able to converse with other health care providers in a professional manner. Understanding medical nomenclature is one of the basics needed to accomplish this. This course will also assist health information students to sufficiently analyze and evaluate health information (medical record) data. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 110 with a grade of "C" or better.  
Type: C

### **HIT 200 Health Care Delivery 3-2-4**

Students will continue their study of nomenclature and classification systems; applicable reimbursement methodologies (example: DRGs, MS-DDRGs), indexes and statistical reports of medical information; information handling and computer/information technology. Federal structure as it relates to health care, quality assessment and improvement, cancer and other registries and varied delivery systems (example: Managed Care, etc). NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 160 with a grade of "C" or better.  
Type: C

### **HIT 210 Health Statistics 3-0-3**

This course will include the study of vital and public health statistics incorporating statutory and/or regulatory requirements as it relates to health information management; in-depth study of hospital statistics; sources, definitions, collection, reporting; presentation of data with the emphasis of reliability and validity of data. The importance of health care statistics as it relates to management, decision making, governmental agencies, quality assessment and research will be introduced. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 130, HIT 151, HIT 160, HIT 161, HIT 170 each with a grade of "C" or better.  
Type: C

### **HIT 220 Classification Systems I 2-4-4**

During this course students are introduced to the current classification and applicable legacy systems with emphasis on diseases, injury and procedure codes. Application of coding practices to applicable reimbursement methodologies (DRGs, MS-DRGs), and encoders. Students will apply skills learned with practical application and/or simulated activities/scenarios. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: BIOL 157, BIOL 158, HIT 151, HIT 160, HIT 161, HIT 170 each with a grade of "C" or better.  
Type: C

### **HIT 230 PPE: Professional Practice I 0-10-2**

The student is assigned to local health care/health information facilities or applicable department/location to practice the theory and techniques of the classroom. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 151, HIT 160, HIT 161, HIT 170 each with a grade of "C" or better.  
Type: C

### **HIT 240 Classification Systems II 1-2-2**

This course covers: instruction covering basic principles of current classification system (CPT/HCPCS), sequencing of codes and impact on reimbursement. Students will gain information about APC grouping, chargemaster, and medical necessity, and application of skills incorporating practical application and/or simulated activities/scenarios covered in HIT 220 and HIT 240. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: HIT 220 with a grade of "C" or better.  
Type: C

### **HIT 245 Pharmacology for the HIT 1-2-2**

The course provides an overview of basic concepts and terminology associated with medication structure, function, interaction and administration available for clinical management of patient care. Identification of diseases associated with certain medications will be studied. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 151, HIT 170 each with a grade of "C" or better.  
Type: C

### **HIT 250 Legal Aspects of HI 2-0-2**

This course covers: study of the medical record as a legal document; confidential communications, release of information, the medical record in court, consents, authorizations and releases, privacy and security, e-role(s) or information technology as it relates to legal aspects, Health Insurance Portability and Accountability Act, legislative process including federal court systems, legal vocabulary and retention management principles. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: HIT 101 with a grade of "C" or better.  
Type: C

### **HIT 260 PPE: Professional Practice II 0-15-3**

Continuation of Health Information Practicum I. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: HIT 230 with a grade of "C" or better.  
Type: C

### **HIT 270 Health Information Management 3-2-4**

This course covers the basic principles of efficient and effective management, supervision, policy and procedure development, roles/functions of teams/committee leadership, training program design and implementation, operational workflow, revenue cycle, organization resource activities (budgeting) as it applies to the health information management profession. Includes also a basic overview of assessment and improvement processes and investigates health care delivery in the long-term care setting. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 200 with a grade of "C" or better.  
Type: C

## Course Description Guide (continued)

### **HIT 280 Advanced Coding 3-0-3**

This course is designed to assist students in their efforts to achieve an explicit set of coding competencies needed to successfully pass the CCA examination. These competencies have been determined through a job analysis study conducted of practitioners. The competencies are divided into domains and tasks as outlined by AHIMA. This nationally recognized credential distinguishes coders by exhibiting commitment to the coding profession and demonstrating coding competencies across all settings, including both hospitals and physician practices. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: Concurrent enrollment in or completion of HIT 240 with a grade of "C" or better.

Type: C

### **HIT 285 Advanced Data Analytics 3-0-3**

This course is designed to assist students in their efforts to advance their skills in analytics for various health care settings. The course will start with an overview of data mining techniques, tools for data organization/analysis, process of analyzing data, and the use of external data for benchmarking. These techniques and tools will be covered in the context of healthcare data using an electronic health record. The course will address the benefits and challenges of analyzing healthcare data, and the integration strategies for various data types commonly found in EHRs as well as environmental and biological data that affects healthcare. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users.

Requisite: HIT 210 with a grade of "C" or better.

Type: C

### **HIT 290 Health Information Capstone 1-0-1**

This review class is designed to assist students in their efforts to prepare for the American Health Information Management Association's (AHIMA's) Registered Health Information Technician (RHIT) examination. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: HIT 220, HIT 230 each with a grade of "C" or better; concurrent enrollment in or completion of HIT 270 with a grade of "C" or better.

Type: C

### **HIT 295 ICD 10 Classification System Variable up to (4)-0-(4)**

This course is designed to prepare coders, with a minimum of one year recent experience or graduates of an accredited HIT/coding program, in ICD 10 classifications. The course will include ICD 10 rules and guidelines, practice exercises, case scenarios/studies, use of Encoder, and anatomy and physiology refresher elements. Students will complete a comprehensive examination that will assist them in a work setting. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: Department consent.

Type: C

## Health Related Occupations

### **HRO 90 Health Sciences Prep 5.5-3-7**

This course is designed to assist the student who is interested in health science to further develop his/her self-concept and match abilities to potential career choices. Students will learn medical terminology, basic structure and function of the body systems, organs, tissues, and cells; use health science scenarios/case studies to reinforce learning. Upon completion, students will have CPR and first aid certifications. This course is designed for students who are interested in a career in healthcare and tested into development reading and writing. The course will assist students in developing their reading and writing skills while learning health science content.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **HRO 100 Medical Terminology 1-0-1**

A course designed to provide an introduction to medical terminology through the study of word roots, prefixes and suffixes.

Requisite: None.

Type: C

### **HRO 105 Nurse Assistant 5.5-3-7**

This state-approved Nursing Assistant training course prepares students to perform simple and basic nursing functions utilized in a variety of health care settings under the supervision of a nurse. Instruction includes hands-on experience in the classroom, lab and clinical settings. Skills taught include the 21 IDPH required skills as well as all elements of personal care, proper body mechanics, safety measures including cardiopulmonary resuscitation (CPR), vital signs, resident rights, infection control, communication and observation. Students will also learn basic anatomy & physiology as well as medical terminology. Following successful completion of the course, a student must pass a written state competency examination to work as a certified nurse assistant (CNA). NOTE: To meet the Illinois Department of Public Health's requirements, students must be 16 years of age and pass a criminal background check to participate in this course which is offered in either accelerated (six weeks), summer (eight weeks) or extended (16 weeks) time frame. Students will be dropped from the course if they fail to pass the criminal background check, meet IDPH course attendance requirements, or fail to meet clinical facility requirements. Students must have completed, at a minimum, eight years of grade school or provide proof of equivalent knowledge; be in good physical and emotional health; and have good interpersonal communication skills.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: C

### **HRO 120 Pharmacology Variable up to (3)-0-(3)**

This course is designed to study the classification of drugs, their actions and effects within the human body. Study will include indications, side effects, adverse reactions, dosages and administration. Legal aspects will also be included in course content.

Requisite: None.

Type: C

### **HRO 150 Fundamentals of Nutrition 2-0-2**

A presentation of normal nutrition emphasizing the purpose of nutrition, the food nutrients and sources, dietary application of nutrition to meet the needs of the normal, altering dietary needs to comply with age, cultural and regional differences, and some modifications for illness and disease.

Requisite: None.

Type: T

### **HRO 160 Medical Terminology 3-0-3**

A course designed to provide an in-depth study of medical terminology as it relates to the structure and function of the human body in health and disease.

Requisite: None.

Type: C

### **HRO 299 Problems in Health Related Occupations Variable up to (4)-(2)-(4)**

The study of problems facing workers in the health care delivery system. Application of allied health occupation principles to specific problems through case studies, simulation, special class projects or problem-solving procedures.

Requisite: None.

Type: C

## Heating, Ventilation, Air Conditioning and Refrigeration

### **HVAR 100 Fitting, Fusion and Fabrication 3-2-4**

Practical welding, soldering and brazing of copper, aluminum and steel tubing will be covered. Several joining processes will be used to fabricate and repair the various connections and fittings used in air conditioning systems. Black iron and galvanized pipe, pipefittings, and hand valves for water and gas will be discussed, as well as PVC pipe and connections.

Requisite: None.

Type: C

### **HVAR 101 Refrig. & A.C. Principles I 3-2-4**

Maintenance and repair of single-unit portable air conditioners. Emphasizes checking compressor and air circulator. Basic refrigeration theory and component application. Refrigerant recovery and recycling processes will be demonstrated.

Requisite: Concurrent enrollment in or completion of HVAR 103.

Type: C

### **HVAR 103 Basic Electrical Controls & Systems 3-2-4**

Introduction to basic electricity, electrical test equipment, wiring diagrams, electrical symbols and electrical motors. The course also includes an introduction to residential air conditioning and heating controls.

Requisite: None.

Type: C

### **HVAR 152 Advanced Refrig. & A.C. Principles 3-2-4**

An advanced course in air conditioning and refrigeration. Different types of units will be discussed with emphasis on split-system air conditioners. Refrigerant recovery and recycling processes will be demonstrated.

Requisite: Concurrent enrollment in or completion of HVAR 101.

Type: C

### **HVAR 153 Heating Fundamentals 3-2-4**

Introduces the student to four major categories of heating systems, gas-fired forced-air, oil heating, hydronics, and electric furnaces. The basic configurations, components, and controlling systems for each category will be covered and compared to the others. Troubleshooting for each type of heating system will also be discussed.

Requisite: HVAR 103.

Type: C

### **HVAR 201 Psychrometrics & Load Calculations 3-2-4**

Contains ventilation and air conditioning basics with emphasis placed on psychrometrics and heat load calculations in order to determine equipment size needed for specific applications of both winter and summer air conditioning.

Requisite: Concurrent enrollment in or completion of HVAR 152.

Type: C

### **HVAR 202 Commercial Refrigeration I 3-2-4**

Introduces the components that make up commercial refrigeration systems as well as their application within the systems. Troubleshooting and repair of commercial refrigeration systems are introduced. Testing of compressors, metering devices, evaporators, condensers and specialty controls are emphasized.

Requisite: Concurrent enrollment in or completion of HVAR 101.

Type: C

### **HVAR 203 High Efficiency Heating Systems 1-2-2**

Emphasizes changes that have occurred in recent years in the field of heating technology. Includes the introduction of pulse furnaces, condensing furnaces, sealed combustion systems, and advanced electronic ignition systems. Solid state control modules will also be introduced.

Requisite: HVAR 103, HVAR 153.

Type: C

### **HVAR 205 Commercial Ice makers & Water Treatment 2-2-3**

Covers the treatment of the water used in commercial ice machine applications as well as the treatment needed to insure proper machine function. Public health considerations will be covered as will calcium build-up and proper cleaning procedures. Several types of commercial icemakers will be discussed from the standpoint of how they function, how they are controlled, and troubleshooting procedures.

Requisite: HVAR 101, HVAR 103, HVAR 152.

Type: C

### **HVAR 206 Commercial Refrig Load Calculations 1-0-1**

Heat load calculations for walk-in coolers and freezers based on the product load. The sizing of the refrigeration equipment required for the walk-in cooler or freezer will also be covered.

Requisite: HVAR 101, HVAR 152, HVAR 202.

Type: C

### **HVAR 208 Intro to HVAR Computer Applications 1-1-1.5**

This course is designed to introduce the student to the use of computer related HVAR aids such as computerized load calculations, online job searches and HVAR training aids.

Requisite: None.

Type: C

### **HVAR 210 Mech Codes & Installation Practices 3-2-4**

Students will learn how to install various major appliances. Plumbing and venting codes as set forth in the local codes will be discussed.

Requisite: None.

Type: C

### **HVAR 211 Distribution Panels & Elect Building Wiring 2-2-3**

Students will learn how to install, repair, and estimate costs for wiring in residences and commercial establishments for appliances.

Requisite: None.

Type: C

### **HVAR 251 Commercial Refrigeration II 3-2-4**

Commercial refrigeration systems designs identified and component efficiency studies are made to help explain the overall make-up of commercial refrigeration systems. Troubleshooting of these systems is emphasized.

Requisite: HVAR 202.

Type: C

### **HVAR 252 Air Conditioning & Htg Sys. Design 3-2-4**

Using blueprints and heat load information, the student designs air conditioning and heating distribution systems. The student is introduced to commercial roof top air conditioning units in this course.

Requisite: HVAR 201.

Type: C

### **HVAR 253 Licensing & Certification Prep 3-0-3**

The course consists of a series of practice tests over a wide variety of subjects. These subjects include: residential heating, residential cooling, heat pumps, light commercial equipment, commercial equipment, mechanical installation practices, as well as some major appliance topics. The tests are designed to help the student prepare for any type of certification test that he/she may be required to take.

Requisite: 12 hours of HVAR courses completed.

Type: C

### **HVAR 256 Advanced Elect. Controls & Systems 3-2-4**

A review of basic controls and circuitry leading to advanced air conditioning, heating and refrigeration controls and circuitry as well as solid state electronics controls.

Requisite: HVAR 103.

Type: C

## Course Description Guide (continued)

### HVAR 257 Internship 0-20-4

Gives the students occupational experience while completing the prescribed course of study in HVAR. This is an elective to provide on-the-job experience for the student entering the air conditioning, heating and refrigeration field. The student must complete 320 hours of work experience for four semester hours of credit.

Requisite: 12 hours of HVAR courses completed. Department consent.  
Type: C

### HVAR 258 Natl Electrical Code Interpretation 3-0-3

Advanced studies of the terms and concepts that are required for proficiency in interpretation of electrical codes and regulations. Based on the National Electrical Code and a review of practical electrical field knowledge and industrial/residential qualifying exams. This course prepares the student for future career advancements that involve testing by various regulatory agencies. Of particular interest to electricians, contractors, inspectors, and pre-architecture/engineering students.

Requisite: None.  
Type: C

### HVAR 260 Refrigerant Transition/Recovery Cert 0.5-0-0.5

Prepares individuals with a basic knowledge of air conditioning and refrigeration to successfully pass an environmental protection agency approved certification exam. This exam will allow the individual to work in the refrigeration and air conditioning industry.

Requisite: None.  
Type: C

### HVAR 262 Air Delivery Systems Materials & Methods 0-2-1

Introduces sheet metal components necessary to physically install a heating and air conditioning system. Tools and assembly will also be covered.

Requisite: None.  
Type: C

### HVAR 263 Heat Pumps 2-2-3

Introduces air-to-air and ground source heat pump systems. Components unique to heat pumps will be discussed, along with their function in the system. Control systems and troubleshooting will be covered. Emphasis will be placed on the selection of components and the installation of heat systems.

Requisite: HVAR 152.  
Type: C

### HVAR 280 Commercial Cooking Equipment I 1-2-2

This course introduces the components that make up commercial cooking equipment as well as their application. Troubleshooting and repair of commercial cooking equipment are introduced as well. Testing of ignition systems and operating systems as well as specialty controls are emphasized.

Requisite: HVAR 103, HVAR 153.  
Type: C

### HVAR 299 Special Problems in HVAR Variable up to (4)-0-(4)

This course is designed to meet the needs of students requiring instruction on special topics or problems in the heating, ventilation, air conditioning and refrigeration field. This course provides the student with the knowledge and/or skills necessary to address the particular topics or problems outlined in the course syllabus.

Requisite: None.  
Type: C

## History

### HIST 101 World Civilization I 3-0-3

This course is a survey of world history from the birth of civilization to the beginning of the Age of Exploration at the close of the 15th century. Subjects discussed will include the evolution of Greek, Roman, Chinese, Japanese, Islamic, and Native American civilizations; the development of the great world religions; and the birth and growth of Europe. This course will conclude with a discussion and a review of the Age of Exploration.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 912N

### HIST 102 World Civilization II 3-0-3

This course is a survey of world history from the Age of Exploration to modern times. Subjects discussed include the stabilization and growth of Europe. Europe's impact on the Americas, the development of non-Western civilizations, the age of Enlightenment and revolution in Europe, the development of industrialization, nationalism, imperialism, and the major events of the twentieth century.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 913N

### HIST 114 Latin American History 3-0-3

This course is a review of the history and development of Latin America, beginning with the peopling of the Western hemisphere and the evolution of the native states of Central and South America. Specific subjects covered include the Spanish conquest and its effects on the Americas, the Latin American revolutions and the post-revolutionary period, and the rise and development of the modern Latin American states. The course concludes with a review of modern developments and current events in Latin America. Completion of this course fulfills the third world culture requirement for graduation from Southwestern Illinois College.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 910N

### HIST 115 Mid-East History 3-0-3

An introduction to the area and nations which comprise the Middle East. The historical, political, and religious evolution of the Middle East will be reviewed, along with the development and current status of regional and national problems which confront the area. Completion of this course fulfills the Non-Western Culture requirement for graduation from SWIC.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 918N

### HIST 117 African History 3-0-3

A broad overview of the historic, economic, political, social and cultural development of the African continent. Particular emphasis will be upon the background of this area and how this impacted its development and importance to the industrialized world. Completion of this course fulfills the Non-Western Culture requirements for graduation from Southwestern Illinois College.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 906N

### HIST 118 Asian History 3-0-3

The course is an introduction to the area and nations which comprise Asia. The historical, political, and religious evolution of Asia will be reviewed, along with the development and current status of regional and national problems which confront the area. Completion of this course fulfills the Non-Western Culture requirement for graduation from SWIC.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.  
Type: T, IAI-S2 908N

## Course Description Guide (continued)

### **HIST 151 European Civilization I 3-0-3**

A survey of European history from 1300 to the Napoleonic era. The course includes a review of the political, social, economic, religious, and cultural accomplishments of the European people as they developed new social orders and national states, new commercial and industrial organizations, and international alliances and rivalries.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 152 European Civilization II 3-0-3**

This course begins with a review of the French Revolution and the Napoleonic era. Course topics also include the Industrial Revolution, 19th century political revolutions, and the growth of nationalism and imperialism. World War I, the inter-war years, and World War II will be reviewed, as well as the Cold War, the demise of the Soviet Union, and contemporary European developments.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S2 903

### **HIST 154 History Travel/Study Tour 3-0-3**

An in-depth historical study of various regions via travel. The regions emphasized vary each semester the course is offered. The course may be taken more than once for credit with different itineraries.

Requisite: None.

Type: T

### **HIST 160 Survey of British History I 3-0-3**

Survey of British History from early Britons to 1714. Topics covered include early Britons and Roman invasions, emergence of England, Norman Conquest and relations with Europe, conquest of Wales, wars between England and Scotland, Henry VIII and English Reformation, 1688 Revolution, Parliament, House of Windsor.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 161 Survey of British History II 3-0-3**

Survey of British History from 1714 to present. Topics covered include Whigs, Tories, and Walpole as "first Prime Minister," Scotland, Wales and "Celtic Nationalism," Irish question, growth of British Empire in India and North America, American Revolution, Industrial Revolution, Gladstone Disraeli and Victorian Britain socialism, Common Market, Britain today.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 180 U.S. History to 1865 3-0-3**

The development of the American civilization starting with the European background and ending with the Civil War. Includes the Age of Discovery; the period of colonization of the Spanish, French, Dutch and English; the American Revolution; the early years of the Republic; the development of the Constitution; the War of 1812; the growth of nationalism and manifest destiny; and the Civil War.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S2 900

### **HIST 181 U.S. History, 1865 to the Present 3-0-3**

The course begins with the Reconstruction period, and includes the transformation of America from an agrarian to urban civilization with emphasis on politics, business, finance, labor and society. Among the topics covered are the end of Isolation, the Populist and Progressive movements, World War I, the Roaring Twenties, the Great Depression, World War II, the Cold War, the emergence of the Civil Rights Movement, the Sixties, and National Politics: 1968-1998.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S2 901

### **HIST 230 African-American History 3-0-3**

A course designed to study the African-American impact on the economic, political, social and cultural institutions of the United States. Topics covered include slavery prior to the Civil War, the war itself, Reconstruction and the establishment of the Jim Crow system. Included in this course is an examination of the role of the African-American in the 20th century, the Civil Rights movement and the election of the first African-American President, Barack Obama.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H2 909D

### **HIST 232 United States at War 3-0-3**

This course attempts to identify the social, cultural, economic, diplomatic and political influences of war on life in the United States. It also examines the causes, diplomacy, battles, leaders, and results of the different wars. The course covers the Revolutionary War to the conflict in the Persian Gulf.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 234 American Civil War 3-0-3**

Beginning with an overview of events that led to the disruption of the Union, this course will then focus on the War Between the States. Emphasis will be on the major campaigns, battles, military leaders and naval operations. Politics of the two rival governments, foreign policy, economics, and social changes that resulted from this turbulent period will also be examined. The course closes with a survey of Reconstruction and the problems of reuniting this country.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 250 20th Century Western Civilization 3-0-3**

A survey of the 20th Century Western Civilization which includes interactions with Eastern and third world countries, and an examination of the definitions, causes, and effects of the major forces and events that have shaped the development of the modern western societies and the world.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 282 Russian History 3-0-3**

Aimed at acquainting the student with Russia and its past, the course is divided into four broad periods, including ancient Russia to the rise of the Kievan state, Kievan domination to the birth of modern Russia under Ivan III, Russia under the Tsars to the Revolution in 1917, and the Revolution to Khrushchev, the Cold War, and the end of the Soviet Union. Each period will be studied as a separate unit contributing to the overall history of Russia.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 286 History of Religion 3-0-3**

A survey of the history of the world's religions with an emphasis upon each faith's origins, important leaders, mythology and doctrine, organizational development, and influence upon society. Primal religions, Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, Shinto, Judaism, Christianity, and Islam are among the religions examined. The approach of the course is open and unbiased, promoting the intellectual study of religion. Completion of this course fulfills the Non-Western Culture requirement for graduation from Southwestern.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H5 904N

### **HIST 288 History of Illinois 3-0-3**

A survey of Illinois culture and history beginning with Native American population through the appearance of the Europeans to the present day. Changes and developments in Illinois society, economics, and politics will also be examined.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Course Description Guide (continued)

### **HIST 292 U.S. History Since 1945 3-0-3**

The course involves concentration in areas of U.S. history since 1945. Includes the roles played by women, minorities, the business labor movement, cultural patterns, the civil rights movement, presidential administrations, the cold war, and foreign policy. U.S. foreign policy will be examined from the prewar era to the present day.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **HIST 299 Special Topics In History Variable up to (3)-0-(3)**

An in-depth study of history presented by discussions and/or individual research and reading by the student. Topics vary each semester. This course may be taken more than once if different topics are discussed.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Homeland Security

### **HS 100 Intro to Homeland Security 3-0-3**

This course addresses the functions of Homeland Security and critical infrastructure and asset protection as they relate to government, industry, and the community. The key functions of threat prevention, crisis response, and operations recovery are addressed from a variety of perspectives given that homeland security is a responsibility that is shared by government agencies, the private sector, and individuals, encompassing a broad spectrum of professional career positions throughout our society. This course provides an overview of the elements involved in the homeland security function, as well as the challenges critical infrastructure managers in government and industry can/will face while maintaining mission operations and staff accountability in the midst of multiple overlapping roles and responsibilities in our rapidly changing world. NOTE: This course requires access to a reliable Internet connection to complete online assignments. Students must be competent computer and Internet users.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

## Horticulture

### **HORT 102 Intro to Horticulture 3-0-3**

This course teaches the basic principles in the science and art of growing fruits, vegetables, flowers or ornamental flowers. It is required of all first-year students in the program unless requirement is waived by divisional approval.

Requisite: None.

Type: T, IAI-AG 905

### **HORT 112 Media & Fertility 6-0-6**

This course contrasts the nature and properties of artificial soils and their fertility with natural soils. Media and fertility requirements for hydroponics, vegetables, bedding plants, nursery stock in the greenhouse and outdoors are discussed. Special emphasis is placed on soil sterilization, preparation of media, irrigation and drainage, liquid fertilization, and time-released fertilizers (offered fall).

Requisite: HORT 102; BIOL 101 or BIOL 151.

Type: C

### **HORT 120 Container Gardening 2-0-2**

This course is designed to teach students the art, skill, and technique of container gardening. Selection of appropriate containers, media, and plant materials for various types of container gardens and the maintenance of these container gardens will be the primary focus.

Requisite: None.

Type: C

### **HORT 132 Garden Center & Nursery Mgmt 4-0-4**

The study of cultural and production practices, such as propagation by seeding, cutting and grafting. It also teaches nursery management and layout, including purchasing, marketing, and pricing (offered fall).

Requisite: None.

Type: C

### **HORT 135 Turf Management 4-0-4**

The study of grass types, uses, land preparation, seeding, sodding, irrigation, fertilization, pests and management practices of turf (offered summer).

Requisite: HORT 102.

Type: C

### **HORT 136 Identification & Use of Ornamentals 3-0-3**

The study of the identification, ecology and use of ornamental plants, woody and herbaceous plants, deciduous trees, shrubs, and ground covers (offered fall).

Requisite: HORT 102.

Type: C

### **HORT 152 Greenhouse Management 4-0-4**

The study of watering, fertilization, ventilation, temperature, humidity, light and general management practices of greenhouses (offered spring).

Requisite: HORT 102.

Type: C

### **HORT 165 Floral Design 2-2-3**

This course includes the study of basic design principles, decorative uses and arrangements of flowers, foliage, and accessories. This includes the construction of occasional floral arrangements (offered fall).

Requisite: None.

Type: C

### **HORT 168 Floral Shop Management 3-0-3**

This is a study of the retail florist industry, its problems and its rewards. Topics include procedures for setting up, financing and managing a flower shop. Basic information on practical standards and prospects, personal qualifications, and an introduction to operating problems (offered fall of even-numbered years).

Requisite: HORT 165.

Type: C

### **HORT 175 Home Gardening 3-0-3**

The study of lawn care, plantings, seedlings, flowers, fruits, vegetables, trees and shrubs with the homeowner in mind.

Requisite: None.

Type: C

### **HORT 185 Use of Horticultural Equipment 3-0-3**

The emphasis of this course is the use of modern equipment and its maintenance and care. Structures and construction methods ranging from cold frames to refrigerated storage houses are also studied.

Requisite: None.

Type: C

### **HORT 195 Indoor Plant Culture and Gardening 3-0-3**

The student will learn identification, culture techniques and propagation of foliage and conservatory plants, with uses in accenting interior décor (offered fall of odd-numbered years).

Requisite: HORT 102.

Type: C

### **HORT 215 Horticultural Diagnostics 2-2-3**

A diagnostic approach to plant problems is given using a systematic evaluation of the site and affected plants. Diagnostic tools and sampling are discussed.

Examples of noninfectious disorders, insects, infectious diseases, as well as environmental problems are presented (offered fall).

Requisite: Concurrent enrollment in or completion of HORT 102.

Type: C

## Course Description Guide (continued)

### **HORT 226 Landscaping 3-0-3**

This course teaches the principles of design in landscaping, site analysis, construction and costs with the aid of drawings, models and case studies (offered spring).

Requisite: Concurrent enrollment in or completion of HORT 136.  
Type: C

### **HORT 227 Landscape Construction 2-2-3**

This course covers the techniques and use of materials for constructing various small landscapes. It will provide the basic knowledge and skills needed for planning and constructing garden terraces, walks, fences, benches, garden pools, outdoor lighting, etc.

Requisite: HORT 226.  
Type: C

### **HORT 228 Computer-Aided Landscaping 1-4-3**

In this course students will use a current computer software package to create two-dimensional and perspective views, as well as three-dimensional presentations of landscape designs. They will create photorealistic color designs, generate professional drawings, and produce detailed estimates that match the landscape plans (offered spring).

Requisite: HORT 226.  
Type: C

### **HORT 232 Irrigation & Design 2-2-3**

The study of the principles of irrigation with an emphasis on turfgrass.  
Requisite: HORT 135.

Type: C

### **HORT 235 Advanced Turf Management 3-0-3**

Topics covered in this course include grass types, uses, land preparation, seeding, sodding, irrigation, fertilization, pests, and management practices of turf (offered fall of odd-numbered years).

Requisite: HORT 135.  
Type: C

### **HORT 237 Arboriculture 3-0-3**

The study of production of trees, shrubs and herbaceous plants as well as their placement, cultivation, arrangement and management for ornamental use (offered spring of even-numbered years).

Requisite: HORT 132.  
Type: C

### **HORT 242 Fruit Production 3-0-3**

The study of the science and practice of growing, harvesting, handling, storing, processing, and marketing of fruits. It is designed to present students with the scope of tree fruits, brambles, and other fruits commonly grown in the area (offered fall of even-numbered years).

Requisite: HORT 102.  
Type: C

### **HORT 252 Advanced Greenhouse Management 3-0-3**

Commercial crop production and management practices including cultural and technical aspects, and management of personnel, records and overhead (offered fall of even-numbered years).

Requisite: HORT 152.  
Type: C

### **HORT 262 Small Fruit Production 2-0-2**

This course teaches the science and practice of growing, harvesting, handling, storing, processing, and marketing of small fruits (offered spring of even-numbered years).

Requisite: HORT 102.  
Type: C

### **HORT 265 Advanced Floral Design 2-2-3**

This is an advanced floral design course with emphasis on artistic qualities, sympathy floral arrangements, bridal designs, and theme development.

Requisite: HORT 165.  
Type: C

### **HORT 275 Grounds Maintenance 4-0-4**

This course emphasizes practical applications of grounds management techniques which are approached abstractly in other horticulture classes. When possible, the school facilities will be used as examples, but area parks, cemeteries, and other real estate complexes will also be visited (offering spring of odd-numbered years).

Requisite: HORT 132, HORT 135.  
Type: C

### **HORT 280 Vegetable Gardening 2-0-2**

This course is designed to teach students the science and practice of growing, harvesting, handling, storing, processing, and marketing vegetables for the home garden and commercial production (offered spring of odd-numbered years).

Requisite: HORT 102.  
Type: C

### **HORT 287 Supervised Intern Employment 0-10-2**

This course allows students to earn academic credit for supervised on-the-job experience at local horticulture businesses. Students will apply skills learned within the horticulture curriculum.

Requisite: Department consent.  
Type: C

### **HORT 288 Supervised Intern Employment 0-20-4**

This course allows students to earn academic credit for supervised on-the-job experience at local horticulture businesses. Students will apply skills learned within the horticulture curriculum.

Requisite: Department consent.  
Type: C

### **HORT 289 Supervised Intern Employment Variable up to 0-(30)-(6)**

This course allows students to earn academic credit for supervised on-the-job experience at local horticulture businesses. Students will apply skills learned within the horticulture curriculum.

Requisite: Department consent.  
Type: C

### **HORT 298 Horticultural Project 2-0-2**

The student will propose, plan, budget time and labor, and complete a project within their Horticultural option. This will include a final presentation before the Horticultural Advisory Committee and other members of the horticultural community to demonstrate a proficiency in an area of horticulture.

Requisite: HORT 102, HORT 132, HORT 135, HORT 136, HORT 152, HORT 226, HORT 287, HORT 288.

Type: C

### **HORT 299 Special Topics In Horticulture Variable up to (4)-(4)-(6)**

Application of horticulture principles to specific problems through case studies, simulation, special projects or problem-solving procedures.

Requisite: None.  
Type: C

## Human Services Technology

### **HMS 100 Introduction to Human Services 3-0-3**

This course provides an introduction to the field of human services as preparation for advanced study or employment in the human services profession. Beginning with historical developments, the course will present issues encountered in the field and techniques and resources for intervention. An overview of human services ethics, research, model programs, and policies will be covered. In addition, various specializations including youth care, rehabilitation, criminal justice, and elder care services will be discussed.

Requisite: Reading placement at ENG 101 or completion of ENG 92.  
Type: T

## Course Description Guide (continued)

### **HMS 200 Human Services Applications 3-0-3**

This course provides an overview of the skills and applications necessary to work in the field of human services. This course also serves as elective preparation for advanced study in the human services profession. Specific issues encountered in the field will be addressed in regards to current ethical and professional standards, policy, procedures, and practice. The diversity of special populations and the interdependent relationships of community organizations designed to meet their needs will be examined.

Requisite: HMS 100 with a grade of "C" or better.

Type: C

### **HMS 250 Human Services Seminar 3-0-3**

This seminar provides coursework essential to preparation for the transition from the classroom to the "real world." Various issues will be covered such as the purpose and goals of supervision and encountering diverse populations. The practice of critical thinking skills and an emphasis on legal and ethical concerns will be discussed. Maintaining perspective will be addressed when dealing with common major problems such as poverty and homelessness, chemical dependency and substance abuse, sexually transmitted diseases including HIV/AIDS, and death and dying. Planning for the future including networking, interviewing strategies, professional certifications, and advanced degrees will be examined.

Requisite: HMS 200 with a grade of "C" or better.

Type: C

### **HMS 280 Human Services Practicum 0-20-4**

This course provides supervised experience in various human services agencies and specializations. Clinical exposure provides students with the opportunity to practice concepts and skills learned throughout the program. Students will be required to sign a Code of Ethics Compliance before entering fieldwork.

Requisite: Department consent.

Type: C

## Humanities

### **HUM 200 Humanities Travel/Study 3-0-3**

This course seeks to introduce students to another part of the world through travel. The class will focus on select features of a country or place. These might include such things as culture, language and literature, politics, geography, art and architecture, etc. The places and aspects focused on may change with each offering of the course. Given these changes, the course may be taken more than once for credit.

Requisite: None.

Type: T

## Independent Study

### **IND 296 Independent Study Variable up to (4)-(6)-(4)**

For the student with the unique capability and unusual interests. Designed cooperatively between the student and the division with a faculty adviser assigned to the student by the dean to guide the student and evaluate progress.

Requisite: Department consent.

Type: T

## Industrial Electricity

— See *Electrical/Electronics Technology*

## Industrial Mechanics

### **IML 101 O.S.H.A. Awareness 0.5-0-0.5**

This course familiarizes the student with the industries' regulatory agencies (e.g., Occupational Safety and Health Administration, Environmental Protection Agency, and Department of Transportation).

Requisite: None.

Type: C

### **IML 102 Hazard Communication (HAZCOM) 1.5-0-1.5**

This course covers the procedures Occupational Safety and Health Administration and Environmental Protection Agency will regulate to the industry. Students will be trained in the handling, storage, and compliance of hazardous materials.

Requisite: None.

Type: C

### **IML 103 Personal Protection Equipment (P.P.E.) 0.5-0-0.5**

This course will provide training for all types of personal protection worn by the industrial worker and will provide instructional training for the industrial safety technician.

Requisite: None.

Type: C

### **IML 105 Industrial Math II 3.5-1-4**

This course is divided into three parts: (1) deals with the fundamentals of applied algebra which includes sections on symbols, equations, ratios and proportion, exponents, radicals, and formulas; (2) deals with fundamentals of applied geometry, geometric lines and shapes common in geometry, geometric lines and shapes common in geometric construction; (3) deals with fundamentals of trigonometry right triangles, acute triangles, and oblique triangles, by use of specialized workbooks. Students are exposed to craft related mathematics in their field.

Requisite: Department consent.

Type: C

### **IML 106 Industrial Piping Fundamentals 3.5-1-4**

This course is designed to introduce the non-pipefitter with an overview of the more important areas of study for industrial pipefitting. The course is designed to introduce mechanics with a practical knowledge of those skills required to function in industry as a pipefitter.

Requisite: None.

Type: C

### **IML 110 First Aid/C.P.R. 1-0-1**

This course provides training and certification in emergency first aid and cardiopulmonary resuscitation procedures. The student will be issued an American Red Cross Card.

Requisite: None.

Type: C

### **IML 111 Lockout/Tagout 0.5-0-0.5**

This course covers the Occupational Safety and Health Administration regulations that mandates the isolation of industrial equipment from hazardous energy sources for the purpose of adjusting, operating, and/or maintaining industrial equipment.

Requisite: None.

Type: C

### **IML 112 Bloodborne Pathogens 0.5-0-0.5**

This course covers the regulations under 29 CFR 1910.1030 requiring the student to know the hazards of bloodborne diseases in the workplace and the protection required.

Requisite: None.

Type: C

### **IML 119 Mechanical Systems 3.5-1-4**

Designed to help the mechanic recognize types of mechanical power transmission devices and applications, the course includes such practical aspects as troubleshooting, lubrication, parts replacement and alignment procedures. In addition, the importance and practices of precision measurement are covered.

Requisite: None.

Type: C

## Course Description Guide (continued)

- IML 120 Mechanical Blueprint Reading I 2-2-3**  
Fundamental training in blueprint interpretation with special emphasis on visualization and interpretation of material presented in this communications medium. Upon completion, the student should be able to relate dimensions to a pictorial representation correctly and accurately, and read and understand drawing convention, symbols, and notations.  
Requisite: None.  
Type: C
- IML 121 Mechanical Blueprint Reading II 3.5-1-4**  
This course makes use of industrial blueprints obtained from area industries. Machine drawings (including assembly and detailed fabrication drawings), welding and finishing symbols, structural designs, and piping layouts are covered. This course is an extension of Blueprint Reading I for all crafts excluding pipefitting and electrically related crafts.  
Requisite: None.  
Type: C
- IML 125 Industrial Maintenance Welding 3.5-1-4**  
This course is designed to introduce the student to the fundamentals of typical arc welding processes commonly found in the Industrial Maintenance field. The course introduces the Student to the OAW (oxyacetylene welding), SMAW (stick welding), GTAW (tig), GMAW (mig), and PAC (plasma arc cutting). Also included is the acetylene cutting of mild steel, along with the care and use of welding tools and equipment. Materials covered in this course will include welding machines, equipment, and welding supplies.  
Requisite: None.  
Type: C
- IML 133 Rigging (Industrial) 3.5-1-4**  
Units on lifting practices, wire and fiber rope, size and weight estimation, and material handling devices are presented to prepare the participant to meet the dangerous and demanding conditions relevant to the loading, unloading, storing and assembly or erection of equipment and structural members.  
Requisite: None.  
Type: C
- IML 139 Industrial Bearings 3.5-1-4**  
This course is designed to introduce the many types of bearings used by modern industries. The material will include types of bearings, types of applications for each, lubrication practices, bearing codes, and maintenance practices used by modern industry.  
Requisite: None.  
Type: C
- IML 145 USS MOD 13 Alignment 1.5-1-2**  
This course is designed to provide mechanical maintenance personnel information and exercises pertaining to the various types of alignment systems. The course will include terminology, alignment procedures, preventative maintenance, safety and troubleshooting.  
Requisite: None.  
Type: C
- IML 149 Industrial Pumps & Compressors 3.5-1-4**  
This course is designed to introduce the many types of industrial pumps and compressors used by modern industries. The material will include the types of pumps and compressors, types of application, parts identification, lubrication, and safety along with related auxiliary equipment.  
Requisite: None.  
Type: C
- IML 150 Stationary Engineering I 4-0-4**  
This course is designed to introduce students to the general concepts of low and high pressure boilers, including pressure, stress and safety factors along with explanation and purpose of all the pertinent equipment used.  
Requisite: None.  
Type: C
- IML 151 Stationary Engineering II 4-0-4**  
This course is designed to expand students' knowledge of the detailed concepts of low and high pressure boilers, including pressure, stress and safety factors along with a detailed explanation and purpose of all equipment used with emphasis on pumps.  
Requisite: None.  
Type: C
- IML 169 Industrial Pneumatics 3.5-1-4**  
This course is designed to introduce the apprentice to the basic theory of pneumatics. The material covered will include functions, pumps, motion, cylinders, accumulators, types of valves and pressure control systems.  
Requisite: None.  
Type: C
- IML 189 Fork Lift Truck Safety 0.5-0-0.5**  
This course will provide the student with safety training in the operation of a fork lift truck and also provide knowledge of the OSHA regulations as required by CFR 1910.178 and CFR 1910.179.  
Requisite: None.  
Type: C
- IML 200 Confined Space Entry 1-0-1**  
This course covers a basic understanding of the regulations governing the entry into confined spaces under the Occupational Safety and Health Administration. Students will be trained in entry, monitoring, and rescue of a confined space.  
Requisite: None.  
Type: C
- IML 201 Hazardous Waste Operations (HAZWOPER) 2.5-0-2.5**  
This course provides training in the collection and disposal of hazardous wastes with the use of a Class A suit with oxygen tanks. A medical clearance is required to wear the suit on the job. An OSHA 30-hour certification card is issued upon completion of course.  
Requisite: IML 101, IML 102, IML 103, IML 110.  
Type: C
- IML 202 8 Hr. Haz Waste Operations Refresh 0.5-0-0.5**  
This course is designed as a refresher for students who have completed the 40-hour HAZWOPER course.  
Requisite: IML 201.  
Type: C
- IML 203 24 Hour HAZWOPER 0.5-1-1**  
This course provides training in the clean-up resulting from a hazardous spill. The course will consist of eight hours of lecture with a 16-hour lab simulating clean-up and disposal of a spill in Class A suites.  
Requisite: None.  
Type: C
- IML 204 O.S.H.A. 10 Hour Outreach 0.5-0-0.5**  
This course will provide the student with an OSHA 10-hour certification card which covers basic safety requirements associated with the following: Hazard Communication, Personal Protective Equipment, Fire Extinguishers, Confined Space, and working hazards.  
Requisite: None.  
Type: C
- IML 205 O.S.H.A. 30 Hour Outreach 2-0-2**  
This course will provide the student with an OSHA 30-hour certification card which covers the entire spectrum of OSHA compliance areas such as Lockout/Tagout, OSHA awareness, Personal Protective Equipment, and fit testing, medical surveillance, fire protection, HAZCOM, and working hazards.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

### **IML 210 Facility Inspection/Recordkeeping 2-0-2**

This course covers the Occupational Safety and Health Administration and Environmental Protection Agency use in the inspection of industrial/commercial facilities. The student will be able to prepare a facility for an OSHA or EPA inspection.  
Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.  
Type: C

### **IML 211 O.S.H.A. Awareness II 0.5-0-0.5**

This course is designed to update students with any changes in any of the regulatory agencies (e.g., OSHA, EPA, and DOT).  
Requisite: IML 101.  
Type: C

### **IML 212 Hazard Communication II 0.5-0-0.5**

This course is designed to update students on required refresher certification in Occupational Safety and Health Administration and Environmental Protection Agency.  
Requisite: IML 102.  
Type: C

### **IML 213 Personal Protection Equip II 0.5-0-0.5**

This course will provide the student with the latest updates and revisions on subpart I 29CFR1910.132 through 139 for all types of personal protection equipment.  
Requisite: IML 103.  
Type: C

### **IML 220 First Aid II 0.5-0-0.5**

This course provides refresher training and recertification in emergency first aid procedures per the American Red Cross standards.  
Requisite: IML 110.  
Type: C

### **IML 221 Lockout/Tagout 8 Hr. II 0.5-0-0.5**

This course is designed to update students with the latest revision under the Occupational Safety and Health Administration standard 29CFR1910.147.  
Requisite: IML 111.  
Type: C

### **IML 222 Bloodborne Pathogens II 0.5-0-0.5**

This course gives the student the required refresher necessary to maintain compliance under 29CFR 1910.1030.  
Requisite: IML 112.  
Type: C

### **IML 223 C.P.R. II 0.5-0-0.5**

This course provides refresher training and re-certification in CPR procedures per the American Red Cross standards.  
Requisite: IML 110.  
Type: C

### **IML 230 Confined Space Entry II 0.5-0-0.5**

This course is designed as a refresher to keep students in compliance with the 29CFR1910.146 Confined Space Entry as per the Occupational Safety and Health Administration.  
Requisite: IML 200.  
Type: C

### **IML 250 Stationary Engineering III 4-0-4**

This course is designed to expand students' knowledge of the detailed concepts of steam engines, turbines, air-compressors, related theory and application of electricity.  
Requisite: None.  
Type: C

### **IML 251 Stationary Engineering IV 4-0-4**

This course is designed to expand students' knowledge of the detailed concepts and applications of electricity and refrigeration principles.  
Requisite: None.  
Type: C

### **IML 289 Forklift Truck Safety II 0.5-0-0.5**

This will provide the student with recertification in the operation of a forklift truck and provide knowledge of the revised Occupational Safety and Health Administration standard required by 29CFR1910.178.  
Requisite: IML 189.  
Type: C

### **IML 299 Problems in Millwright Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the industrial millwright field, and to provide them with the knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.  
Requisite: Department consent.  
Type: C

## Industrial Pipefitting

### **IDP 116 Industrial Pipefitter A 3.5-1-4**

This course is designed to give the pipefitter apprentice knowledge and skill in the use of rigging, ladders, scaffolds, safety, traps, pipe layout, alignment and template making.  
Requisite: None.  
Type: C

### **IDP 126 Industrial Pipefitter B 3.5-1-4**

This course is designed to give the second-semester apprentice knowledge and skills in the use of metrics, steam piping, heat exchangers, pipe supports, filters, pipe insulation, lubrication and pipe bending.  
Requisite: IDP 116.  
Type: C

### **IDP 136 Industrial Pipefitter C 3.5-1-4**

This course is designed to give the second-year apprentice knowledge and skills in the use of pipe supports, steam piping, theory, piping problems in relation to steam and different types of heat exchangers.  
Requisite: IDP 126.  
Type: C

### **IDP 146 Industrial Pipefitter D 3.5-1-4**

This course is designed to give the second-year apprentice knowledge and skills in the use of templates, template drawing, pipe layout and pipe alignment.  
Requisite: IDP 126.  
Type: C

### **IDP 256 Industrial Pipefitter E 3.5-1-4**

This course is designed to give the third-year apprentice knowledge and skills in the use of pipe blueprints, sketching, pipe schematics and single-line pipe drawing.  
Requisite: IDP 136, IDP 146.  
Type: C

### **IDP 266 Industrial Pipefitter F 3.5-1-4**

This course is designed to give the third-year apprentice knowledge and skill in the use of mathematics as they apply to the pipe trade, allowance for fittings, angles in plumbing, wye fittings and cast iron pipe.  
Requisite: IDP 136, IDP 146.  
Type: C

### **IDP 276 Industrial Hydraulics I 3.5-1-4**

This course is designed to give students an understanding of the fundamental principles of hydraulic circuitry. This course will also teach students correct shop procedures and develop mechanical skills required for proper installation and maintenance of components.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

### **IDP 286 Industrial Hydraulics II** 3.5-1-4

This course is designed to develop the students' proficiency in analyzing and troubleshooting hydraulic circuitry. The objective shall be to maximize durability and system function while reducing component malfunction and energy consumption. This course will also contain a study of circuit control. Requisite: IDP 276.

Type: C

### **IDP 299 Problems in Pipefitting** Variable up to (4)-(8)-(4)

This course will familiarize students with special topics or problems in the industrial pipefitter field, and to provide them with the knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Industrial Ironworker

— See *Construction Ironworker*

## Journalism

### **JOUR 101 Introduction to Journalism** 3-0-3

A study of the basic principles of news gathering, reporting, interviewing and writing. The course examines the following: the idea of news writing; types of journalistic articles; lead writing techniques; ethical issues in journalism; the application of research methods, including the use of library and online sources; and the types of publications which use journalistic writing. Students write basic stories under real-time constraints.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-MC 919

### **JOUR 110 Introduction to News Editing** 3-0-3

The study of the principles and practices of editing copy, including the duties and role of copy editors, and copy flow patterns in the process of preparing local and wire service articles for publication or broadcast. The course includes an introduction to the principles and techniques of electronic editing, information management and publication design, emphasizing the editing of body copy and display type for maximum clarity and impact, and working with reporters and editors to produce news packages, stories, photos, and other items for publication.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-MC 920

### **JOUR 150 Intro to Newspaper Publication** 3-0-3

Members of the class constitute the editorial staff of the college newspaper, *The Eye of the Storm*. The class is a workshop study of the basic principles of newspaper publication, including reporting and writing; types of journalistic stories; techniques of writing leads; ethical issues in journalism; the application of research methods, including developing sources and interviewing; Associated Press style and copyediting; news judgment; ad design and ad sales; photography; and newspaper layout and design. The class may be repeated for credit up to a maximum of three times.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **JOUR 299 Special Topics in Journalism** Variable up to (4)-0-(4)

Special topics and issues in journalism presented through lectures, discussions, readings, and/or individual assignments and research projects. Topics vary each semester. Course may be taken more than once if different topics are covered. Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Labor

### **LABR 120 Laborer Craft Orientation** 2-1-2.5

This course will introduce the student to the construction industry and acquaint the student with the required personal skills necessary for entry level into the major construction industries. This course will also include four-hour highway workzone flagger training, Illinois flagging certification, basic construction rigging and knot tying, 10-hour OSHA certification, basic math, first aid/CPR certification, back injury prevention, hazard communication training, drug and alcohol awareness, and sun sense training.

Requisite: None.

Type: C

### **LABR 121 Laborer - Mason Tending** 1.5-1-2

This course will introduce the student to the practices and procedures of mason tending and the respective OSHA regulations. The course will include rough terrain forklift operation training, frame scaffolding, Morgen scaffolding, non-stop scaffolding, mason king scaffolding, and masonry saw operator training.

Requisite: LABR 120.

Type: C

### **LABR 122 Concrete Practices & Procedures** 1.5-1-2

This course will introduce the student to concrete practices and procedures and Bobcat operator training. The course will include information on concrete components, materials; mix proportions, the hardening process, concrete finishing techniques, E-Z pavement breaker, concrete saws and vibrators.

Requisite: None.

Type: C

### **LABR 123 Asphalt Technology & Construction** 1.5-1-2

This course will introduce the student to asphalt technology and construction. The course will include information on the model DM-4000 Paver; Eager Beaver Paver; Manual Tape Applicator; Carbide Asphalt Grinder; the asphalt roller and paint striping process.

Requisite: None.

Type: C

### **LABR 124 Lead Base Paint Abatement** 1.5-1-2

This course will cover important information and aspects that the laborer must know regarding lead-base paint abatement to work safely, effectively, and efficiently on the job. The course will provide information on both technical and common sense details of what may be encountered every day while working on the job site and relevant regulations and guidelines for working with lead in construction and target housing. This course will also introduce the student to oxycetylene equipment.

Requisite: None.

Type: C

### **LABR 125 Principles of Pipe Laying** 1.5-1-2

This course will introduce the student to the principles of pipe laying, gravity flow piping systems, batterboards, sewer laser and utility line and grade, and the metric uses in pipe laying. The course will also include trenching and excavation safety pertinent to pipe laying.

Requisite: None.

Type: C

### **LABR 126 Construction Landscaping Maintenance** 1.5-1-2

This course will introduce the student to the principles of landscaping maintenance relating to the construction trades. The course will also include information on lawn and ground covers, fertilizing, soil testing, irrigation, and the elements of pruning.

Requisite: None.

Type: C

### **LABR 127 Basic Construction Surveying** 1.5-1-2

This course will introduce the student to the fundamentals of construction surveying. The course will cover terms and definitions, basic construction drawings, instruments, calculations, lines, grades, and hand signals common to surveying in the construction trades.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **LABR 128 Bridge Constr., Renov. & Demolition 1.5-1-2**

This course will introduce the student to the fundamentals of bridge construction, renovation, and demolition. The course will include safety regulations, rigging, equipment and materials, and skills required for the laborer working in this setting.

Requisite: None.

Type: C

### **LABR 129 Laborers-AGC 80 Hr Hazardous Waste 4-1-4.5**

This course will improve the student's ability to identify hazards in hazardous waste work, provide specific information relating to hazardous chemicals, and explain a worker's responsibility for following all safety and health rules required for the laborer working in a potentially hazardous setting.

Requisite: None.

Type: C

### **LABR 130 Labr Constr Bp Reading Intro 1.5-1-2**

This course will orient the student to construction blueprint reading and specifications. This course will cover various symbols and notations necessary to properly read and interpret a variety of working drawings used in the construction industry.

Requisite: None.

Type: C

### **LABR 131 Laborers Asbestos Abatement 1.5-1-2**

This course is designed to introduce the student to the important aspects, techniques and safety procedures that a Construction Craft Laborer must know regarding asbestos abatement. Also included in this course is the history of asbestos, asbestos components, personal protective equipment, and health information in reference to the hazardous substance of asbestos. Upon successful completion, students will have met the requirements and have the option to apply for licensure through the state of Illinois in asbestos abatement.

Requisite: None.

Type: C

### **LABR 299 Special Topics in Construction Laborers Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the construction/laborers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Literature

### **LIT 113 Introduction to Fiction 3-0-3**

A study of the short story and the novel that provides an introduction to these basic forms of literature and leads to the formulation of a critical system. Short story selections include old and new masterpieces. The novels that are studied teach the potentialities, the range and the techniques of the novel.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 901

### **LIT 117 Literature Written by Women 3-0-3**

This course principally uses contemporary American literature written by women of minority cultures as well as European American women. It will be organized thematically around issues of women's discourse.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 911D

### **LIT 120 Introduction to Poetry 3-0-3**

Through a survey of poems and criticism, Literature 120 will introduce students to poetry as genre, field of interpretation and analysis, rhetorical stance, and historical artifact. Students will read and discuss a variety of world poetry, gain critical and literary vocabularies, learn interpretive schemes, and deepen their appreciation for poetry in many forms, including formal, free, and spoken verse.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 903

### **LIT 125 Drama as Literature 3-0-3**

This course provides insight into dramatic literature from different cultures and periods. The historical, cultural and artistic contexts of each work will be explored, as will issues of staging and performance.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 902

### **LIT 133 The Bible As Literature I 3-0-3**

A study of selected literature from the Old Testament including narrative, short story, poetry and the essay.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H5 901

### **LIT 134 The Bible As Literature II 3-0-3**

A study of the literature of the New Testament period, which includes both canonical and non-canonical works.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H5 901

### **LIT 201 World Literature I 3-0-3**

A study of Asian, Middle Eastern, Mesoamerican, African, and European (including classical Greek and Roman) literature in translation from the ancient through the Renaissance eras. The course places each author and work in its historical context while delineating specific developments in literature.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 906

### **LIT 202 World Literature II 3-0-3**

A study of Asian, Middle Eastern, Latin American, and European literature in translation from the Enlightenment era to the present. The course places each author and work in its historical context while delineating specific developments in literature.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 907

### **LIT 205 Lit of Non-Western Countries 3-0-3**

Participants in this course will study the current literature of countries outside the Western intellectual tradition. An effort will be made to (1) determine the self-perception of the peoples of these countries; (2) compare and contrast these perceptions with those of the peoples from the Western tradition; (3) heighten awareness of the influences of geography, economics, politics, religion, and culture in a given society. These efforts will be accomplished through a study of short stories, novels, poems, and films written by the peoples of Africa, Asia, and Latin America. Works will be studied for their social, political, cultural, historical, and moral ideas as well as for their merit as literary compositions. Completion of this course fulfills the Third World culture requirement for graduation at Southwestern.

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-H3 908N

## Course Description Guide (continued)

### LIT 213 American Literature I 3-0-3

This is a survey course which introduces students to a wide range of authors from 1492 to 1865, the colonial period to the Civil War. The course will celebrate the rich diversity of American cultural heritage, including the study of the work of Native Americans, African-Americans, women, and Hispanic writers. Students will begin to appreciate the rich cultural heritage of America, and to see comparisons and contrasts between male and female writers, one ethnic group and another, and one social class and another. The metaphor of American Literature I shall be a "mosaic of American writers."

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-H3 914

### LIT 214 American Literature II 3-0-3

This is a survey course which introduces students to major works of American writers of prose and poetry, representative of periods from 1865 to the present. While the course may touch on an author's work in terms of style, language, and literary technique, the course is designed for the student who may never take another literature course again, as well as for potential English majors. LIT 213 is NOT a prerequisite for LIT 214.

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-H3 915

### LIT 215 Contemporary Multicultural American Literature 3-0-3

This course introduces students to a variety of minority writers in the literature of the United States, especially the work of African Americans, Asian Americans, Native Americans, and Latinos/as. Through the study of these writings, students will learn to appreciate both traditional and new forms of literature as minority voices explore the American experience. Students will begin to value the "mosaic" of a culture where each group retains its individual characteristics while adding to the richness of the whole. At the same time, students will examine how people from outside the mainstream culture encounter and struggle with that culture and with a society that all too frequently has excluded them. As a result of this multicultural experience, students will come to understand the importance of remaining open to and interested in their neighbors.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 910D

### LIT 219 Comics and Graphic Novels 3-0-3

A literature course designed to introduce students to important works in the medium of comics and graphic novels. The focus will be on full-length works with genuine literary and artistic merit. The course will also give students a vocabulary and methodology for critically analyzing and discussing these works.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

### LIT 251 British Literature I 3-0-3

This is a survey of British literature from the Middle Ages through the 18th century. The disparate voices that comprise the literature of the British Isles at the time are examined. LIT 252 is NOT a prerequisite for LIT 251.

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-H3 912

### LIT 252 British Literature II 3-0-3

This is a survey of British literature from the 19th century to the present. The disparate voices, including colonial and post-colonial voices, that comprise British literature during these centuries are emphasized. LIT 251 is NOT a prerequisite for LIT 252.

Requisite: ENG 101 with a grade of "C" or better.

Type: T, IAI-H3 913

### LIT 290 Shakespeare - Comedies & Histories 3-0-3

LIT 290 is a study of Shakespeare's comedies and histories. This study will pursue an understanding of Shakespeare's language, dramatic art, production values and performance, as well as multiple critical perspectives. LIT 291 is NOT a prerequisite for LIT 290.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 905

### LIT 291 Shakespeare - Tragedies & Romances 3-0-3

LIT 291 is a study of Shakespeare's tragedies and romances. Emphasis is on reading and understanding Shakespeare's language as well as various aspects of his dramatic art. Issues of staging and performance are explored, both for an Elizabethan-Jacobean audience and for a modern audience.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H3 905

### LIT 293 Children's Literature 3-0-3

Primarily for the prospective early childhood or elementary teacher, the course emphasizes the selection and presentation of literature for preschool and elementary-age children. Students will be acquainted with the wide variety of children's literature books available and the possibilities of children's literature in the learning process. Assignments may include the production of a portfolio of critiques of children's literature books (of up to 100), demonstration of classroom applications using children's literature at different grade levels, development of multimedia and creative instructional materials, participation in literature circles using chapter books, participation in service learning projects, demonstration of storytelling skills, and the creation of a themed text set. (Students may not receive credit for both LIT 293 and ED 293.)

Requisite: ENG 101 with a grade of "C" or better.

Type: T

### LIT 299 Topics in Literature Variable up to (4)-0-(4)

Examination of a selected topic or movement through study and discussion of representative works of literature. No topic/problem can be offered more than twice in three years

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Management

### MGMT 102 Business Mathematics 3-0-3

This course covers the fundamental processes in mathematical computations used in business and consumer finance. Topics covered are percentage, interest, consumer credit, cash and trade discounts, mark up, payroll, property and income taxes, Social Security, and stocks and bonds. Students may receive credit for only one of the following: BUS 102 or MGMT 102.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.

Type: C

### MGMT 117 Personal Finance 3-0-3

This course is a study of financial choices and decisions facing the individual.

Topics included are budgeting, credit, real estate, insurance, investments, taxes and retirement planning.

Requisite: None.

Type: C

### MGMT 201 Entrepreneur Basics 1-0-1

This course reviews a variety of topics for a potential entrepreneur to consider before starting a business. These topics include an assessment of one's suitability for the entrepreneurial life both personally and financially, evaluating the marketability of your product or service, and protecting your idea.

Requisite: None.

Type: C

### MGMT 202 Entrepreneur: First Year 1-0-1

The course addresses the start-up business during the first year of operation beginning with the opening of the business. The key topics include: Employee-management issues, hiring and training employees, financial management, and market planning for year two and beyond.

Requisite: Concurrent enrollment in or completion of MGMT 201 & MGMT 203.

Type: C

## Course Description Guide (continued)

### **MGMT 203 Business Plan Basics 1-0-1**

This course provides an overview of the development of a basic business plan for a start-up operation. Key topics include: competitive analysis, financial projections and start-up costs. Students will develop a business plan as part of the course.

Requisite: Concurrent enrollment in or completion of MGMT 201.

Type: C

### **MGMT 204 Entrepreneur Case Analysis 3-0-3**

This course offers an intensive review of entrepreneur case studies to identify problems faced by entrepreneurs and to develop solutions. Students will conduct case analysis, develop solutions and present their findings in class.

Requisite: SPCH 151, ENG 101; MGMT 219 or (MGMT 201 and MGMT 202 and MGMT 203); sophomore standing.

Type: C

### **MGMT 206 Individual & Business Income Tax 3-0-3**

This course introduces students to federal income taxes as they relate to individuals, businesses, and other entities. Students will study income tax concepts, such as filing status, gross income, ordinary gains and losses, capital gains and losses, exemptions, deductions and expenses, business and rental properties, payroll and estimated tax, tax credits and special taxes, depreciation, partnerships, corporations, trusts, and estates. Filling out tax forms in their entirety for individuals and different types of business entities will be covered as well. In addition, students will learn how to find answers to tax questions when unique situations occur. Note: Students may receive credit for only one of the following: MGMT 206 or ACCT 206.

Requisite: ACCT 105 or ACCT 110.

Type: C

### **MGMT 213 Human Relations in the Workplace 3-0-3**

This course focuses on the development of effective human relations skills to help students maximize their personal workplace effectiveness and success.

The course addresses a number of topics including: human relations and their role in workplace success, understanding one's self and others, personal communications effectiveness, motivation, leadership, conflict management and general workplace habits.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 214 Principles of Management 3-0-3**

A detailed analysis of management functions including planning, organizing, staffing, directing and controlling. The schools of management are explained. The orderly presentation of fundamental knowledge of management provides the student with the framework for further studies in management and related business fields as well as a background for practical application of management principles in business and other organizations.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 217 Human Resource Management 3-0-3**

This course is concerned with the human resource management functions.

This course will emphasize the legal environment surrounding equal employment opportunities, job design and analysis, recruiting, orientation and training, performance appraisal, compensation systems, labor relations, collective bargaining and grievance handling, and health and safety in the workplace.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 219 Small Business Management 3-0-3**

This course focuses on the fundamental business management skills needed to open and operate a small business. Topics include identifying opportunities, business plans, marketing fundamentals, and managing growth. Case studies and current issues are used to illustrate text concepts.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 221 Fundamentals of Labor Relations 3-0-3**

Current, practical problems in employee, union and government relations. Major topics are history of the labor movement, collective bargaining, grievance procedures, arbitration and mediation as well as an overview of labor law, and contract writing and interpretation. For those persons with a demonstrated interest in labor relations as well as those who are directly involved in labor relations.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 240 Ethics in the Workplace 1-0-1**

This course provides an opportunity for the student to examine personal ethics related to the workplace; determine how those ethics compare to other students' ethical standards; review common ethical issues in the workplace and discuss how to resolve them; discuss management's role in establishing an ethical atmosphere; review a variety of companies' codes of ethics; and, briefly review corporate social responsibility.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MGMT 241 Fundamentals of Finance 3-0-3**

This course provides critical financial information required for entrepreneurial success. Topics covered include: forms of ownership; break-even analysis; time value of money; balance sheets, cash flow statements, and income statements; forecasting; risk management; and, personal financial management as it relates to business success. Students may receive credit for only one of the following: BUS 241 or MGMT 241.

Requisite: ACCT 105 or ACCT 110.

Type: T

### **MGMT 270 Business Planning 3-0-3**

This course emphasizes the integration of previous coursework to provide a student with knowledge and understanding of strategic management processes, techniques, concepts and skills. The course takes a problem-solving approach to understanding industry dynamics. It emphasizes the connection between the functional areas of the firm and the external environment to develop managerial strategies. Students will demonstrate mastery of course objectives by developing a comprehensive business plan for a small company and by working effectively in a team-oriented environment.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements; MGMT 204, MGMT 241; Sophomore Standing.

Type: C

## Marketing

### **MKT 126 Introduction to Marketing 3-0-3**

The course introduces students to basic marketing principles with particular emphasis on environmental factors that affect a business, target market selection, and the four primary elements of the marketing mix: product, price, distribution and promotion.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **MKT 128 Marketing & Social Media 1-0-1**

This course reviews how social media is used by a variety of organizations to market products and services. It also addresses how individuals use social media tools in a similar fashion to market themselves. The course will focus on the most widely used social media sites and provide limited instruction in the use of one or two of the sites. A review of basic marketing principles is included. Students will be required to create accounts on several social media websites. Note: Students must be competent computer and Internet users.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **MKT 226 eMarketing 3-0-3**

This course provides an overview of the ways marketers use the internet to connect with customers to promote and sell products and services. The course examines email marketing, advertising, search marketing, social media and mobile marketing. The course will address the need to integrate online and offline marketing efforts. Search engine optimization and analytics are introduced as well. Students will be required to register for several social media websites. Note: MKT 126 recommended; students must be competent computer and Internet users.

Requisite: Reading placement at ENG 101 or completion of ENG 92.

Type: C

### **MKT 227 SEO & Web Analytics for Marketing 3-0-3**

The course introduces students to search engine optimization techniques used to help drive traffic to a web page. Commonly used web analytics tools are reviewed to demonstrate how to assess the effectiveness of basic online marketing efforts. Google Analytics will be featured. Note: Students must be competent computer and internet users.

Requisite: None.

Type: C

### **MKT 228 Social Media Tools 3-0-3**

This course provides instruction for using a variety of social media tools. It includes a discussion of how social media is used to market products and services. Students will create accounts on a number of social networking sites and develop basic skills in their use from a personal and/or business perspective. Discussion topics will include: best practices in the use of social media; trends in social media use, and ethical issues.

Requisite: None.

Type: C

### **MKT 229 Marketing Plans 3-0-3**

This course provides a systematic approach to the application of the marketing concept. This systematic approach involves a determination of the organization's marketing objectives, an analysis of market opportunities, selection of target-market segments, development of marketing strategies and plans, and observation of target market responses. Evaluation of responses suggests adjustments that may be needed within the marketing system to better accomplish organizational marketing goals.

Requisite: MKT 126, MKT 231, MKT 242.

Type: C

### **MKT 231 Consumer & Market Behavior 3-0-3**

Students will study what motivates consumers to make purchases; who and what influences consumers' buying habits; and how marketers use this knowledge to create and sell products and services.

Requisite: MKT 126.

Type: C

### **MKT 242 Marketing Communications 3-0-3**

This course focuses on the promotion element of the marketing mix. Advertising, sales promotion, public relations, social network marketing and direct mail are addressed. The course highlights the importance of an integrated approach to promotion. Small business applications are a featured part of the course.

Requisite: MKT 126.

Type: T, IAI-MC 912

### **MKT 243 Basic Selling Techniques 3-0-3**

This course introduces the student to fundamental sales skills. Students will examine and apply common selling concepts: prospecting, features/benefits, relationship selling, objections, closing the sale and follow up on the sale.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **MKT 265 Marketing Internship I Variable up to 0-(15)-(3)**

This course is a supervised work-experience program requiring an average of 15 hours per week in a marketing focused position. If the student is already employed in a marketing position, the job may qualify for the internship but is subject to approval by the instructor. The instructor and the college's internship coordinator also provide assistance to students in finding an appropriate internship position.

Requisite: Sophomore standing; MKT 126; 6 additional MKT semester credits; minimum GPA of 3.0 in MKT coursework.

Type: C

## Mass Communication

### **MCOM 201 Introduction to Mass Communication 3-0-3**

A survey of mass media and their effect on American society. The course will explore the major forms of the mass media, including the internet and social media, newspapers, magazines, radio, television, film, advertising, and public relations. Emphasis will be placed on the historical development and the major functions, elements, and theories of mass communication.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-MC 911

### **MCOM 220 Voiceover: Vocal Production 3-0-3**

A performance and critique based course introducing the student to the art of voice acting with an emphasis on voice and articulation. The student will develop skills and techniques to evaluate voice and speech patterns, interpret commercial, industrial and narrative copy or scripts, mark copy, and effectively communicate ideas naturally while becoming familiar with the intimacy of microphone use.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **MCOM 221 Voiceover: Characterization 3-0-3**

A performance and critique based course expanding on the student's voice acting work in Voiceover I. Course emphasis is on characterization development as a tool for improving analysis and delivery of dramatic and narrative copy. Students in broadcasting, communication and theatre will find the course beneficial in developing skills and techniques for evaluating voice and speech patterns; interpreting commercial, dramatic, industrial and narrative copy or scripts; and effectively communicating ideas naturally through the intimacy of microphone use.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **MCOM 230 Introduction to Radio Production 1-5-3**

This course is designed to introduce the student to the fundamentals of broadcast production techniques and digital audio equipment operation. Topics include general production principles and the techniques and operation of broadcast audio tools such as audio board, microphones, digital recorders, and computers. Students will be required to meet production deadlines while demonstrating knowledge of basic script writing, editing, and audio production of commercials, public service announcements, news casts and other studio projects produced in the campus broadcast lab using Audacity editing software.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **MCOM 240 Writing for Media 3-0-3**

Emphasizes writing for audio and visual presentations, including continuity, commercials, public service announcements, news, and special events. Students will learn to write on deadline, edit copy for timed broadcasts, research subjects, write to visuals, and examine potential legal conflicts and ethical issues when writing for broadcast and new media.

Requisite: Reading and writing placement at ENG 101 or completion of all

reading and writing developmental requirements.

Type: T

## Course Description Guide (continued)

### **MCOM 255 Broadcast Announcing 3-0-3**

This is a media performance class designed to introduce students to the principles, tools and techniques of broadcast announcing. Through hands-on experience, students will learn to prepare and deliver commercials, news, interviews, public service announcements, and special events. Students will develop communication skills and confidence through regular performance before the microphone and camera.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **MCOM 299 Topics In Mass Communication 3-5-3**

This course features an in-depth study of some aspect of film, television, radio, or other form of mass media. Topics will vary and may include (but are not limited to) the following: aspects of the history of film or other mass media; new developments in media; particular movements in film or television; important directors or writers, etc. Alternatively, the focus may be hands-on instruction in a specific aspect of film, radio, or television production.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Massage Therapy

### **MT 101 Therapeutic Massage I 4-2-5**

This course lays the foundation for developing the skills of a massage therapist. Upon course completion, students will be able to perform a full Swedish massage utilizing proper technique and body mechanics. In addition, students will learn the rich history of massage therapy, how to develop a professional and therapeutic patient/client relationship and the proper methods for communication within the profession as well as the health care community. Note: To obtain Department consent, contact The Body Therapy Center & School of Massage at 618-239-6400.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Department consent.

Type: C

### **MT 102 Body Structure & Function 4-0-4**

Student will develop a basic understanding of human anatomy and physiology as it relates to mastering the theory and practice of therapeutic massage. The course covers basic structure and function of the integumentary, skeletal, muscular, and nervous systems, as well as common pathologies affecting these systems. Note: To obtain Department consent, contact The Body Therapy Center & School of Massage at 618-239-6400.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Department consent.

Type: C

### **MT 160 Movement and Massage 4-2-5**

During this course students will learn how and when to incorporate various type of stretching, range of motion, and/or thermal agents to enhance the outcomes of a therapeutic massage. Students will also learn basic chair massage techniques and demonstrate chair massage routines appropriate for the work place or with the general public. Note: To obtain department consent, contact The Body Therapy Center & School of Massage at 618-239-6400.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Department consent.

Type: C

### **MT 190 Clinical Practicum I 0-2-1**

Students will be providing massage therapy services to clients in the clinical setting under close supervision of an instructor. Students will practice setting appointments, consultations and performing basic massage techniques on the client. Students will have an opportunity to enhance documentation, communication and time management skills. Note: To obtain department consent, contact The Body Therapy Center & School of Massage at 618-239-6400.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Department consent.

Type: C

### **MT 195 Massage Techniques for the PT/PTA 1-1-1.5**

This course introduces students to the profession of massage therapy and builds upon the foundational knowledge of PT/PTAs. Students will learn to integrate their therapeutic skills to perform a full-body European/Swedish style massage with joint movements, and various ways to incorporate hydrotherapy into a massage setting. Students will also learn massage techniques that are utilized to prepare athletes for upcoming events and aid in the recovery from competition. Note: To obtain department consent, contact The Body Therapy Center & School of Massage at 618-239-6400. Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA.

Requisite: Department consent.

Type: C

### **MT 200 Business Practices in Massage Therapy 3-0-3**

Students learn about state laws and regulations governing the practice of massage therapy. In addition, they will learn how to open, own and operate a massage therapy practice and strategies for marketing their business. Students will discuss business ethics related to massage therapy and utilize ethical guidelines when making decisions in massage therapy practice. Classroom discussions are facilitated by the instructor and include issues such as appropriate clinical behaviors, cultural difference, legal issues and the changing health care environment.

Requisite: MT 201, MT 203, MT 212 each with a grade of "C" or better.

Type: C

### **MT 201 Therapeutic Massage II 4-2-5**

Building on the foundation of the first semester, students will enhance their palpation skills by moving deeper into the tissues, gain greater understanding of the specific musculature and recognize various soft tissue dysfunctions. Basic assessment procedures and the ability to locate trigger points prepare students to develop a treatment plan for clients with chronic pain and/or address client's special needs. Students will learn to adapt their massage protocols to meet the needs of pregnant mothers and other special populations.

Requisite: MT 101, MT 102, MT 160, MT 190 each with a grade of "C" or better.

Type: C

### **MT 202 Body Structure And Function II 4-0-4**

This course is the second unit of study on basic human structure and function as it relates to massage therapy. Course content will include the following systems and common pathologies related to each: circulatory, endocrine, respiratory, digestive, and reproductive.

Requisite: MT 102 with a grade of "C" or better.

Type: C

### **MT 203 Complementary Techniques 4-2-5**

In this course students will continue to expand their knowledge and understanding of massage modalities utilized by a massage therapist. Course content includes many complementary techniques and alternative approaches to massage. Students will demonstrate the proper technique for sports massage in addition to developing a basic understanding of: lymphatic massage, reflexology, hydrotherapies, aromatherapy, shiatsu, craniosacral therapy, and other somatic therapies.

Requisite: MT 101, MT 102, MT 160 each with a grade of "C" or better; concurrent enrollment in or completion of MT 190 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **MT 220 Pathology for the Massage Therapist 2-0-2**

This course is designed to provide the student with an overview of basic pathologic concepts and processes with a clinical emphasis. Components of each disease covered include: etiology, incidence, risk factors, manifestations, and special implications for the MT. Concepts on health and aging pertaining to the various systems are included to achieve a clinical awareness of life span changes.

Requisite: MT 201, MT 202 each with a grade of "C" or better.  
Type: C

### **MT 230 Stretching: Neck & Shoulders 1-1-1.5**

During this course students will learn how to apply stretches safely and effectively to increase the flexibility and range of motion of the neck and shoulders, in addition to reducing the potential of injury to the region. The physiology of stretching and types of stretching techniques will be examined. A self-care stretching program will be developed during this course. Note: Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 240 Stretching: Hips & Back 1-1-1.5**

During this course students will learn how to apply stretches safely and effectively to increase the flexibility and range of motion of the hips, thigh and back, in addition to reducing the potential of injury to the region. The physiology of stretching and types of stretching techniques will be examined. A self-care stretching program will be developed during this course using ropes and stabilizing belts. Note: Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 250 Stretching: Hands & Feet 1-1-1.5**

During this course students will learn how to apply stretches safely and effectively to increase the flexibility and range of motion of the forearms and hands and lower leg and feet, in addition to reducing the potential of injury to the region. The physiology of stretching and types of stretching techniques will be examined. A self-care stretching program will be developed during this course using ropes and stabilizing belts. Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 270 Clinical Practicum II 0-2-1**

Students will continue to provide massage therapy services to clients in the clinical setting under close supervision of an instructor. Students will continue to practice setting appointments, consultations and performing basic as well as advanced/complementary massage techniques on the client. Students will continue to enhance documentation, communication and time management skills.

Requisite: MT 101, MT 160, MT 190 each with a grade of "C" or better.  
Type: C

### **MT 280 Clinical Practicum III 0-2-1**

This is the final clinical practicum the students conduct in order to meet the clinical hours required under Illinois licensure. Students will continue to provide massage services to clients in the clinical setting under close supervision of an instructor. Students will set appointments, begin to build clientele, perform client intakes and perform basic as well as advanced/complementary massage techniques on the client. Students will also have an opportunity to incorporate business practices in the clinical environment.

Requisite: MT 201, MT 202, MT 203, MT 270 each with a grade of "C" or better.  
Type: C

### **MT 285 Biodynamic Craniosacral Therapy 2-1-2.5**

This advanced training experience will focus on contact with primary respiration and its healing potency. Unique because of its somatic foundation, the teaching direction of this class is grounded in developing presence, appropriate contact, and clarity of intention within the students own soma and embodied perception. Students will learn to contact the fluid biodynamic system with conscious awareness and mindfulness. These skills are necessary to facilitate the therapeutic process. Note: Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 287 Wellness & Body Mechanics 1-1-1.5**

During this course students will learn how to develop lifetime tools that assist their ease of movement, decrease their chance of injury and enhance their career longevity. Students will learn how to self-assess and recognize the impact of lifestyle choice; develop body awareness and mindful movement, efficient breathing, use proper body mechanics during massage and implementing self-care habits. Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 288 Fascial Anatomy 1-1-1.5**

This course will emphasize study of the superficial and deep fascia of the body and how fascia functions to connect distant anatomical regions. A review of relevant muscular structures will be provided prior to the study of individual fascial systems. Knowledge of fascial anatomy in addition to gross musculoskeletal anatomy will better equip the therapist to understand the etiology of their clients' pain and dysfunction. Must be a graduate of accredited physical therapist or physical therapist assistant program or licensed PT/PTA or MT.

Requisite: Department consent.  
Type: C

### **MT 299 Spec Topics in Massage Therapy Variable up to (4)-(8)-(4)**

Varied topics in massage therapy will be addressed in order to meet most current needs of profession.

Requisite: None.  
Type: C

## Mathematics

### **MATH 93 Review of Arithmetic 3-0-3**

This course is for students who want to improve their mastery of arithmetic skills or who are not prepared for Basic Algebra. The course covers operations with whole numbers, fractions, decimals, percentages, ratios, proportions, operations with signed numbers, and beginning algebra and geometry. Students whose math placement test scores indicate arithmetic weaknesses are required to pass this course (with a grade of C or better) as a prerequisite to enrolling in Basic Algebra (MATH 94).

Requisite: Math placement at MATH 93.  
Type: P

### **MATH 94 Basic Algebra Variable up to (5)-0-(5)**

This is an introductory course in algebra. It covers such topics as signed numbers, linear equations and inequalities in one variable, applied problems, exponents, polynomials, factoring, graphs of linear equations in two variables, and systems of two linear equations.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.  
Type: P

## Course Description Guide (continued)

### **MATH 96 Elementary Geometry for College Students 4-0-4**

This is an elementary geometry course for students who have not successfully completed one year of high school geometry. This course covers such topics as line and angle relationships, parallel lines, similar and congruent triangles, two-column deductive proofs, indirect proofs, properties of quadrilaterals and circles, areas, and volumes.

Note: Students that complete high school geometry need to provide Enrollment Services with an official transcript showing proof of two semesters with passing grades at an HLC accredited school. Students may also demonstrate proficiency by testing with the Math department chair.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better.

Type: P

### **MATH 97 Intermediate Algebra 4-0-4**

The course consists of the following topics: real numbers, linear equations and inequalities, graphs of lines and linear inequalities, functions, systems of linear equations, exponents and polynomials, factoring, rational expressions, roots and radicals, quadratic equations, and nonlinear inequalities. This course is designed to prepare students for MATH 105, MATH 107, MATH 111, or MATH 112.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 91 or completion of ENG 91.

Type: P

### **MATH 105 Mathematics for Elementary Teachers I 4-0-4**

This is the first of a two-course sequence (MATH 105 and MATH 106) designed to meet the needs of students majoring in elementary education. Students are strongly encouraged to successfully complete both classes at the same college. MATH 105 alone does not fulfill the general education requirement for an AA degree. MATH 105 covers problem solving, logic and mathematical reasoning, sets, functions, numeration systems, interpretations of the four basic arithmetic operations, algorithms for the arithmetic operations, mental computation strategies, elementary number theory, fractions, decimals, proportions, and irrational numbers. (Note: This course is a content course, not a methods course.)

(Geometry requirement: Students provide proof to Enrollment Services office of two semesters of high school geometry with passing grades or show proficiency on test given by Math chair or complete MATH 96 with a grade of C or better.)

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; Completion of the geometry requirement; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T

### **MATH 106 Mathematics for Elementary Teachers II 4-0-4**

This is the second course of a two-course sequence (MATH 105 and MATH 106) designed to meet the needs of students majoring in elementary education. Students are strongly encouraged to successfully complete both classes at the same college. Completion of this two-course sequence fulfills the math requirement for an AA degree. MATH 106 covers: probability and statistics; introductory geometry; congruence, similarity, and constructions; motion geometry and tessellations; and concepts in measurement. (Note: This course is a content course, not a methods course.)

(Geometry requirement: Students provide proof to Enrollment Services office of two semesters of high school geometry with passing grades or show proficiency on test given by Math chair or complete MATH 96 with a grade of C or better.)

Requisite: MATH 105 with a grade of "C" or better; Completion of the geometry requirement; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-M1 903

### **MATH 107 General Education Statistics 4-0-4**

The following concepts and statistical techniques are included: organization, presentation, and description of quantitative data (graphical methods and numerical methods); probability and probability distributions; sampling and statistical inferences (interval estimation and hypothesis testing); and correlation and regression. Students will be required to use a calculator and a statistical software package in this course. This course is designed for transfer students in Liberal Arts. Students may receive credit for only one of the following: MATH 107, MATH 191, or BUS 205.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-M1 902

### **MATH 111 Liberal Arts Mathematics 4-0-4**

This course focuses on mathematical reasoning and the solving of real-life problems by looking at a few topics in depth. Three or four topics will be chosen from the following by the instructor for in-depth study: set theory and logic, geometry, counting methods and probability, statistics, graph theory, and consumer mathematics. This is a terminal course in mathematics for Associate in Arts majors and is not a prerequisite for any other mathematics course.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-M1 904

### **MATH 112 College Algebra 4-0-4**

Topics included are: conics; complex numbers; intercepts, asymptotes and symmetry; translations and reflections of graphs; inverse functions; zeros of polynomial functions; properties and graphs of linear, quadratic, polynomial, radical, rational, exponential, and logarithmic functions; systems of equations and inequalities; matrices and determinants; arithmetic and geometric sequences and series; and the binomial theorem. Students will be required to use graphing calculators on some assignments and/or tests.

Requisite: Math placement above MATH 97 or completion of MATH 97 with a grade of "C" or better; Completion of the geometry requirement; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T

### **MATH 113 Finite Math for Business & Social Science 4-0-4**

This course covers topics in mathematics with current applications in business and social science. Topics included are mathematical modeling, solving systems of linear equations, matrices and matrix algebra, linear programming, the simplex method, mathematics of finance, sets and counting, probability and Markov chains. This course is not designed for engineering, mathematics or physical science majors but for transfer students in business and social science.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of "C" or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-M1 906

### **MATH 114 Trigonometry 3-0-3**

Math 114 is a calculus preparatory course designed primarily for students majoring in mathematics, science or engineering. The topics covered include right triangle trigonometry, trigonometric functions, law of sines, law of cosines, vectors, graphs, inverse trigonometric functions, equations, identities, and exponential and logarithmic functions. Real-world problems will be analyzed. Use of the appropriate calculator, as recommended by the instructor, is required for this course.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of "C" or better; Completion of the Geometry requirement; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T

## Course Description Guide (continued)

### **MATH 170 Computer Science I – C++ 4-0-4**

This is a beginning course for students in the Computer Science curriculum and other related areas. The structure and facilities of the C++ language are introduced. Topics to be covered include control structures, parameters, arrays, functions, records, files, and object-oriented pointers.

Requisite: Math placement above MATH 114 or concurrent enrollment in or completion of MATH 114; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-CS 911

### **MATH 171 Computer Science I – JAVA 4-0-4**

This is a beginning course for students in the Computer Science curriculum and other related areas. The structure and facilities of the Java language are introduced. Topics to be covered include selection, repetition, methods, classes, arrays, files, and introduction to GUI, and program design and documentation. Students will learn to program from the command line and be introduced to an IDE. It is recommended that students complete both Computer Science I and II at the same institution.

Requisite: Math placement above MATH 114 or concurrent enrollment in or completion of MATH 114; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-CS 911

### **MATH 191 Introduction to Statistics 4-0-4**

The following concepts and statistical techniques are included: measures of central tendency and variability; random variables and probability distributions; binomial, normal, and sampling distributions; estimation; tests of hypotheses; chi square tests; linear regression and correlation; and multiple regression. Statistical software projects are required. Students may receive credit for only one of the following: MATH 107, MATH 191, or BUS 205.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of “C” or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-M1 902

### **MATH 203 Analytic Geometry & Calculus I 5-0-5**

The calculus sequence is designed for students whose area of concentration is mathematics, science, or engineering. The SWIC Mathematics faculty believes calculus students must become aware of the advances in technology and its uses in mathematics, particularly in calculus. Therefore, computer technology is integrated in the calculus sequence through the use of the Mathematica software package. Students are also required to use graphing calculators on some assignments and/or tests. It is recommended that any calculus sequence be completed in the college in which it was begun. However, if a student transfers during the sequence, he/she is urged to discuss the calculus entry level with the math department of the school to which he/she is transferring.

The MATH 203 course content includes the topics of limits of functions, derivatives, extrema of functions, tangents, asymptotes, definite and indefinite integrals, differentiation and integration of transcendental functions, and applications of calculus in physical science and engineering.

Requisite: Math placement above MATH 114 or completion of MATH 114 with a grade of “C” or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-MTH 901, IAI-M1 900-1, IAI-M1 900

### **MATH 204 Analytic Geometry & Calculus II 5-0-5**

The calculus sequence is designed for students whose area of concentration is mathematics, science, or engineering. The SWIC Mathematics faculty believes calculus students must become aware of the advances in technology and its uses in mathematics, particularly in calculus. Therefore, computer technology is integrated in the calculus sequence through the use of the Mathematica software package. Students are also required to use graphing calculators on some assignments and/or tests. It is recommended that any calculus sequence be completed in the college in which it was begun. However, if a student transfers during the sequence, he/she is urged to discuss the calculus entry level with the math department of the school to which he/she is transferring.

The MATH 204 course content includes the topics of applications of integration, techniques of integration, infinite series, conic sections, parametric equations, and polar functions.

Requisite: MATH 203 with a grade of “C” or better.

Type: T, IAI-MTH 902, IAI-M1 900-2

### **MATH 205 Analytic Geometry & Calculus III 4-0-4**

The calculus sequence is designed for students whose area of concentration is mathematics, science, or engineering. The SWIC Mathematics faculty believes calculus students must become aware of the advances in technology and its uses in mathematics, particularly in calculus. Therefore, computer technology is integrated in the calculus sequence through the use of the Mathematica software package. Students are also required to use graphing calculators on some assignments and/or tests. It is recommended that any calculus sequence be completed in the college in which it was begun. However, if a student transfers during the sequence, he/she is urged to discuss the calculus entry level with the math department of the school to which he/she is transferring.

The MATH 205 course content includes vectors, vector valued functions, functions of two or more variables (with applications), partial differentiation, multiple integration, and vector analysis.

Requisite: MATH 204 with a grade of “C” or better.

Type: T, IAI-MTH 903, IAI-M1 900-3

### **MATH 210 Computer Programming for Engineers 3-0-3**

This course introduces the fundamental principles, concepts, and methods of computing with emphasis on applications in the physical sciences and engineering. Topics include basic problem solving and programming techniques, fundamental algorithms and data structures, and use of computers in solving engineering and scientific problems. It is expected that the student will have some basic knowledge of computers. This course is taught using C++. Requisite: MATH 203 with a grade of “C” or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T

### **MATH 213 Calculus for Business & Social Sciences 4-0-4**

This course introduces the concepts of differential and integral calculus with applications to problems in business and social science. Topics included are limits, derivatives, continuity, integration techniques, logarithmic and exponential functions, and partial derivatives. Computer and/or calculator-aided instruction will be used throughout the course. The course is designed for transfer students in business and social science; it is not for engineering, mathematics, or physical science majors.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of “C” or better; Reading placement above ENG 92 or concurrent enrollment in or completion of ENG 92.

Type: T, IAI-M1 900-B

### **MATH 270 Computer Science II – C++ 4-0-4**

An introduction to the fundamentals of algorithms, including searching, sorting, and recursion, associated with data structures using the C++ language. Topics covered include classes, linked lists, stacks, queues, trees, maps, and graphs.

Requisite: MATH 170 with a grade of “C” or better; concurrent enrollment in or completion of MATH 203.

Type: T, IAI-CS 912

### **MATH 271 Computer Science II – JAVA 4-0-4**

An introduction to the fundamentals of algorithms, including searching, sorting, and recursion, associated with data structures using the Java language. Topics covered include classes, linked lists, stacks, queues, trees, maps, and algorithm complexity.

Requisite: MATH 171 with a grade of “C” or better; concurrent enrollment or completion of MATH 203.

Type: T, IAI-CS 912

### **MATH 290 Differential Equations 3-0-3**

This is a first course in ordinary differential equations with applications to the sciences. Topics include first-order differential equations, separation of variables, exact equations, linear equations with constant coefficients, undetermined coefficients, linear independence, Laplace transforms, boundary value problems, and numerical methods. Students will be required to use CAS systems such as Mathematica and symbolic calculators.

Requisite: MATH 205 with a grade of “C” or better.

Type: T, IAI-MTH 912

## Course Description Guide (continued)

### **MATH 292 Linear Algebra 3-0-3**

Topics include vector methods, vector spaces, equivalent matrices, systems of linear equations, linear transformations and matrices, and determinants with applications.

Requisite: MATH 204 with a grade of "C" or better.

Type: T, IAI-MTH 911

### **MATH 299 Special Topics in Mathematics Variable up to (4)-0-(4)**

This course will cover special topics or problems in mathematics and provide students with the knowledge and ability to deal with those topics or problems in relation to their special requirements.

Requisite: None.

Type: T

## Medical Assistant

### **MA 130 Medical Office Clinical Procedures I 1-2-2**

Clinical Procedures I introduces the student to basic aseptic technique as it involves the obtaining of vital signs and preparing and assisting with the physical exam.

Requisite: Program admission.

Type: C

### **MA 135 Health Care & Patient Communications 2-0-2**

Provides the student with skills in communication which are the basis of their function as a professional medical assistant. Techniques of interaction are taught to enable the student as a professional to reduce stress for themselves and for those with whom they will come in contact. Legal and ethical issues relative to communication are discussed.

Requisite: Program admission.

Type: C

### **MA 140 Medical Office Procedures 3.5-0-3.5**

This course introduces the student to the job description and attitudes needed to work in the medical office. Specific skills taught are administrative procedures, which involve reception, mailing, phone, filing, maintaining medical records, financial record-keeping, applied medical-legal concepts, billing, banking and collection.

Requisite: Program admission.

Type: C

### **MA 141 Medical Insurance & Coding 2-0-2**

This course introduces the student to insurance terminology, medical coverage and common insurance forms. The student identifies and codes procedures and diagnoses for completion of insurance forms.

Requisite: MA 140, MA 150 each with a grade of "C" or better.

Type: C

### **MA 142 MA Automation I 1.5-0-1.5**

Introduces the student to a medical office management package and the process of incorporating a computer into a medical office. Students electronically document patient visits, billing routines, and ancillary services requests. All systems within the software are explored and templates, worksheets, and problem lists are utilized.

Requisite: Program admission.

Type: C

### **MA 143 MA Automation II 1-2-2**

This course is a continuation of MA 142. Information regarding coding and charges will be filed for specific services and retrieved for analysis of total office efficiency. Billing and age analysis information will be generated from existing files and insurance forms for private, state, and federal agencies will be completed and printed. Office financial statement will be created and updated.

Requisite: MA 142 with a grade of "C" or better.

Type: C

### **MA 145 Medical Law and Ethics 2-0-2**

Medical Law & Ethics is a course designed to introduce the student to legal and ethical issues in the medical field. This course will provide an introduction into the legal terminology, regulations, licensure of the various allied health fields, ethical standards, professional liability, documentation and professional responsibilities.

Requisite: Program admission.

Type: C

### **MA 150 Medical Pathology I 3-0-3**

Medical Pathology I is a course designed to integrate medical terminology, laboratory tests, common symptoms and diseases related to a body system. In this manner a sequenced and coordinated course of study of dermatology, musculoskeletal system, nervous system, endocrine system, and blood and lymphatic system is provided.

Requisite: Program admission.

Type: C

### **MA 151 Medical Pathology II 4-0-4**

Medical Pathology II is a continuation of the study of medical terminology as it relates to each body system, disease conditions, symptoms and lab tests used in diagnosis. In this course the word roots presented will be related to common conditions, symptoms and methods of diagnosis.

Requisite: MA 150 with a grade of "C" or better.

Type: C

### **MA 170 Medical Lab Orientation I 1-2-2**

This course is designed to provide the student with the opportunity to perform basic medical lab tests that are performed in the office; basic techniques of blood drawing, specimen collection, preservation of specimens, correct labeling techniques and patient test preparation; to practice good technique in hematology laboratory procedures and apply to all lab testing in performance, care and maintenance of equipment. The course will also prepare the graduate with the knowledge to set up an office and assist with the preparation of patients for lab testing at other facilities. (3-0-3 lecture, four hours lab, eight-week module)

Requisite: Program Admission.

Type: C

### **MA 171 Medical Lab Orientation II 1-2-2**

This course continues with lab skills in urinalysis testing, serology, chemistry and microbiology. Good laboratory techniques and quality control are stressed. (2-0-2 lecture, four hours lab, eight-week module)

Requisite: MA 170 with a grade of "C" or better.

Type: C

### **MA 180 Medical Office Clinical Procedures II 1-2-2**

This course introduces the student to aseptic technique and minor surgery procedures; special procedures in general practice; care and maintenance of equipment and performance of emergency procedures.

Requisite: MA 130 with a grade of "C" or better.

Type: C

### **MA 181 Cardiopulmonary Procedures 1-2-2**

This course introduces the student to cardiac and respiratory anatomy and physiology, and cardiac and pulmonary function testing; electrocardiography performance, equipment and maintenance, recognition of normal findings, and response in emergency situations.

Requisite: Program admission.

Type: C

### **MA 182 Pharmacology and Administration Techniques 3-2-4**

This course presents the calculations for medication administration, the classification of pharmacology agents and clinical techniques for medication administration.

Requisite: MA 130, MA 150 each with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **MA 192 Administrative Externship 0.5-6-2**

The student will practice previously learned skills in a supervised administrative experience at a physician's office. The administrative practicum will be under the direction of a physician and other medical staff assistant.

Requisite: Department consent.

Type: C

### **MA 195 Office Practicum 2-12.5-4.5**

The student will practice previously learned skills in a supervised clinical experience at a physician's office. This clinical practicum will be under the direction of a physician and a medical assistant. NOTE: Student needs to have completed 34.5 units/credits of the MA certificate with a grade of "C" or better in each to enroll in this course.

Requisite: Department consent.

Type: C

### **MA 199 Medical Assistant Certification Review 1.5-0-1.5**

This course prepares the Medical Assistant program students and individuals who are employed as Medical Assistants for the CMA exam. The class includes a review of administrative and clinical procedures. Mock exams are part of the review and preparation.

Requisite: Department consent.

Type: C

### **MA 236 CPT and ICD-9-CM Coding 1.5-0-1.5**

This course provides the student with an in-depth knowledge of the Evaluation and Management codes and the medical record documentation that is required when using these codes.

Requisite: Department consent.

Type: C

### **MA 237 CPT Coding For Medicine and Surgery 1.5-0-1.5**

This course provides the student with an in-depth knowledge of medical specialty, surgery, and anesthesia coding. The student will practice coding to achieve accuracy in CPT & ICD-9-CM coding procedures for the outpatient medical facility. Coding guidelines for Medicare and Managed Care organizations will be reviewed. Electronic coding and submission procedures will be reviewed.

Requisite: Department consent.

Type: C

### **MA 243 Clinical Coding Practicum 0-12-3**

The student will be proficient in ICD and CPT coding and insurance submission procedures.

Requisite: Department consent.

Type: C

### **MA 255 Medical Assistant Management Internship 1-10-3**

This course builds on basic administrative skills and introduces the student to management skills needed in a medical facility. The student will complete course objectives on preparation and implementation of office policies, employee selection, and required legal forms in management. (10 hours administrative practicum) NOTE: Students must have completed the MA certificate to enroll in this course.

Requisite: Department consent.

Type: C

### **MA 299 Problems in Med Assist Variable up to (4)-(8)-(4)**

Application of medical assisting principles to specific problems through case studies, simulation, special class projects or problem-solving procedures.

Projects and topics will vary to meet individual interests and needs. NOTE:

Requisite varies by topic.

Requisite: None.

Type: C

## Medical Laboratory Technology

### **MLT 100 Introduction to Phlebotomy Procedures 1-2-2**

This course is an introduction to the basic skills of a phlebotomist. The course includes capillary and venous blood draws. Attention is given to safety, capillary collection methods, venous collection methods, equipment, supplies needed, technique tips, and special phlebotomy concerns. Some waived laboratory techniques are taught as well. Note: A criminal background check and drug testing is required for this program. Details are provided the first day of class. For more information contact 235-2700, ext. 5355. The basic fee for these tests are the responsibility of the student and due near the start of the semester. The course is offered in a six-week format every fall and spring.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements, HRO 100, CIS 120/CIS 125 each with a grade of "C" or better.

Type: C

### **MLT 110 Phlebotomy Skills 1-0-1**

This course is designed to enhance student's competency in the following blood drawing skills: capillary or dermal puncture, evacuated tube method, syringe, and butterfly. Review of tube types, order, and complications or problems with blood drawing will be reviewed along with the practice of the blood drawing skills.

Requisite: Department consent.

Type: C

### **MLT 150 Intro to Clinical Laboratory 1-2-2**

The Introduction to the Clinical Laboratory course is the first exposure of the student to the clinical laboratory. It covers safety, laboratory departments and personnel, pipetting, phlebotomy, microscopes, quality control lab math, and basic lab procedures, including: PT, HCT, HGB, and red blood cell count.

Requisite: Program admission.

Type: C

### **MLT 200 Hematology 3-3-4**

Hematology is an introduction to the study of clinical hematology. Emphasis is placed on basic procedures performed in most clinical laboratories and their use in the diagnosis and follow-up of hematology disorders. The role of the laboratory in the diagnosis of anemias, leukemias, myeloproliferative disorders, and other disorders will be stressed. The collection, handling and processing of samples used in Hematology testing will be covered in detail. (Eight-week module: six hours lecture, six hours lab.) Summer

Requisite: MLT 150 with a grade of "C" or better.

Type: C

### **MLT 210 Applied Clinical Microbiology 3-4-5**

A study of the normal and pathogenic microflora of man with emphasis on the methods used for isolation, recognition and identification of microorganisms of medical significance. Included are the preparation of media, selection and inoculation of media for initial isolation, descriptive cellular and colonial morphology, stains and staining reactions, drug susceptibility testing, and procedures used for species identification. Emphasis is on host-parasite relationships, medical bacteriology, virology, mycology, parasitology and mycobacteriology. (Six hours lecture, eight hours lab, eight-week module.)

Spring

Requisite: MLT 150 with a grade of "C" or better.

Type: C

### **MLT 220 Serology 2-2-3**

An introduction to immunology with emphasis on applied clinical immunology. The immune response, properties and synthesis of antibodies, antigen and antibody reactions, and the serological procedures most widely performed in the clinical laboratory are the major topics for discussion. (Eight-week module, four hours lecture, four hours lab.) Fall

Requisite: MLT 150 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **MLT 240 Immunohematology 3-3-4**

A study of the blood groups of people and their significance in blood-banking and transfusion services. Included are the inheritance and properties of blood group antigens and their corresponding antibodies, methods of detection and identification, hemolytic disease processes, and the collection and processing of blood and blood components to ensure safe transfusion. Blood group immunology, record keeping, and quality control are stressed. (Eight-week module, six hours lecture, six hours lab.) Spring  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

### **MLT 242 Phlebotomy Clinical 0-12-3**

This course provides a clinical opportunity to apply skills and knowledge or anatomy, medical terminology, blood collection methods and related laboratory procedures. It consists of 120 hours at a clinical site. Note: Students must contact the MLT program coordinator for permission to enroll in this course and complete MLT 100 with a grade of "C" or better.  
Requisite: Department consent.  
Type: C

### **MLT 245 Clinical Practice I 0-24-3**

Supervised clinical experience. Students rotate through the phlebotomy, hematology, serology, chemistry, coagulation and urinalysis departments of an affiliate hospital. (40 hours per week for nine weeks.)  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

### **MLT 250 Coagulation 1-2-2**

This course discusses the four major systems of hemostasis, which includes the blood vessels, the platelets, the coagulation factors, and the fibrinolytic system. This includes the test methodologies and disease states associated with each of the four major systems. (Eight-week module, two hours lecture, four hours lab weekly.) Spring  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

### **MLT 260 Clinical Microscopy 2-2-3**

A study of the anatomy and physiology of the renal system and its role in maintaining homeostasis. Includes the physical, chemical and microscopic examination of urine and urinary sediment. Tests applied to other body fluids (e.g. synovial fluid, cerebrospinal fluid, semen, and serous fluids) are also studied. (Eight-week module, four hours lecture, four hours lab.) Fall  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

### **MLT 270 Clinical Chemistry 3-3-4**

A study of the diagnostic chemistry tests performed in the average clinical laboratory. Includes normal and abnormal physiology, principles of the reactions and methods used, interpretation of test results, and the sources of error in test performance. Basic instrumentation, reagent preparation, laboratory mathematics and quality control are stressed. (Eight-week module, six hours lecture, six hours lab.) Fall  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

### **MLT 275 Clinical Practice II 0-24-3**

Supervised clinical experience. Students will rotate through the phlebotomy, microbiology and immunohematology at an affiliate hospital. (Consists of 40 hours per week for nine weeks.) Spring  
Requisite: MLT 150 with a grade of "C" or better.  
Type: C

## Military Science – Army ROTC

### **MSC 101 Introduction to Military Science 1-2-2**

Introduces military issues and role of the U.S. Army in national defense systems. Reviews time management, goal setting, and motivational leadership.  
Requisite: None.  
Type: T

### **MSC 102 Introduction to Military Operations 1-2-2**

Studies the modern battlefield and its relationship to leadership, team building, and stress management. Individual communication skills and group dynamics are stressed.  
Requisite: None.  
Type: T

### **MSC 201 Applied Military Skills 2-2-3**

Provides detailed instruction and practical exercises in military writing, briefing, and decision-making. Extensive instruction and practice are provided in the reading and use of maps and compasses.  
Requisite: None.  
Type: T

### **MSC 202 Small Unit Leadership 2-2-3**

Provides basic background in first aid and individual field-movement skills and instruction in the use of analytical aids in planning, organizing, and controlling a changing environment.  
Requisite: None.  
Type: T

## Music

### **MUS 101 Music Appreciation 3-0-3**

This course presents a survey of Western music from the Middle Ages through the present. In addition to learning musical elements and orchestral instruments, students will be introduced to the compositions of the master composers and stylistic characteristics of the various musical eras. A writing component such as a concert report or research paper is required.  
Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F1 900

### **MUS 102 American Popular Music 3-0-3**

This Humanities course presents a survey of American popular music. It covers the time span from 1840 to the present and will allow the student an opportunity to examine the various types, styles and influential musicians of American pop music.  
Requisite: Reading placement above ENG 91 or completion of ENG 91.  
Type: T, IAI-F1 904

### **MUS 103 Music Literature 3-0-3**

This course is designed as a survey of music literature of the Western tradition from the Middle Ages to the present. Representative selections by major composers of each era are chosen to illustrate the characteristic styles, techniques, forms and performance practices of vocal and instrumental music. An emphasis is placed on guided listening and elementary score reading. Offered in spring semester only.  
Requisite: MUS 105.  
Type: T

### **MUS 104 Fundamentals of Music 3-0-3**

This is a beginner's course in reading music notation and understanding keys, scales and chords, including an introduction to the keyboard. The course is designed for a variety of music students: those who are beginning the study of music with little or no background; those who are prospective college music majors who must prepare for formal training in harmony and counterpoint; elementary school teachers who need a basic knowledge of music; and those students who would like a degree of music literacy.  
Requisite: None.  
Type: T

## Course Description Guide (continued)

### **MUS 105 Music Theory I 4-0-4**

This course provides an introduction to fundamental melodic and harmonic principles of common practice theory. Students will learn to write, hear, play, and analyze music of all periods and styles. This course will concentrate on the development of written skills (four-part writing and analysis), aural skills (melodic, harmonic, rhythmic dictation), and singing skills (sight-singing). Offered in fall semester only. Piano proficiency or concurrent enrollment in class piano is strongly suggested.

Requisite: MUS 104 with a grade of "C" or better or satisfactory score on the fundamental theory skills test.

Type: T

### **MUS 106 Music Theory II 4-0-4**

Continuation of MUS 105. This course provides an introduction to fundamental melodic and harmonic principles of common practice theory. Students will learn to write, hear, play, and analyze music of all periods and styles. This course will concentrate on the development of written skills (four-part writing and analysis), aural skills (melodic, harmonic, and rhythmic dictation), and singing skills (sight-singing). Offered in spring semester only.

Requisite: MUS 105 with a grade of "C" or better.

Type: T

### **MUS 110 World Music 3-0-3**

This course covers the basic elements of music (melody, rhythm, harmony, and form) and perceptive listening relevant to non-western music. The music culture of several non-Western societies will be examined. Completion of this course fulfills the Non-Western Culture requirement for graduation at SWIC.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: T, IAI-F1 903N

### **MUS 111 Class Instruction in Piano I 2-0-2**

This is a beginning course for students without previous piano study. Students are expected to practice daily. Required of the music major without piano background, but may be taken as an elective by the non-major.

Requisite: None.

Type: T

### **MUS 112 Class Instruction in Piano II 2-0-2**

Continuation of MUS 111.

Requisite: MUS 111 with a grade of "C" or better.

Type: T

### **MUS 113 Class Instruction in Voice I 2-0-2**

This introductory level course focuses on the learning of the fundamentals of sound, healthful vocal technique. Instruction is given through group and individual performance. Students will gain an understanding of all areas of vocal technique as they learn a variety of vocal literature selections. An emphasis will be placed on the development of each individual as a soloist.

Requisite: None.

Type: T

### **MUS 114 Class Instruction in Voice II 2-0-2**

A continuation of MUS 113, this introductory level course focuses on improvement in all areas of vocal technique. Students will expand their musicianship skills and extend their repertoire through an appropriate variety of vocal literature, including the introduction of Italian song literature. Instruction is given through group and individual study and performance. An emphasis will be placed on the development of each individual as a confident, expressive soloist.

Requisite: MUS 113 with a grade of "C" or better.

Type: T

### **Music-Private Applied Music for Enrichment**

Music-Private Applied Music for Enrichment Private music lessons are offered to students desiring to improve their music skills in the following instruments: piano; voice; trumpet; French horn; trombone; tuba/euphonium; flute; clarinet; oboe; bassoon; saxophone; violin; viola; cello; double bass; guitar; bass guitar; percussion (drum set, snare drum, timpani, mallets, and Latin percussion). These courses may be repeated up to a maximum of four hours of elective credit. These courses do not meet the requirements for pursuit of a major or minor in music at the baccalaureate level.

### **MUS 119 Private Applied Piano for Enrichment 1-0-1**

### **MUS 120 Private Applied Voice for Enrichment 1-0-1**

### **MUS 121 Private Applied Trumpet for Enrichment 1-0-1**

### **MUS 122 Private Applied French Horn for Enrichment 1-0-1**

### **MUS 123 Private Applied Trombone for Enrichment 1-0-1**

### **MUS 124 Private Applied Tuba/Euphonium for Enrichment 1-0-1**

### **MUS 125 Private Applied Flute for Enrichment 1-0-1**

### **MUS 126 Private Applied Clarinet for Enrichment 1-0-1**

### **MUS 127 Private Applied Oboe for Enrichment 1-0-1**

### **MUS 128 Private Applied Bassoon for Enrichment 1-0-1**

### **MUS 129 Private Applied Saxophone for Enrichment 1-0-1**

### **MUS 130 Private Applied Violin for Enrichment 1-0-1**

### **MUS 131 Private Applied Viola for Enrichment 1-0-1**

### **MUS 132 Private Applied Cello for Enrichment 1-0-1**

### **MUS 133 Private Applied Double Bass for Enrichment 1-0-1**

### **MUS 134 Private Applied Guitar for Enrichment 1-0-1**

### **MUS 135 Private Applied Bass Guitar for Enrichment 1-0-1**

### **MUS 136 Private Applied Percussion for Enrichment 1-0-1**

Students enrolling in private applied courses must contact the Program Coordinator Andrew Jensen, D.M.A., at 618-235-2700, ext. 5032 or [andrew.jensen@swic.edu](mailto:andrew.jensen@swic.edu), for instructions and instructor assignment. First-time private applied students should contact Andrew Jensen prior to enrolling. Students receive one half-hour lesson per week for 15 weeks of the semester. All students perform in a final examination jury at the end of the semester.

Requisite: None.

Type: T

### **MUS 140 Diction For Singers 1-0-1**

This course is designed to focus on the area of vocal technique related to making words clear through correct enunciation of vowels and syllables and correct, efficient articulation and projection of consonants. Students will learn and apply basic rules governing diction for singing English song literature along with the correct pronunciation of Italian and German song literature. Representative selections of song literature in each language will be chosen to illustrate proper diction technique. Emphases are placed on the International Phonetic Alphabet as an aid in the pronunciation of foreign song material and guided listening to English and foreign art songs.

Requisite: Prior or current enrollment in Class Instruction in Voice or Private Applied Voice.

Type: T

### **MUS 145 Recording Studio Orientation 3-0-3**

This course focuses on studio maintenance and troubleshooting techniques. Includes soldering, wiring standards, machine alignment, system architecture, Apple computer Operating System skills and troubleshooting in both hardware and software applications.

Requisite: None.

Type: T

## Course Description Guide (continued)

### **MUS 150 Recording Engineer Musicianship I 3-0-3**

A fundamental course in music for recording arts majors. A study of the elements of musical composition including melody, rhythm, chords, chord progression, modality, and music notation/score reading. This highly specialized and accelerated course is designed to meet industry demands in the recording arts, and should only be considered by those with a strong musical background. Offered in fall semester only.

Requisite: MUS 104 with a grade of "C" or better or satisfactory score on the fundamental theory skills test.

Type: T

### **MUS 151 Recording Engineer Musicianship II 3-0-3**

Continues the study of music presented in MUS 150 and includes the application of melody, rhythm, chords, chord progression, modality, and music notation/score reading. This highly specialized and accelerated course is designed to meet industry demands in the recording arts, and should only be considered by those with a strong musical background. Offered in spring semester only.

Requisite: MUS 150 with a grade of "C" or better.

Type: T

### **MUS 152 History of the Recording Industry 3-0-3**

Traces the development and growth of recording technology, the role of recording technology in the music business, the growth and development of major record labels, and a survey of the significant individuals who engineered the recordings.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: T

### **MUS 154 Survey of Music Computer Technology 3-0-3**

An examination of proprietary music software/hardware and its application in current use within the recording industry. Included is the study and implementation of MIDI and digital sampling technology in the audio recording industry. Offered in fall semester only.

Requisite: Concurrent enrollment in or completion of MUS 111.

Type: T

### **MUS 155 Survey of Music Computer Technology II 3-0-3**

A continuation of MUS 154, this course is an examination of sampling and sound design software programs and how they integrate into the recording studio. A further analysis of MIDI functionality and sequencing using proprietary software is also included. Offered in spring semester only.

Requisite: MUS 154 with a grade of "C" or better.

Type: T

### **MUS 159, 160, 259, 260 Concert Band I 0-3-1**

The Concert Band is an ensemble dedicated to the study and performance of a wide variety of musical literature. Repertoire represents a variety of musical styles from classic to contemporary. The ensemble is open to all woodwind, brass and percussion students.

Requisite: Department consent.

Type: T

### **MUS 161, 162, 261, 262 College Choir I 0-3-1**

The Concert Band is an ensemble dedicated to the study and performance of a wide variety of musical literature. Repertoire represents a variety of musical styles from the music of the baroque, classical, romantic, and 20th century to various jazz, rock, and popular styles. The ensemble is open to all woodwind, brass and percussion students.

Requisite: Department consent..

Type: T

### **MUS 163, 164, 263, 264 Jazz Band I 0-3-1**

The Jazz Band rehearses and performs literature from the contemporary big band media. Instrumentation consists of alto, tenor and baritone saxophones, trumpets, trombones, piano, guitar, drums, and bass.

Requisite: Department consent.

Type: T

### **MUS 165, 166, 265, 266 Instrumental Ensemble I 0-3-1**

This is an instrumental performing ensemble dedicated to the study and performance of a wide variety of musical literature. Depending on the ensemble chosen, the literature will represent the various styles found within that idiom, i.e., music of the baroque, classical, romantic, and 20th century, as well as various jazz, rock, and popular styles.

Requisite: Department consent.

Type: T

### **MUS 167, 168, 267, 268 Chamber Singers I 0-3-1**

The Chamber Singers are selected from the College Choir on the basis of musicianship, sight reading ability, and blend factors. Each part will be balanced and membership will be limited to a suitable chamber size. The repertoire will vary from early and contemporary madrigals to pop music. The group will perform for community organizations and in concert.

Requisite: Department consent.

Type: T

### **MUS 175, 176, 275, 276 Guitar Ensemble I 0-3-1**

The guitar ensemble is a performing ensemble that rehearses and performs a wide variety of guitar ensemble literature, ranging from classical to jazz to popular music. Students will learn different rehearsal and practice techniques related to preparing a musical performance, with the goal of presenting at least one concert per semester. Students will learn many musical skills such as solo guitar, group playing, and basic improvisation.

Requisite: Department consent.

Type: T

### **MUS 177, 178, 277, 278 Jazz Improvisation I 0-2-1**

This course is designed to foster a greater appreciation and understanding of jazz improvisation. Study will include functional jazz harmony, instrumental technique, and aural development. Students will study the music of prominent composers and performers including Miles Davis, Herbie Hancock, Horace Silver, Duke Ellington and others. Each class session will include study through rehearsal and performance by the members of the class.

Requisite: Department consent.

Type: T

### **MUS 201 The Business of Music 3-0-3**

A survey of the music industry, including music copyright, publishing, performance licensing, songwriting, record markets, record production, record merchandising, recording studio management, unions and guilds, agents, artist management, concert promotion, musical theater production, music in retail, music in radio, and music in advertising.

Requisite: Reading placement at ENG 101 level or completion of ENG 92; concurrent enrollment in or completion of MUS 152.

Type: T

### **MUS 205 Music Theory III 4-0-4**

This course will continue the study of advanced harmonic techniques including modulation, altered chords, chromatic harmony, counterpoint and introduction to contemporary harmonic principles. Students will learn to write, hear, play, and analyze music of all periods and styles. This course will concentrate on the development of written skills (four-part writing and analysis), aural skills (melodic, harmonic, and rhythmic dictation), singing skills (solfeggio and sight-singing), and keyboard skills (scales, chords, chord progressions). Special emphasis will be placed on the techniques used by 20th century composers. Must be taken in sequence. Offered in fall semester only.

Requisite: MUS 106 with a grade of "C" or better.

Type: T

### **MUS 206 Music Theory IV 4-0-4**

This course will continue the study of advanced harmonic techniques including modulation, altered chords, chromatic harmony, counterpoint and introduction to contemporary harmonic principals. This course will concentrate on the development of written skills (four-part writing and analysis), aural skills (melodic, harmonic, and rhythmic dictation), singing skills (solfeggio and sight-singing), and keyboard skills (scales, chords, chord progressions). Special emphasis will be placed on the techniques used by 20th century composers. Must be taken in sequence. Offered in spring semester only. Students are strongly encouraged to continue to enroll in subsequent levels of class piano.

Requisite: MUS 205 with a grade of "C" or better.

Type: T

## Course Description Guide (continued)

### **MUS 213 Class Instruction in Piano III 2-0-2**

This course is designed for the music major or minor or any student who is interested in continuing to improve piano skills.

Requisite: MUS 112 with a grade of "C" or better.

Type: T

### **MUS 214 Class Instruction in Piano IV 2-0-2**

This course is designed for the music major or minor or any student who is interested in improving piano skills.

Requisite: MUS 213 with a grade of "C" or better.

Type: T

### **Music-Private Applied Music for the Music Major or Minor**

Private music lessons are offered to students pursuing a major or minor in music in the following instruments: piano; voice; trumpet; French horn; trombone; tuba/euphonium; flute; clarinet; oboe; bassoon; saxophone; violin; viola; cello; double bass; guitar; bass guitar; percussion (drum set, snare drum, timpani, mallets, Latin percussion). These courses may be repeated up to a maximum of eight elective semester credits. It is expected that students will achieve satisfactory progress in order to continue to the next level of credit. Prerequisite: Successful audition or jury examination.

NOTE: Students enrolling in private applied courses must contact the Program Coordinator Andrew Jensen, D.M.A., at 618-235-2700, ext. 5032 or [andrew.jensen@swic.edu](mailto:andrew.jensen@swic.edu), for instructions and instructor assignment.

### **MUS 219 Private Music Major or Minor Applied Piano 2-0-2**

### **MUS 220 Private Music Major or Minor Applied Voice 2-0-2**

### **MUS 221 Private Music Major or Minor Applied Trumpet 2-0-2**

### **MUS 222 Private Music Major or Minor Applied French Horn 2-0-2**

### **MUS 223 Private Music Major or Minor Applied Trombone 2-0-2**

### **MUS 224 Private Music Major or Minor Applied Tuba/Euphonium 2-0-2**

### **MUS 225 Private Music Major or Minor Applied Flute 2-0-2**

### **MUS 226 Private Music Major or Minor Applied Clarinet 2-0-2**

### **MUS 227 Private Music Major or Minor Applied Oboe 2-0-2**

### **MUS 228 Private Music Major or Minor Applied Bassoon 2-0-2**

### **MUS 229 Private Music Major or Minor Applied Saxophone 2-0-2**

### **MUS 230 Private Music Major or Minor Applied Violin 2-0-2**

### **MUS 231 Private Music Major or Minor Applied Viola 2-0-2**

### **MUS 232 Private Music Major or Minor Applied Cello 2-0-2**

### **MUS 233 Private Music Major or Minor Applied Double Bass 2-0-2**

### **MUS 234 Private Music Major or Minor Applied Guitar 2-0-2**

### **MUS 235 Private Music Major or Minor Applied Bass Guitar 2-0-2**

### **MUS 236 Private Music Major or Minor Applied Percussion 2-0-2**

Students receive a one-hour lesson per week for 15 weeks of the semester.

Students will be expected to perform in a minimum of one performance seminar or recital per semester as well as attend all seminars. Performance seminars are held on Wednesdays from 3-3:50 p.m. during several weeks of the semester. In addition, music majors must attend a specified number of concerts each semester in accordance with Music department policy. All students perform in a final examination jury at the end of the semester.

Requisite: Department consent.

Type: T

### **MUS 250 Basic Digital Recording Techniques 3-0-3**

A hands-on approach to gaining technical and electronic understanding of various equipment used in the basic recording studio. Subjects covered include an introduction to the physical aspects of sound, sound level measurement, introduction to microphone techniques, psychoacoustics, basic electricity, principles and practice of magnetic and digital recording, and an overview of the recording studio.

Requisite: Concurrent enrollment in or completion of MUS 104 with a grade of "C" or better.

Type: T

### **MUS 251 Advanced Digital Recording 3-0-3**

A continuation of MUS 250. Digital recording technology using Pro Tools is discussed and demonstrated. Topics include: recording console theory and operation, microphone design and techniques, signal processing and digital effects equipment, hard-disc recording, and reproduction.

Requisite: MUS 250 with a grade of "C" or better.

Type: T

### **MUS 252 Critical Listening for the Engineer 3-0-3**

A course in aural skills development for recording engineers. This class will focus on various types of music, acoustic and electronic timbres, general instrument ranges and sonic properties, blend, balance, equalization, panning, reverb, compression, limiting, and other tools used in the recording process.

Requisite: Concurrent enrollment in or completion of MUS 251; MUS 106 or MUS 151.

Type: T

### **MUS 255 Music Technology Practicum 1-10-3**

Practical experience for advanced students in a professional recording industry setting. This course may be repeated for additional credit. Not more than six hours toward the major are allowed. Students must complete an application which can be found by going to the web address [swic.edu/music](http://swic.edu/music) and choosing the link to Music Technology. Practicum applicants are responsible for applying to one of the SWIC Music department approved practicum sites.

Requisite: Department consent.

Type: T

### **MUS 299 Special Topics in Music Variable up to (4)-0-(4)**

This course is an introduction to special topics and issues in music presented through lectures, discussions, demonstrations, readings, and/or individual research. Topics vary each semester. This course may be taken more than once if different topics are covered.

Requisite: Department consent.

Type: T

## Network Design and Administration

— See Also *Cisco Networking Academy*

### **NETW 101 Introduction to Networking 3-0-3**

This course is an introductory course which covers the fundamentals of data communications and networking principles. Students will learn network standards, protocols, and topologies. Students will also learn network architectures of Local Area Networks and Wide Area Networks and related media, connections and components. Other topics covered include the OSI model, TCP/IP, and network security. Note: Successful students will possess basic computer skills prior to enrolling.

Requisite: None.

Type: C

### **NETW 105 Data Assurance 1-0-1**

This course provides an overview of computer and network security issues including the numerous types of attacks computers are vulnerable to, the types of attacker profiles, and the hardware and software defense solutions available. Note: Successful students will possess basic computer skills prior to enrolling.

Requisite: None.

Type: C

### **NETW 142 Network Design 3-0-3**

This course provides students a foundation of network design. Upon completion of this course, students can design routed and switched network infrastructures, involving local and wide area networks, for businesses and organizations. This course focuses on gathering customer requirements, identifying solutions, and designing the network infrastructure and elements to ensure the basic functionality of the proposed solutions. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: CISC 152 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **NETW 151 Telecommunications 3-0-3**

This course is a comprehensive overview of how information, including voice and data, travel throughout telecommunications networks. The primary focus of the course is the fundamentals of telecommunications technologies, associated terminology and methods used to route traffic across the telecommunications network. Topics include switching, signaling, Time Division Multiplexing, the Public Switched Telephone Network, and services offered to residential and business customers. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: NETW 101 or CISC 151.

Type: C

### **NETW 182 Linux Operating System 3-0-3**

This course introduces the fundamentals of the Linux operating system. The basics of Linux system concepts, architecture, and administration will be covered. Students will learn about the Linux file system, file processing, editors, basic shell programming, utilities, and the X Window System. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: NETW 101 or CISC 151.

Type: C

### **NETW 188 Windows Server I 3-0-3**

This course provides students with the knowledge and skills that are required to manage and maintain the Microsoft Windows Server Environment.

The course focuses on selecting server and client hardware, installing and configuring a server, setting up and managing network services, establishing remote access services, interoperating on a network, setting up Internet services, monitoring and tuning a server, and troubleshooting problems. Students will have an opportunity to apply their knowledge through hands-on projects and case study assignments. Upon completion of the course, students are prepared for Microsoft certification exam. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: NETW 101 or CISC 151.

Type: C

### **NETW 211 Digital Forensics 3-0-3**

This course deals with the preservation, identification, extraction, documentation, and interpretation of digital data. Students will learn the basic artifacts of each of today's most popular operation systems and PC applications. The course will also include an overview of communication artifacts. Topics covered include evidence handling, chain of custody, collection, preservation, identification, and recovery of digital data. This course will feature the use of today's most popular forensics tools. Note: Successful students will possess intermediate computer skills, including file management skills and knowledge of various operating systems, prior to enrolling.

Requisite: None.

Type: C

### **NETW 261 Emerging Network Technologies 3-0-3**

This course is designed to familiarize students with emerging technologies and developing trends in computer networking and the overall impact of these technologies and trends on Information Technology. Topic areas align with the skills needed for technicians to administer and troubleshoot computer networks including current networking terminology, protocols, standards, software, and hardware. The course will develop skills necessary to apply these topics to maintaining and upgrading existing networks or to developing and implementing new networks. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: CISC 154 with a grade of "C" or better.

Type: C

### **NETW 271 Network Security 3-0-3**

This course provides an overview of information security practices and techniques. Students will become familiar with the concepts and terms associated with computer and programming security techniques, local and wide area network implementation, and network architecture. Topics will include TCP/IP, operating system best practices, application development best practices, networks and services, communications concepts, hardware, and communications media. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: NETW 101 or CISC 151.

Type: C

### **NETW 288 Windows Server II 3-0-3**

This course provides students with an understanding of the administrative tools that are used to implement, manage, and maintain Microsoft Windows Server Network Infrastructure. Topics in the course include implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol, Domain Name System, and Windows Internet Name Service; securing Internet Protocol traffic with Internet Protocol security and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access. Students will have an opportunity to apply their knowledge through hands-on projects and case study assignments. Upon completion of the course, students are prepared for Microsoft certification exam. Note: Students who meet the requisite through professional certification or work experience should contact the program coordinator.

Requisite: NETW 188.

Type: C

### **NETW 295 Networking Internship 0-15-3**

This course requires an average of 15 hours a week of supervised work experience at an approved work site. The course provides the necessary articulation between theory and the world of computer networking and is required for all students seeking a degree in Networking Design and Administration. Note: Students should be enrolled in the last semester of study prior to graduation.

Requisite: Minimum GPA of 2.5. Department consent.

Type: C

### **NETW 299 Special Topics in Networking Variable up to (4)-0-(4)**

This course presents projects and topics in networking by simulated experiences, observations, discussions, conferences, readings or individual research. Current technologies related to the field of networking will be presented and discussed. Projects and topics will vary to meet individual interest and needs.

NOTE: Requisite varies by topic.

Requisite: None.

Type: C

## **Nurse Assistant**

— See *Health Related Occupations*

## **Nursing Education**

### **NE 100 Clinical Calculations for Nurses Variable up to (3)-0-(3)**

This course is designed to enable the student to learn basic mathematical concepts and systems of measure to calculate oral and parenteral dosages for selected medication. Note: Accepted nursing students must complete this course or pass the NE 100 Proficiency Test. The Proficiency Test will be available during NE orientation. This course is offered in the summer only.

Requisite: Acceptance into the nursing program.

Type: C

## Course Description Guide (continued)

### **NE 102 Introduction to Nursing Procedures 1-3-2**

The course is designed to enable the student to perform basic nursing procedures related to the care of clients. Focus of the course is on developing a theoretical foundation for specified procedures along with practice of the procedures in a simulated setting in the classroom and laboratory. The course will prepare the student to perform basic procedures necessary to the nursing care of a patient. The course is required for selected students who are beginning their nursing career. Four-week module (four hours classroom; 12 hours lab per week)

Requisite: NE 100 with a grade of "C" or better or NE 100 proficiency and completion of or concurrent enrollment in with a grade of "C" or better BIOL 155/157, HRO 150, SOC 153, and HRO 100/160 (or proficiency).  
Type: C

### **NE 103 Introduction to Nursing 2.5-4-5-4**

An introductory study of nursing with emphasis on acquiring the basic knowledge and behaviors needed to work as a nurse. Content is presented in relation to basic human needs and the nursing process. Situations are provided in the classroom setting, the autotutorial laboratory, college laboratory and the clinical setting.

Requisite: Concurrent enrollment in or completion of NE 102 with a grade of "C" or better or escrowed credits for CNA/LPN, completion of or concurrent enrollment in BIOL 157, HRO 150, SOC 153, HRO 100/160 (or proficiency) each with a grade of "C" or better.  
Type: C

### **NE 104 Health Continuum I 2-0-2**

Designed to study an individual's ability to maintain health. The formation of more effective skills in communication is stressed. The developmental stages of newborn, infancy and adulthood are presented in relation to basic human needs.

Requisite: Concurrent enrollment in or completion of NE 102 with a grade of "C" or better or escrowed credits for CNA/LPN, concurrent enrollment in or completion of NE 103, BIOL 157, SOC 153, HRO 150 each with a grade of "C" or better.  
Type: C

### **NE 105 Health Continuum II 2-0-2**

Emphasis on the study of an individual's ability to maintain health. The developmental stages of toddler, preschool, school age and adolescent are presented in relation to basic human needs.

Requisite: (BIOL 155 or BIOL 157), HRO 150, SOC 153, (HRO 100 or HRO 160), NE 102, NE 103, NE 104 each with a grade of "C" or better; concurrent enrollment in or completion of NE 106, NE 108, ENG 101, (BIOL 156 or BIOL 158) each with a grade of "C" or better.  
Type: C

### **NE 106 Health Continuum III 2-6-4**

Uses the nursing process to provide family health care during the child-bearing cycle. Learning situations are provided in the classroom setting, the autotutorial laboratory, college laboratory simulated sessions and in the reality of the client setting. Clinical experience is primarily in the hospital maternity setting. Eight-week module. (Four hours classroom, 12 hours college and clinical lab per week)

Requisite: (BIOL 155 or BIOL 157), HRO 150, SOC 153, (HRO 100 or HRO 160), NE 102, NE 103, NE 104 each with a grade of "C" or better; concurrent enrollment in or completion of NE 105, NE 108, ENG 101, (BIOL 156 or BIOL 158) each with a grade of "C" or better.  
Type: C

### **NE 108 Interference with Basic Human Needs I 2-6-4**

Uses the nursing process in providing care for patients with selected common nursing problems. It introduces the student to the fundamental processes of illness. Emphasis is on problems that interfere with Human needs for sexuality, comfort, rest and sleep. Learning situations are provided in the classroom setting, the autotutorial laboratory, college laboratory simulated sessions and in the reality of the client setting. Clinical experience is primarily in the hospital setting. Eight-week module. (Four hours classroom, 12 hours college and clinical lab per week)

Requisite: BIOL 155/157, HRO 150, SOC 153, HRO 100/160, NE 102, NE 103, NE 104 each with a grade of "C" or better, concurrent enrollment in or completion of NE 105, NE 106, ENG 101, BIOL 156/158 each with a grade of "C" or better.  
Type: C

### **NE 207 Interference with Basic Human Needs II 3.5-6-5.5**

Uses the nursing process in providing care for patients with selected common health problems. Emphasis is on interferences with human needs for self-awareness, self-esteem, and communication which causes alterations of behavior. Personal development of the student is emphasized as a prelude to understanding others. Learning situations are provided in the classroom setting and in patient settings in the hospital and the community. Eight-week module. (Seven hours classroom, 12 hours college and clinical lab per week)  
Requisite: BIOL 158, ENG 101, NE 105, NE 106, NE 108 each with a grade of "C" or better, and concurrent enrollment in or completion with a grade of "C" or better of NE 209, ENG 102, and PSYC 151.  
Type: C

### **NE 209 Interference with Basic Human Needs III 3.5-6-5.5**

Uses the nursing process in providing care for patients with selected common health problems. Emphasis is on interferences with human needs for activity, mobility and oxygen. Learning situations are provided in the classroom setting, the autotutorial laboratory, college laboratory simulated sessions and in the hospital setting. Eight-week module. (Seven hours classroom, 12 hours college and clinical lab per week)  
Requisite: BIOL 158, ENG 101, NE 105, NE 106, NE 108 each with a grade of "C" or better, and concurrent enrollment in or completion of NE 207, ENG 102, PSYC 151 each with a grade of "C" or better.  
Type: C

### **NE 210 Interference with Basic Human Needs IV 3.5-6-5.5**

Uses the nursing process in providing care for patients with selected common health problems. Emphasis is continued on the human needs for nutrition and elimination, sensory perception, and safety. Learning situations are provided in the classroom setting, the autotutorial lab, college laboratory simulated sessions and in the hospital setting. The role change from student to graduate nurse is also considered. Eight-week module. (Seven hours classroom, 12 hours college and clinical lab per week)  
Requisite: ENG 102, PSYC 151, NE 207, NE 209 each with a grade of "C" or better; concurrent enrollment in or completion of NE 211 with a grade of "C" or better.  
Type: C

### **NE 211 Interference with Basic Human Needs V 3.5-6-5.5**

Uses the nursing process in providing care for patients with selected common health problems. Emphasis is continued on human needs for safety and sensory perception, nutrition, and elimination. The role change from student to graduate nurse is also considered. Learning situations are provided in the classroom setting, the autotutorial laboratory, college laboratory simulated sessions and the hospital setting. Eight-week module. (Seven hours classroom, 12 hours college and clinical lab per week)  
Requisite: None.  
Type: C

## Office Administration and Technology

### **OAT 121 Introduction to Office Support 3-0-3**

This course addresses the concepts involved in office support technology with emphasis on its history, technology, procedures and career opportunities. Computer terminology, hardware and software, application software, and operating environments as they relate to office support are included.  
Requisite: None.  
Type: C

### **OAT 122 Word Processing Applications I 3-0-3**

This course provides hands-on experience on a microcomputer using one of the most popular word processing packages. Topics include: document creation, editing, printing, headers/footers, tables, graphics, macros, merging, spell/grammar/thesaurus, file management, templates, styles, and sorting.  
NOTE: Knowledge of Windows, computer terminology, and document processing recommended.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

- OAT 127 Workplace Skills 1-0-1**  
This course will cover skills, attitudes, and traits necessary to seek and retain employment. Topics will include resume, interview skills, letter of application, work ethic, employee responsibilities, self-assessment, interpersonal skills, career exploration, and job advancement.  
Requisite: None.  
Type: C
- OAT 128 Microsoft Outlook 1-0-1**  
Microsoft Outlook, the personal information manager software included in Microsoft Office, will be covered. Features of Outlook covered will be managing and tracking appointments and tasks; maintaining a calendar; utilizing the address book; sending and receiving electronic mail; and integrating with other applications of Microsoft Office. NOTE: Knowledge of Windows recommended.  
Requisite: None.  
Type: C
- OAT 130 Word Processing Basics 1-0-1**  
This course will cover the basics of word processing using a popular word processing program. A range of document commands will be learned to allow students to use the introductory features of the program.  
NOTE: This course is designed for students who do not plan to take another course in word processing. Students desiring additional knowledge should register for OAT 180 (three semester credits) instead of OAT 130. NOTE: Keyboarding skill and Windows knowledge recommended.  
Requisite: None.  
Type: C
- OAT 131 Database Basics 1-0-1**  
This course will cover the basics of database software using a popular database program. A range of commands will be learned to allow students to use the introductory features of the program.  
NOTE: This course is designed for students who do not plan to take another course in database management. Students desiring additional knowledge should register for OAT 185 (three semester credits) instead of OAT 131. NOTE: Keyboarding skill and Windows knowledge recommended.  
Requisite: None.  
Type: C
- OAT 132 Electronic Spreadsheet Basics 1-0-1**  
This course will cover the basics of electronic spreadsheets using a popular spreadsheet program. A range of commands will be learned to allow students to use the introductory features of the program.  
NOTE: This course is designed for students who do not plan to take another course in electronic spreadsheets. Students desiring additional knowledge should register for OAT 175 (three semester credits) instead of OAT 132. NOTE: Keyboarding skill and Windows knowledge recommended.  
Requisite: None.  
Type: C
- OAT 133 Presentation Basics 1-0-1**  
This course will cover the basics of presentations using a popular presentation software program. A range of commands will be learned to allow students to use the introductory features of the program.  
NOTE: This course is designed for students who do not plan to take another course in presentation graphics. Students desiring additional knowledge should register for OAT 165 (two semester credits) instead of OAT 133. NOTE: Keyboarding skill and Windows knowledge recommended.  
Requisite: None.  
Type: C
- OAT 146 Computer Applications for the Office 3-0-3**  
A comprehensive study of the use of computer applications and technologies for office personnel will be presented. Class topics include computer hardware, software, and operating systems as they relate to office personnel and hands-on experience using word processing, spreadsheet, and presentation software.  
Requisite: None.  
Type: C
- OAT 155 Software Computations 3-0-3**  
This course covers basic fundamental business mathematics concepts. The student will solve problems dealing with simple and compound interest, discounts, depreciation, payroll, merchandising, and installment buying. Microcomputers and appropriate calculating software will be used to complete all in-class applications. NOTE: Knowledge of business math (MGMT 102) recommended.  
Requisite: None.  
Type: C
- OAT 156 Microsoft Office Suite I 3-0-3**  
In this course students will receive instruction and hands-on training on an office suite software package. Instruction will be on the various applications and how they are being integrated and used in today's office environment to increase productivity and efficiency. Topics include word processing, spreadsheet, database applications, and presentation software, as well as integration of the suite. NOTE: Knowledge of document processing and Windows recommended.  
Requisite: None.  
Type: C
- OAT 164 Introduction to Keyboarding 1-0-1**  
This course offers basic touch keyboarding instruction for the electronic keyboard. Students needing to operate a computer keyboard can achieve basic skills which will allow them to input information into a computer efficiently using proper techniques. In addition, the student gains familiarization with symbol keys and the ten key numeric keypad. Students may receive credit for only one of the following: OAT 164 or OAT 170. NOTE: Knowledge of Windows and the internet recommended.  
Requisite: None.  
Type: C
- OAT 165 Presentation Graphics 2-0-2**  
This course is designed to teach students to use a presentation graphics package. Comprehensive instruction in the major features of the application will be covered. Topics include creating and editing slides, adding animation to slides, linking and embedding, and customizing a slide show. NOTE: Keyboarding skill and Windows knowledge recommended.  
Requisite: None.  
Type: C
- OAT 168 Elementary Keyboarding 2-0-2**  
This course will provide the student with the necessary skills to develop and successfully operate a virtual office that provides administrative support and technical services for the rapidly changing global business environment.  
Requisite: None.  
Type: C
- OAT 169 Automated Application/Transcription 3-0-3**  
The course objective is to provide a learning experience for students that will prepare them to work in an automated office environment using dictation/transcription equipment. The dictators in the dictation for transcription materials reflect contemporary and technological trends. Emphasis will be placed on proofreading, grammar, and punctuation skills. Students may specialize in general, legal, or medical applications/transcription. NOTE: Knowledge of document processing recommended.  
Requisite: None.  
Type: C
- OAT 170 Keyboarding/Touch System 2-0-2**  
This course has three major purposes: (1) to enable students to develop basic touch keyboarding skills for computers, (2) to teach students to use word processing software to complete practical applications on the microcomputer, and (3) to develop good proofreading skills. The student who completes this course will be able to input alphabetic, numerical, and symbolic information on electronic keyboards. He/she will also be able to format, edit, retrieve, and save and print using word processing software. Students may receive credit for only one of the following: OAT 164 or OAT 170.  
Requisite: None.  
Type: C

## Course Description Guide (continued)

### **OAT 171 Document Processing and Input Processing 3-0-3**

The course is designed to enable students to learn or perfect touch keyboarding skills using correct fingering techniques. The student should improve current keyboarding speeds and develop skills necessary for entry-level employment and/or personal use. Units of instruction include business letters, memos, email, reports, tables, speech recognition, touch input, handwriting recognition, and employment documents. When the course is completed, students should key at speeds of 20 to 55 gross words per minute with a maximum of five errors on five-minute timings. Computers and word processing software will be used to complete applications. This course is designed for students who plan to continue in document processing. Requisite: None.

Type: C

### **OAT 172 Advanced Information Processing 3-0-3**

This course is designed to expand the subject matter of OAT 171. A further development of document production and skillbuilding will be provided. The importance of organizing work and meeting deadlines will be stressed. Units of instruction include advanced formatting of correspondence, reports, and tables as well as units on international formatting, medical and legal office documents, office forms and publications using project-based activities. When the course is completed, students should type at speeds of 30 to 65 gross words per minute with a maximum of five errors on five-minute timings. Computers and word processing software will be used to complete applications. NOTE: Document processing and keyboarding skill equivalent to OAT 171 recommended.

Requisite: OAT 171.

Type: C

### **OAT 175 Electronic Spreadsheets 3-0-3**

The course is designed to teach students to use an electronic spreadsheet package. Comprehensive instruction in the major features of the application will be covered. Topics include creating, editing, formatting, inserting, formulas, and preparing charts. Other topics include graphs, date, statistical, table lookup, dynamic functions, calculation order, nested conditional, file linking commands, and macros. Uses of the database query, sort, statistical functions, and fill are also covered. NOTE: Keyboarding skill and Windows knowledge recommended.

Requisite: None.

Type: C

### **OAT 180 Word Processing 3-0-3**

The course is designed to teach students to use a word processing package. Comprehensive instruction in the major features of the application will be covered. Topics include creating, editing, formatting, tables, columns, headers, footers, graphics, macros, styles, templates, and forms. NOTE: Keyboarding skill and Windows knowledge recommended.

Requisite: None.

Type: C

### **OAT 184 MS Office Specialist Testing Preparation 1-0-1**

This course will allow the student to synthesize knowledge of Microsoft Office applications and make final preparations for testing. The course may be repeated when the student prepares for a second or third application test. NOTE: Knowledge of Microsoft Office Suite recommended.

Requisite: None.

Type: C

### **OAT 185 Database Applications 3-0-3**

The course is designed to teach students to use a database applications software package. Topics include identifying database terminology, designing tables and queries, printing and designing forms and reports. NOTE: Keyboarding skill and Windows knowledge recommended.

Requisite: None.

Type: C

### **OAT 190 Web Design with Microsoft Office 3-0-3**

This course is designed to teach students to create web pages using current web page design software. Students will receive instruction on creating and revising a web page, using lists, hyperlinks, pictures, tables, frames, animation features, and HTML forms.

Requisite: None.

Type: C

### **OAT 225 Advanced Word Processing 3-0-3**

Comprehensive instruction in the advanced features of word processing will be covered. Topics include merging, tables and indexes, macros, fill-in forms, graphics, templates, and integration with other applications

Requisite: OAT 180.

Type: C

### **OAT 230 Advanced Electronic Spreadsheet 3-0-3**

Comprehensive instruction in the advanced features of electronic spreadsheets will be covered. Topics include templates, lists, custom formatting, ranges, macros, toolbars, and charts. Analysis tools in Excel including pivot tables, reports, goal seek, solver, and auditing will be covered.

Requisite: OAT 175.

Type: C

### **OAT 240 Advanced Database Applications 3-0-3**

Comprehensive instruction in the advanced features of database applications will be covered. Topics include building and modifying tables and forms, refining queries, defining relationships, ensuring data integrity, designing forms and reports, creating and editing macros, and linking and embedding with other applications.

Requisite: None.

Type: C

### **OAT 256 Office Management 3-0-3**

This course provides a comprehensive study of office management as a total office support system used throughout a business firm or organization.

The topics covered include communications, systems analysis, office automation, telecommunications, reprographic systems, records management, micrographics, and human resource management.

Requisite: Sophomore standing.

Type: C

### **OAT 260 Administrative Office Procedures 3-0-3**

The duties and responsibilities of office support personnel are emphasized in this capstone course. Students will demonstrate skills through practical, hands-on application. Topics include records management, job-seeking skills, office etiquette and ethics, telephone techniques, review of current literature, and group presentations on pertinent issues and trends. Document processing skill and Windows knowledge are recommended.

Requisite: Sophomore standing.

Type: C

### **OAT 261 Business Communications 3-0-3**

This course is concerned with the development of the skills and strategies necessary for effective oral and written business communication. Students will learn to write and speak naturally, concisely, and clearly.

Requisite: ENG 101.

Type: C

### **OAT 273 Document Processing III 3-0-3**

This course is a continuation of OAT 172 and includes advanced production work, the creation of original documents, the completion of specialized office applications, and advanced speed building activities. When the course is completed, the student should type at speeds of 40-70 gross words per minute with a maximum of five errors on a five-minute timing. Computers and word processing software will be used to complete applications. NOTE: OAT 172 or equivalent skill recommended.

Requisite: None.

Type: C

### **OAT 274 Law Office Computer Applications 3-0-3**

This course covers legal terminology, basic procedures, and document production used in a law office through hands-on instruction in software programs commonly used in law offices. Students will prepare legal documents in a variety of legal areas including real estate, corporate, bankruptcy, estate planning, litigation, family law, and other areas of law found in a general practice. Students will also be introduced to practical computer applications used in legal organizations. Students may receive credit for only one of the following: OAT 274 or PARL 274.

Requisite: OAT 122 or OAT 180.

Type: C

## Course Description Guide (continued)

### **OAT 275 Law Office Management 3-0-3**

This course covers the theory and practical aspects of law office management, including the functions of management, administrative procedures, basic principles of finance, facilities management, human resource management, and leadership skills.

Requisite: Sophomore standing.  
Type: C

### **OAT 276 Current Technology for Office Support 3-0-3**

This course is designed to familiarize students with the most current technology and its impact on office support. Because this is such a fast-paced field, the course will continually be updated to match the needs of the changing workplace. Topics include electronic mail, the internet and its impact on office support, current communications technologies, and current software applications including office suites, scheduling, and calendaring packages. Interpersonal skills, teamwork, communication skills, and ethical considerations applicable to today's work environment will be developed and practiced.

Recommendation: Knowledge of Windows, computer terminology, and document processing.

Requisite: Sophomore standing.  
Type: C

### **OAT 280 Virtual Office Technologies 3-0-3**

This course will provide the student with the necessary skills to develop and successfully operate a virtual office that provides administrative support and technical services for the rapidly changing global business environment.

Requisite: Sophomore standing.  
Type: C

### **OAT 285 Microsoft Office Suite II 3-0-3**

This course is a continuation of Microsoft Office Suite I. Office support applications of Microsoft Office will be taught, emphasizing realistic business assignments involving document production that duplicates on-the-job performance. Integration of the various Microsoft Office applications will be an integral part of the course.

Requisite: OAT 156.  
Type: C

### **OAT 293 Office Admin. & Technology Intern 1-10-3**

This course requires a total of 160 hours of supervised work experience at an office site. The course provides the necessary articulation between academic theory and the world of work and helps the student make a supervised transition to the career of his/her choice.

Requisite: Department consent.  
Type: C

### **OAT 299 Special Topics in Office Admin and Tech Variable up to (4)-0-(4)**

Presents projects and topics in business by simulated experiences, observations, discussions, conferences, readings and individual research. Projects and topics will vary to meet individual interest and needs. NOTE: Requisite varies by topic.

Requisite: None.  
Type: C

## Paralegal Studies

### **PARL 120 Introduction to Paralegal Studies 3-0-3**

Provides a basic background in the United States legal process. This course will provide an introduction to civil and criminal processes, legal terminology, and a history of common law. Students will examine the role of the paralegal in the legal system and discuss the ethics, regulations, and professional responsibilities involved in their roles as paralegals. Basic legal concepts and legal analysis will be discussed. Students will learn to read and brief legal cases.

Requisite: None.  
Type: C

### **PARL 220 Legal Research and Writing I 3-0-3**

Students will examine the federal and state court systems and be introduced to case and statutory analysis. Students will learn to use a law library and the resources available there. They will examine the role of paralegals in the litigation process and will also learn to analyze and synthesize written opinions. Students will be required to complete several writing projects.

Requisite: ENG 101, PARL 120.  
Type: C

### **PARL 225 Legal Research and Writing II 3-0-3**

Students will continue to develop their skills and working knowledge of research materials, tools, and strategies. There will be instruction on computer aided research. They will use the results of their research to complete several additional writing projects, including memoranda of law and an appellate brief.

Requisite: PARL 220.  
Type: C

### **PARL 230 Civil Procedure 3-0-3**

Students will examine the lawyers' and paralegals' roles in handling civil cases. The strategy and mechanics of civil procedure will be explored in depth with special emphasis on Illinois law and federal procedure. Students may be required to prepare various writing projects.

Requisite: PARL 120, PARL 220, PARL 240.  
Type: C

### **PARL 235 E-Discovery/E-Investigation 2-0-2**

This course will provide students with an overview and understanding of e-discovery issues, terms and technologies. Students will also gain an understanding of the basics of e-investigation by using social networking sites and internet search engines to discover admissible evidence about parties and witnesses in lawsuits.

Requisite: PARL 230.  
Type: C

### **PARL 240 Torts 3-0-3**

Students will gain an understanding of the basics of tort law and the causes of action for intentional torts, negligence and strict liability. Special topics covered will also be products liability, professional malpractice, workers compensation and other current tort topics. Students will be required to complete several writing assignments including drafting a complaint that contains all of the elements of a tort in a cause of action. Emphasis will be placed on the application of theory to fact patterns so that students can identify a tort cause of action.

Requisite: PARL 120.  
Type: C

### **PARL 250 Litigation Support for Paralegals 3-0-3**

Students will become acquainted with the litigation process from the client interview to preparation of documents used to institute and respond to lawsuits, discovery procedures, preparation for trial, and the trial itself. Students will learn the basic rules and laws which govern the lawsuit.

Rudiments of the appellate process will be introduced to the student. The student will be required to complete several writing projects.

Requisite: PARL 120, PARL 220, PARL 230, PARL 240.  
Type: C

### **PARL 260 Family Law 3-0-3**

Students will review the law as it relates to different aspects of domestic relations such as marriage, divorce and separation, maintenance, child custody and support, illegitimacy, adoption, and prenuptial agreements. Special emphasis will be placed on Illinois law. Students will be required to complete writing projects.

Requisite: None.  
Type: C

### **PARL 265 Wills, Probate, and Estate Planning 3-0-3**

Students will study the most common forms of wills and trusts and the fundamental principles of law applicable to each. This course will place emphasis on the administration of estates under the Illinois Probate Act. Students will be required to complete several writing projects.

Requisite: None.  
Type: C

## Course Description Guide (continued)

### **PARL 270 Criminal Law 3-0-3**

Causes of action of criminal liability on the misdemeanor and felony level will be studied. Some constitutional law issues raised by a criminal practice will also be addressed. Students will study the procedures of the criminal system, from arrest through post-trial motions, sentencing, and appeal. Students will be required to complete several writing projects.

Requisite: None.

Type: C

### **PARL 274 Law Office Computer Applications 3-0-3**

This course covers legal terminology, basic procedures, and document production used in a law office through hands-on instruction in software programs commonly used in law offices. Students will prepare legal documents found in a variety of legal areas including real estate, corporate law, bankruptcy, estate planning, litigation, family law, and other areas of law found in a general practice. Students may receive credit for only one of the following: PARL 274 or OAT 274.

Requisite: OAT 122 or OAT 180.

Type: C

### **PARL 275 Bankruptcy/Creditors' Rights 3-0-3**

Students will become familiar with the bankruptcy system and the United States Bankruptcy Code. Students will gain an understanding and working knowledge of the different types of bankruptcies and the specific steps taken to complete the bankruptcy process, including completion of the documents required to conduct these processes. Creditors' rights will also be explored. The student will be required to complete several writing projects.

Requisite: None.

Type: C

### **PARL 280 Copyright/Trademark/Patent Law 3-0-3**

This course will provide students with an overview and understanding of the various intellectual property disciplines, including copyright, trade secret, trademark, and patent law. The course will emphasize both the theoretical and practical application of these areas of law. Students will be required to complete writing projects. Students may receive credit for only one of the following: BUS 280 or PARL 280.

Requisite: None.

Type: C

### **PARL 290 Paralegal Field Project 0-15-3**

Supervised on-the-job training and experience in public or private offices typically employing paralegals. Students must work at least 225 hours to receive classroom credit for the course. The course provides the necessary articulation between academic theory and the world of work and helps the student make a supervised transition to the career of his/her choice.

Requisite: Department consent.

Type: C

### **PARL 299 Special Topics in Paralegal Studies Variable up to (4)-0-(4)**

Presents projects and topics in paralegal studies by simulated experiences, observations, discussions, conferences, readings and individual research. Projects and topics will vary to meet individual interest and needs. NOTE:

Requisite varies by topic.

Requisite: None.

Type: C

## **PDA** – *See Construction Painting & Decorating*

## Philosophy

### **PHIL 150 Introduction to Philosophy 3-0-3**

Historically, philosophy has been many things. In the context of this course, it is largely a point of view, a way of thinking. This way of thinking approaches life by reflecting upon the ideas that we use to make sense of life. Further, since we have come to see this way of thinking in conjunction with a tradition of literature, and a tradition of concerns. Thus, the aim of an Introduction to Philosophy is to get students to first take up this point of view, and second to see something of the tradition of its literature and concerns. Students take up the point of view by reading, or reading about, specific philosophical works or concerns.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 900

### **PHIL 151 Introductory Logic 3-0-3**

Introductory Logic is a reflection on thought, discourse, and argumentation. It accomplishes this through the study of language, specifically by an examination of sentence structures, inductive and deductive logical systems, argument forms, and formal and informal fallacies. The course provides students the opportunity to apply the methods of Logic to everyday discourse.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 906

### **PHIL 152 Ethics 3-0-3**

As Aristotle says, the purpose of studying Ethics is practical. That is, it helps one aim the arrow of human action with more precision, making it more likely that one will hit the target and live well. In this regard, we look at issues connected to human relations and an ethical life. This includes an examination of the idea of the good life, of human nature, of race and ethnicity, of standards of value and their justifications, and of particular moral problems and decisions. Ethical theories are critically evaluated and used as a means to reflect upon the issues that underlie human action.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 904

### **PHIL 153 Intro to History of Philosophy I: Classical Thought 3-0-3**

An introductory survey of major philosophers and philosophical systems of thought. The content of the course will emphasize readings, lectures, films, videotapes, and discussions. Requires term paper(s) on specific thinkers, systems of thought, and issues. Offered periodically.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 901

### **PHIL 154 Intro to History of Philosophy II: Contemporary Thought 3-0-3**

An examination of major thinkers and problems of contemporary thought. Emphasizes the readings, lectures, films, videotapes and discussions. Requires term paper(s) on individual thinkers and problems. Related, but not sequential to PHIL 153. Offered periodically.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 902

### **PHIL 155 Non-Western Philosophy 3-0-3**

This course offers students an opportunity to explore modes of thought which developed in Non-Western (pre-industrial Non-European) cultures. Included in this survey may be the philosophies of Hinduism, Buddhism, Confucianism, Taoism, as well as the philosophies of Native Americans, Africans, Australo-Aborigines, etc.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 903N

## Course Description Guide (continued)

### **PHIL 156 Biomedical Ethics 3-0-3**

The intent of the course is to introduce students to core issues of biomedical ethics. Ethics, in general, investigates answers to the questions of what we should value, and on what theories we might base decisions regarding how we are to live and act. Biomedical ethics looks to answer these questions within the context of medical care and its distribution. It raises questions of the rights and duties of health care providers and patients, and of the moral dilemmas that arise in context of the American medical system.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **PHIL 160 Introduction to Philosophy of Religion 3-0-3**

The course focuses the development of the analytical and critical skills of students, and provides opportunities of reflection about matters of theological significance. This is accomplished through the study of theological issues, concepts, arguments, and theories. Topics that may be examined include the following: the existence of God, the nature of the divine, the problem of evil, religious diversity, the question of life after death, and the meaning of religious experience.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-H4 905

### **PHIL 171 Aesthetics 3-0-3**

Aesthetics is a term that has evolved over time. Originally associated with the general notion of perception and sensory experience, it has over time become more strictly associated with the perception and sensory experience of what may be considered beautiful. In this regard, aesthetics has developed into a field that considers the nature of beauty, formulating theories of art and beauty, providing tools for analyzing fundamental concepts of art and the artistic endeavor, and proving a sense of the value and meaning of art and beauty.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **PHIL 299 Special Topics in Philosophy Variable up to (4)-0-(4)**

Special topics and issues in philosophy presented through lectures, discussions, readings, and/or individual research. Topics vary each semester. Course may be taken more than once if different topics are covered.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Physical Therapist Assistant

### **PTA 100 Introduction to Physical Therapy 1-0-1**

This course introduces students to the profession of physical therapy, the role of the physical therapist (PT), physical therapist assistant (PTA), and the PT technician/aide. Emphasis is placed on a strong interprofessional team approach to providing optimal care for patients in a variety of practice settings. The Guide to PT Practice terminology is introduced, along with the Vision, Principles, Purpose, and Values of the American Physical Therapy Association (APTA). Discussion of the APTA includes the benefits, rights, and privileges of voluntary membership in this professional organization representing PT/PTAs. Review of APTA Core Documents provides students with insight into professional and ethical conduct; and APTA's policies, standards, positions, and guidelines serve as the basis of discussions regarding optimal healthcare standards. A comparison of federal and state statutes are discussed, along with legal issues, health care reimbursement, quality assurance and infection control. Further discussion encompasses the purpose and importance of research in providing quality, contemporary interventions. Students learn how to assess the credibility of resources and how to read professional literature identifying validity, reliability and the level of statistical significance. Integration of evidence based practice with clinical expertise is encouraged and the development of life-long learning skills is emphasized.

Requisite: Program admission, concurrent enrollment in or completion of ENG 101, BIOL 105 each a with a grade of "C" or better.

Type: C

### **PTA 101 Physical Therapy Science & Skills 4-0-4**

This course introduces students to the science and skills of physical therapy. Anatomical muscle and joint structure and function first introduced in Biology are expanded upon to provide the foundation for physical therapy related treatment. Students are introduced to physical therapy equipment and supplies necessary for providing assessments and interventions that are safe, effective and efficient for both the patient and the clinician. Assessment of range of motion, strength and vitals, along with an introduction to functional outcome measures prepares students for properly reporting patient status and acting as an integral member of the interprofessional health care team. Electronic Health Records and proper documentation are introduced, along with medical terminology commonly utilized in contemporary physical therapy practice. A strong PT/PTA relationship is encouraged while students are taught to provide interventions such as range of motion/strengthening and mobility training (primarily for patients with an orthopedic injury/condition) within the PT Plan of Care. This course also includes management of medical emergencies, psychosocial issues affecting patients after injury or disease, and communication skills necessary for interaction with patients, family, caregivers and other members of the interprofessional healthcare team.

Requisite: Program admission, concurrent enrollment in or completion of ENG 101, BIOL 105 each a with a grade of "C" or better.

Type: C

### **PTA 102 Patient Care Skills & Assessment 3-0-3**

This course allows students to apply the foundational science and skills of contemporary physical therapy practice discussed in PTA 101 Physical Therapy Science and Skills. Case scenarios are utilized to facilitate the use of physical therapy equipment and supplies, and develop the skills necessary for providing assessments and interventions that are safe, effective and efficient as they pertain to the Plan of Care established by the PT while considering the patient perspective and environment. Additionally, case scenarios give students the opportunity to develop professional behaviors complimentary to the profession and recognize changes in skin condition and safety factors while using assistive devices and equipment. Oral and written communication skills are enhanced through patient education, documentation and communication with members of the interprofessional health care team. Students must demonstrate competency in performing the following assessment skills: goniometric and strength assessment of appendicular anatomy and vital signs; and interventions including: range of motion/strengthening, transfer and gait training (primarily for patients with an orthopedic injury/condition). Proper positioning and draping of patients are emphasized. This course also includes attainment of American Heart Association certification in CPR and AED for all ages.

Requisite: Program admission, concurrent enrollment in or completion of ENG 101, BIOL 105 each a with a grade of "C" or better.

Type: C

### **PTA 150 Theory of Physical Agents I 3-0-3**

This course introduces students to manual therapy and biophysical agents utilized to modulate or decrease pain, reduce or eliminate edema, improve circulation, enhance connective tissue extensibility, remodel scar tissue, decrease restrictions associated with musculoskeletal injury, increase joint mobility, decrease nerve root compression and improve patients' exercise performance. Students learn to utilize manual therapy techniques such as massage, fascial release and soft tissue mobilization, and physical agents including superficial and deep heat, light, cryotherapy, hydrotherapy, traction, and compression; as an adjunct to therapeutic exercise, to achieve optimal outcomes. Appropriate tools and functional measures are discussed to assist students in reporting patient status. Classroom discussions involve theoretical and scientific background, physiological responses, indications, contraindications and precautions, clinical applications, parameter selection, documentation, discussion of current research and contemporary practice, clinical decision making, integration and sequencing within the PT Plan of Care, and reimbursement. The role of the physical therapist assistant in implementing the interventions is discussed with adherence to legal practice standards and emphasis on consistency with APTA guidelines.

Requisite: ENG 101, BIOL 105, PTA 100, PTA 101, PTA 102 each with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **PTA 151 Application of Physical Agents I 2-0-2**

This course allows students to experience the manual therapies and biophysical agents discussed in PTA 150 Theory of Physical Agents I, as well as develop entry level skill in their application. Students are taught to skillfully assess the patient, collecting data utilizing appropriate tools and measures and how to apply manual therapies and physical agents for addressing specific anatomical locations/conditions/diagnoses in response to visual and palpatory assessment. Students must demonstrate competency in performing manual therapies including massage, fascial release and soft tissue mobilization and physical agents such as moist heat, paraffin, ultrasound, cryotherapy, hydrotherapy, traction, and compression, as it pertains to the Plan of Care established by the PT. Students must also demonstrate competency in performing girth measurements and utilizing aseptic technique. All skills must be performed in a safe, effective and efficient manner with a variety of equipment and supplies while considering the patient perspective and environment, and recognizing changes in skin condition and other safety factors. Proper positioning and draping of patients are emphasized and case scenarios are utilized for simulated practice of assessments and interventions. Oral and written communication skills are enhanced through patient education, documentation and communication with members of the interprofessional health care team. Professional behaviors, indications, contraindications, precautions, problem solving, fiscal and time management and adherence to legal standards and APTA guidelines are emphasized in the delivery of quality patient care. Requisite: ENG 101, BIOL 105, PTA 100, PTA 101, PTA 102 each with a grade of "C" or better. Type: C

### **PTA 160 Kinesiology & Clinical Orthopedics 5-0-5**

This course introduces students to kinesiology, the scientific study of human movement and how it pertains to contemporary physical therapy assessments and interventions of patients with orthopedic related diagnoses/conditions. Kinesiology addresses physiological, biomechanical and psychological mechanisms of movement. This course enhances students' previous knowledge of muscle and joint structure and function, goniometry, manual muscle testing, range of motion/strengthening and mobility training attained in PTA 101 Science and Skills. As each joint of the appendicular skeleton is studied individually, the students' knowledge is expanded to include innervations, joint integrity, flexibility and special tests, functional outcome tools, patient impairments, and surgical and non-surgical interventions including stretching, strengthening and use of orthoses. Combined joints of the appendicular skeleton are studied when introducing the gait cycle, abnormal gait patterns, and gait analysis. Study of the appendicular and axial skeletal muscle and joint structure also prepares students for respiratory function, posture assessment, ergonomics and body mechanics. Requisite: ENG 101, BIOL 105, PTA 100, PTA 101, PTA 102 each with a grade of "C" or better. Type: C

### **PTA 161 Orthopedic Interventions 3-0-3**

This course provides students the opportunity to perform the posture assessment, ergonomics, body mechanics, and stretching and strengthening exercises discussed in PTA 160 Kinesiology & Clinical Orthopedics, while refining skills acquired in PTA 102 Patient Care Skills & Assessment. Students must demonstrate competency, as well as develop entry level skill in their performance of flexibility testing, goniometry, manual muscle testing, stretching and strengthening of each joint of the appendicular skeleton as it pertains to the Plan of Care established by the PT. All skills must be performed in a safe, effective and efficient manner with a variety of equipment and supplies while considering the patient perspective and environment. Students learn to recognize changes in skin condition and safety factors while using assistive devices and equipment. Proper positioning and draping of patients are emphasized and case scenarios are utilized for simulated practice of assessments and interventions. Oral and written communication skills are enhanced through patient education, documentation and communication with members of the interprofessional health care team. Professional behaviors, problem solving, fiscal and time management, and adherence to legal standards and APTA guidelines are emphasized in the delivery of quality patient care. Requisite: ENG 101, BIOL 105, PTA 100, PTA 101, PTA 102 each with a grade of "C" or better. Type: C

### **PTA 165 Pathology I 1-0-1**

This course begins with an analysis of the factors which affect health followed by review of pathological conditions and interventions to various body systems. It is the first of a two part course sequence in pathology which includes: etiology, incidence, risk factors, manifestations, general medical diagnosis, treatment options, and special implications for the PTA. Topics covered in this course are intended to prepare the PTA student for his/her first clinical experience and includes pathologies related to the metabolic, gastrointestinal, endocrine, genitourinary, and obstetric systems, as well as management/prevention of infectious diseases, autoimmune disorders and PT interventions utilized in the acute care setting. Appropriate tools and functional measures will be discussed to assist students in reporting patient status. NOTE: This course requires access to a reliable internet connection to complete online assignments. Students must be competent computer and internet users. Exams will be taken at a SWIC Testing Center. Requisite: ENG 101, BIOL 105, PTA 100, PTA 101, PTA 102 each with a grade of "C" or better. Type: C

### **PTA 170 Clinical Experience I 0.5-10-3**

This course allows students to enter the clinical environment under the supervision of a physical therapist or physical therapist assistant clinical instructor. Opportunities are available for students to apply skills previously simulated during didactic instruction, as well as observe and assist with other physical therapy interventions as deemed appropriate by the clinical instructor. Students will continue to develop skills in monitoring and modifying patient interventions within the PT Plan of Care while considering the patient perspective and environment, and focusing on time efficiency and communication with members of the interprofessional health care team. A comprehensive, computerized exam of all knowledge acquired in the first year of the program must be passed prior to entering the clinic. Students meet in the classroom prior to clinical experience to perform a self-assessment of abilities, develop goals/objectives for Clinical Experience I, and discuss appropriate clinical behaviors, evidence based practice, legal and ethical dilemmas, fiscal management, conflict resolution, and quality assurance. Students return to the classroom at the conclusion of Clinical Experience I to reflect on and share their experiences while comparing and contrasting the assessments, interventions and documentation practices encountered in the various health care settings. A service activity and reflection paper are also completed in order to promote future volunteerism and patient advocacy. Requisite: HRO 100, PSYC 151, SPCH 151, PTA 150, PTA 151, PTA 160, PTA 161, PTA 165 each with a grade of "C" or better. Type: C

### **PTA 200 Theory of Physical Agents II 3-0-3**

This course is a continuation of instruction involving biophysical agents previously taught in PTA 150 Theory of Physical Agents I. Electrotherapeutic modalities are introduced to modulate or decrease pain, reduce or eliminate edema, improve circulation, increase the rate of healing of open wounds and soft tissue, enhance connective tissue extensibility, decrease restrictions associated with musculoskeletal injury, increase joint mobility, decrease unwanted muscular activity, enhance neuromuscular performance, assist muscle force generation and contraction, and provide orthotic substitution during functional activities. Stages of wound healing, assessment of patients with open wounds, and clinical management are addressed. This course prepares students to utilize electrotherapeutic modalities concurrently with previously learned biophysical agents, when appropriate and indicated for pain, edema, tissue repair, medication delivery, impaired joint mobility, muscle disuse atrophy and orthotic substitution. Use of physical agents and electrotherapeutic modalities are discussed as an adjunct to physical therapy intervention. Appropriate tools and functional measures are discussed to assist students in reporting patient status. Classroom discussions involve theoretical and scientific background, physiological responses, indications, contraindications, precautions, clinical applications, parameter selection, documentation, discussion of current research and contemporary practice, clinical decision making, integration and sequencing within the PT Plan of Care, and reimbursement. The role of the physical therapist assistant in implementing the interventions is discussed with adherence to legal practice standards and emphasis on consistency with APTA guidelines. Requisite: PSYC 210, SOC 153, PTA 170 each with a grade of "C" or better. Type: C

## Course Description Guide (continued)

### **PTA 201 Application of Physical Agents II** 2-0-2

This course is a continuation of instruction involving biophysical agents previously performed in PTA 151 Application of Physical Agents I. Students experience the electrotherapeutic modalities discussed in PTA 200 Theory of Physical Agents II, as well as develop entry level skill in their application. Students are taught to skillfully assess the patient, collecting data utilizing appropriate tools and measures and how to apply electrotherapeutic modalities for addressing specific anatomical locations/conditions/diagnoses in response to visual and palpatory assessment. Students must demonstrate competency in performing electrical stimulation for pain, edema, tissue damage, medication delivery, impaired joint mobility, muscle disuse atrophy and orthotic substitution; as it pertains to the Plan of Care established by the PT. All skills must be performed in a safe, effective and efficient manner with a variety of equipment and supplies while considering the patient perspective and environment, and recognizing changes in skin condition and other safety factors. Proper positioning and draping of patients are emphasized and case scenarios are utilized for simulated practice of assessments and interventions. Oral and written communication skills are enhanced through patient education, documentation and communication with members of the interprofessional health care team. Professional behaviors, indications, contraindications, precautions, problem solving, fiscal and time management, and adherence to legal standards and APTA guidelines are emphasized in the delivery of quality patient care.

Requisite: PSYC 210, SOC 153, PTA 170 each with a grade of "C" or better.  
Type: C

### **PTA 210 Therapeutic Exercise & Rehabilitation** 5-0-5

This course introduces students to physical therapy rehabilitative techniques that assist patients in returning to a state of optimal function. The course builds upon student's previous knowledge of data collection, special tests, patient impairments and interventions (surgical and non-surgical) acquired in PTA 160 Kinesiology & Clinical Orthopedics, and applies it to patients with spinal disorders. Students are taught various treatment techniques including Sahrman and McKenzie. The course emphasis is then directed towards patients requiring more extensive rehabilitation, such as patients with neurological dysfunction, spinal cord injury, and amputation. Neuro-anatomy, neurodevelopment, motor learning, motor performance, motor control and related clinical applications are presented. Neuro-rehabilitation techniques/theorists emphasized during this course include PNF, NDT, Brunnstrom and Rood. Facilitation and inhibition of abnormal tone are discussed to promote functional training/pre-gait/balance activities utilizing the appropriate stage of motor control. Students are taught to recognize cognitive, visual, sensory and perceptual issues when interacting with patients. Appropriate tools and functional measures are discussed to assist students in reporting patient status. The unique needs of special populations, such as pediatrics, and specialized clinical environments, such as work hardening and aquatics, are also discussed. Architectural barriers and accessibility regulations are analyzed and environmental modifications for home, community and work will be determined, as well as patients' need for adaptive equipment and assistive technologies.

Requisite: PSYC 210, SOC 153, PTA 170 each with a grade of "C" or better.  
Type: C

### **PTA 211 Rehabilitation Techniques** 3-0-3

This course allows students to apply the rehabilitative techniques discussed in PTA 210 Therapeutic Exercise and Rehabilitation. This course enhances student's previous knowledge of data collection, exercise interventions, and patient education including postural assessment, ergonomics and body mechanics acquired in PTA 161 Orthopedic Interventions, and applies them to the patient with spinal disorders of the cervical, thoracic and lumbar region. Sahrman and McKenzie treatment techniques are utilized. Neuro-rehabilitation techniques/theorists emphasized during this course include PNF, NDT, Brunnstrom and Rood. Facilitation and inhibition of abnormal tone are discussed to promote functional training/pre-gait/balance activities utilizing the appropriate stage of motor control. Transfer and gait training taught in previous semesters is enhanced highlighting proper handling techniques for patients with neurological involvement. Students must demonstrate competency in determining appropriate rehabilitative techniques to utilize, as well as performing the techniques and making necessary modifications within the Plan of Care established by the PT. All skills must be performed in a safe, effective and efficient manner with a variety of equipment and supplies while considering the patient perspective and environment. Students learn to recognize changes in skin condition and safety factors while using assistive devices and equipment. Proper positioning and draping of patients are emphasized and case scenarios are utilized for simulated practice of assessments and interventions. Oral and written communication skills are enhanced through patient education, proper documentation and communication with members of the interprofessional health care team. Professional behaviors, problem solving, fiscal and time management, and adherence to legal standards and APTA guidelines are emphasized in the delivery of quality patient care.

Requisite: PSYC 210, SOC 153, PTA 170 each with a grade of "C" or better.  
Type: C

### **PTA 220 Pathology II** 3-0-3

This course is designed to provide the student with an overview of pathologic concepts and processes with a clinical emphasis. Components of each disease covered include: etiology, incidence, risk factors, manifestations, general medical diagnosis, treatment options, and special implications for the PTA. Appropriate tools and functional measures will again be discussed to assist students in reporting patient status. Conditions covered in this course include disorders of the cardiovascular, lymphatic, pulmonary, nervous, and integumentary systems. Oncology and psychological disorders are also included, as well as co-morbidities. A general overview of laboratory tests and values are included to assist students in recognizing precautions for therapeutic intervention. Concepts on health and aging pertaining to the various systems are included to achieve a clinical awareness of life span changes.

Requisite: PSYC 210, SOC 153, PTA 170 each with a grade of "C" or better.  
Type: C

### **PTA 270 Clinical Experience II** Variable up to 0-(40)-(10)

This course allows students to enter two separate clinical environments under the supervision of a physical therapist or physical therapist assistant clinical instructor. Opportunities are available for students to practice skills required of the physical therapist assistant and further refine their time efficiency with all aspects of clinical management, as well as their ability to monitor and progress patient treatment within the PT Plan of Care. Oral and written communication skills are enhanced through patient education, documentation and communication with members of the interprofessional health care team. Professional behaviors, problem solving, fiscal management, and adherence to ethical, legal standards and APTA guidelines are emphasized in the delivery of quality patient care while considering the patient perspective and environment. Entry-level performance of all skills, according to the APTA's Clinical Performance Instrument must be met by the conclusion of this course.

Requisite: PTA 200, PTA 201, PTA 210, PTA 211, PTA 220 each with a grade of "C" or better.  
Type: C

## Course Description Guide (continued)

### **PTA 280 Clinical Seminar II** **2-0-2**

This course prepares students for the National Physical Therapy Examination for the PTA and entry into the workforce. Prior to entering the clinic, students are required to pass a comprehensive, computerized exam of all knowledge acquired throughout the program, perform self-assessment of abilities and develop goals/objectives for Clinical Experience II. Classroom discussions include appropriate clinical behaviors, ethical and legal issues, cultural competence, sexual harassment, patient outcomes/discharge planning, fiscal management, and the changing health care environment. Students develop a clinical question, conduct a literature review and give an oral presentation on the evidence gathered and results of their research. Students prepare a graduate resume/cover letter and discuss contemporary interviewing and job searching skills. Students also discuss and share their clinical experiences, discuss final preparation for the national licensure exam and review life-long learning opportunities.

Requisite: PTA 200, PTA 201, PTA 210, PTA 211, PTA 220 each with a grade of "C" or better.

Type: C

### **PTA 285 NPTE Prep** **1-0-1**

This course will provide students with the opportunity for an academic review of the information required and study strategies needed to prepare for the National Physical Therapy Examination for the PTA. This class will culminate with the students completing a timed, computerized full length examination that will identify both areas of strength and weakness, as well as offer suggestion for remedial activities. Note: Permission from the PTA coordinator is required to enroll. Must be a graduate of an accredited PTA program.

Requisite: Department consent.

Type: C

### **PTA 299 Special Topics in Physical Therapy Variable up to (4)-(8)-(4)**

Varied topics in the PT profession will be addressed in order to broaden the physical therapist assistant's knowledge base; i.e. advances in geriatric care, changing role of the PTA, enhancing job performance, PT specialty areas, etc.

NOTE: Requisite varies by topic.

Requisite: None.

Type: C

## Physics

### **PHYS 101 General Physical Science** **3-2-4**

A one-semester course offering an understanding of our physical environment. Topics from astronomy, physics, chemistry and earth science are introduced and examined from their practical viewpoints. The scientific method is stressed in understanding natural phenomena. Credit cannot be earned in this course after having successfully completed any chemistry, physics or earth science class.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P9 900L

### **PHYS 104 Physical Science for Elementary Teachers** **3-4-5**

This course provides a general background in physical science and covers topics in chemistry, physics, and Earth sciences. The integrated approach to lecture and laboratory used in this course emphasizes process skills, hands-on activities, and projects suitable for children in grades K-8. This course also includes a design project involving topics from chemistry and physics. Students may not receive credit for both PHYS 101 and PHYS 104.

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P9 900L

### **PHYS 151 College Physics I** **3-4-5**

The principles of mechanics, heat and sound. For pre-dental and pre-medical students, nurses, majors in pharmacy and architecture, and other students whose programs require a beginning course in physics.

Requisite: Math placement above MATH 112 or completion of MATH 112 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-P1 900L

### **PHYS 152 College Physics II** **3-4-5**

Magnetism, electricity, light, and modern physics with some reference to the practical aspects of the principles studied.

Requisite: PHYS 151 with a grade of "C" or better.

Type: T

### **PHYS 204 Physics-Mechanics** **3-2-4**

For students in engineering, physics, chemistry, and mathematics. This calculus-based course covers kinematics, Newton's laws, conservation laws (energy, momentum, and angular momentum), and gravity. Particles, systems of particles, rigid bodies, and fluids are discussed.

Requisite: MATH 203 with a grade of "C" or better; Reading placement above ENG 92 or completion of ENG 92.

Type: T, IAI-PHY 911, IAI-P2 900L

### **PHYS 205 Physics-Heat, Elec, & Magnetism** **3-2-4**

For students in engineering, physics, chemistry, and mathematics. This calculus-based course covers electric and magnetic fields, electric potential, Gauss' law, Ampere's law, Maxwell's equations, electromagnetic waves, AC and DC circuits, temperature, heat, entropy, ideal gases, and heat engines.

Requisite: PHYS 204, MATH 204 each with a grade of "C" or better.

Type: T, IAI-PHY 912

### **PHYS 206 Physics-Light, & Modern Physics** **3-2-4**

For students in engineering, physics, chemistry, and mathematics. This calculus-based course covers geometric and physical optics, wave/particle duality, special relativity, quantum mechanics, and atomic and nuclear physics.

Requisite: PHYS 204, MATH 204 each with a grade of "C" or better.

Type: T, IAI-PHY 914

### **PHYS 299 Special Topics in PHYS Science Variable up to (6)-(12)-(6)**

Special topics or current issues in physical science will be examined through the use of lectures, case studies, simulations, special projects or other problem-solving procedures.

Requisite: None.

Type: T

## Plumbing

### **PLBR 101 Drainage Principles & Methods** **3-5-1-4**

This course is designed to cover the principles of treatment and methods of disposal of sewage, municipal and private; the principles of design, application and correct methods of installation of storm water and sanitary drainage.

The course material will also cover topics such as the principles and design of vent piping systems, the use of vacuum condensate collection systems, and recycling technologies.

Requisite: None.

Type: C

### **PLBR 102 Water Supply Systems** **3-5-1-4**

This course is designed to furnish the plumber/pipefitter apprentice knowledge regarding water supply systems, which will include information on water treatments, flow calculations, designs, layouts and system components.

Requisite: None.

Type: C

### **PLBR 103 Ind. Pipe Drawing & Plan Reading** **3-5-1-4**

This course is designed to furnish the plumber/pipefitter journeyman and apprentice knowledge needed regarding drawing interpretation and plan reading. The course will focus on essential information that applies both to making and interpreting drawings and sketches used in installing piping systems.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **PLBR 104 Ind. Piping Tools & Related Science 3.5-1-4**

This course is designed to furnish the plumber/pipefitter journeyman and apprentice knowledge required in the use and care of piping tools essential to the trade with emphasis on safety and safe work practices in the workplace. The course will also focus on basic science and mechanical principles used in the piping industry to provide the journeyman and apprentice with a solid understanding needed to appropriately react to any given situation while working in the piping industry.

Requisite: None.

Type: C

### **PLBR 105 Ind. Pipe Heritage Codes 3.5-1-4**

This course is designed to furnish the plumber/pipefitter apprentice information on the history and career opportunities of the industrial pipe trades. The course will also cover in-depth code interpretation and application associated with the field of industrial piping/plumbers industry.

Requisite: None.

Type: C

### **PLBR 106 Gas Installations 3.5-1-4**

This course is designed to furnish the plumber/pipefitter apprentice with the fundamentals on the safe use of various types of tools and equipment that are used in the installation, testing, repair, maintenance and servicing of gas piping systems and related equipment on which to build knowledge and gain insight into the gasfitting industry.

Requisite: None.

Type: C

### **PLBR 207 Plumbers Basic Electricity 3.5-1-4**

This course is designed to furnish the plumber/pipefitter apprentice with the fundamentals of various types of tools, equipment and safety that are used in the installation, testing, repair, maintenance and servicing of electrical systems used in the plumbing/pipefitters industry.

Requisite: None.

Type: C

### **PLBR 208 Soldering/Brazing for Plumbers 3.5-1-4**

This course is designed to furnish the plumber/pipefitter journeyman and apprentice with knowledge and skills needed regarding soldering and brazing. The course will emphasize OSHA Standards, ANSI Safety in Welding and Cutting along with proper equipment and materials to be used in performing different tasks.

Requisite: None.

Type: C

### **PLBR 209 Plumbers Adv Drawing Interpretation 3.5-1-4**

This course is designed to furnish the plumber/pipefitter journeyman and apprentice with extended knowledge regarding drawing interpretation and plan reading. The course will focus on advanced information in building specifications that applies both to making and interpreting drawings and sketches used to set out the types of materials to be used, methods of installation, and code practices to be observed.

Requisite: None.

Type: C

### **PLBR 210 Plumbers Code Interpretation 3.5-1-4**

This course is designed to furnish the plumber/pipefitter apprentice with knowledge and skills regarding specific construction codes, code interpretation, and applications used in the plumbing/pipefitters industry.

Requisite: None.

Type: C

### **PLBR 211 Plumbers Guide to Service Work 3.5-1-4**

This course is designed to furnish the plumber/pipefitter journeyman and apprentice with knowledge and skills relating to human relations, salesmanship, planning service work, and troubleshooting plumbing systems which represents a high percentage of the total amount of work performed by pipe trades personnel.

Requisite: None.

Type: C

### **PLBR 212 Plumbers Leadership Development 3.5-1-4**

This course is designed to furnish the current plumber/pipefitter foremen and journeymen who want to become foremen with knowledge and skills relating to leadership needed to be more effective on the job. Topics that will be covered are: leadership functions, commitment, people skills, communication, teamwork and organization.

Requisite: None.

Type: C

### **PLBR 214 IDPH Plbr Mock Testing 3.5-1-4**

This course is designed to prepare the apprentice and/or journeyman for the Illinois Department of Public Health certification testing in welding and codes for pipefitters/plumbers.

Requisite: None.

Type: C

### **PLBR 215 Pumps & Steam Systems 3.5-1-4**

This course is designed to furnish the pipefitters/plumbers journeymen and apprentices with the knowledge and essential skills that are used with various pumps and steam systems applicable in the piping industry.

Requisite: None.

Type: C

### **PLBR 299 Special Topics in Piping/ Plumbing Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the pipefitting/plumbers' field, to provide them with knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Political Science

### **POLS 150 Intro to American Government 3-0-3**

A survey course of the American federal system of government. Included is a historical review of the founding of the United States and its political beginning. Emphasis is on the structure and function of the executive, legislative and judicial branches of the federal government with an overview of state and local government.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S5 900

### **POLS 240 Comparative Politics 3-0-3**

This course introduces the basic concepts of political analysis and applies them to a variety of countries. Countries are studied individually as well as comparatively on such issues as institutional structures, electoral systems, ideology and political values. Issues facing different political systems and how they deal with those challenges will also be explored.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S5 905

### **POLS 262 American Government (State & Local) 3-0-3**

Covers the historical development and organization of state governments; the state constitution; and structure, powers and procedures of legislative, executive and judicial departments in the state government. A detailed study of the Illinois State Constitution, state government and local government is presented.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S5 902

## Course Description Guide (continued)

### **POLS 270 International Relations 3-0-3**

A study of contemporary international relations emphasizing how and why nations formulate and implement the policies they do in relation to others, the international and domestic forces that influence foreign policy decisions, and current problems for the international system such as coping with nuclear weapons, terrorism, and trade.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S5 904

### **POLS 280 Political Theory 3-0-3**

Study of selected political philosophers from the ancient world through the modern. Major ideologies will also be examined

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-PLS 913

### **POLS 289 Political Impact of American Films 3-0-3**

One of the many ways we learn about politics is through the movies. They show us stories of war and revolution, of integrity and corruption, of heroes and villains. They teach us ethics. They help us understand policy issues from international relations to criminal justice, racism, and class conflict. They have shaped public opinion and mobilized citizens from Birth of a Nation in 1915 to The Grapes of Wrath in 1940 and Fahrenheit 911 in 2004. This course will study the influence that American films have on public opinion and political behavior, American values and culture, American's self-image, American policy — both domestic and foreign, and the perception other countries have of America and Americans.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **POLS 290 Impact of Western Films on the USA 3-0-3**

A study of the influence that Western films have on American public opinion, American values and culture, American's self-image, American policy-both domestic and foreign, and the perception other countries have of America and Americans.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **POLS 292 Political Impact of War Films 3-0-3**

One of the many ways we learn about politics is through the movies. This course will study the influence that war films have on public opinion and political behavior, American values and culture, Americans' self-image, American policy - both domestic and foreign, and the perception other countries have of America and Americans.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **POLS 299 Special Topics in Political Science Variable up to (3)-0-(3)**

Designed to present problems and topics in political science by discussions, readings and individual research. Topics vary each semester. Course may be taken more than once if different topics are considered. Sophomore standing, one course in Political Science and division approval.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

## Precision Machining Technology

### **PMT 100 Precision Machining Intro 0.5-0-0.5**

This course prepares students to begin a successful college career in the Precision Machining Technology program. Students will learn and understand all safety aspects for all the precision machining machinery. The course also teaches the students all the information and technology that is needed for the entire PMT program which includes work ethic expectations, clothing requirements, machinist tools, measurements, and computer uses. An understanding of the PMT program requirements and expectations will be presented in this course.

Requisite: None.

Type: C

### **PMT 101 Intro to the Machine Trades 3.5-1-4**

Introduces hand tools, measuring tools, and layout procedures, then transitions into basic machine principals including safety, operation, and part set-ups for primary and secondary machining

Requisite: Concurrent enrollment in or completion of PMT 100.

Type: C

### **PMT 102 Intermediate Machining 3.5-1-4**

The course continues with instruction in four machine operations (drilling, turning, milling, grinding). Thread cutting, advanced milling operations and the introduction of the surface grinder will be covered.

Requisite: Concurrent enrollment in or completion of PMT 101.

Type: C

### **PMT 110 Introduction to CNC Operations 2-1-2.5**

This course starts with students learning all the safety aspects when operating a CNC machine. Students review measuring instruments used in the machining industry. The course then establishes an understanding of figuring cutting tool speeds and feed-rates used on CNC machines. Students receive instruction on positioning and jogging CNC machine tools. The course introduces students to set-up and operations of computerized numerical control machine tools, which includes the three-axis HAAS vertical machining center and two-axis HAAS lathe. Provides experience in setting work offsets, tool lengths and operating the HAAS CNC control. And full understanding of set-up and running a short production run on CNC equipment.

Requisite: Concurrent enrollment in or completion of PMT 100.

Type: C

### **PMT 111 CNC Milling 3.5-1-4**

Students will learn to program, edit, and produce a finished part using a three-axis computerized numerical control vertical machining center. The course will start with basic programming methods and advance to more complex programming codes. Students will be responsible for setting-up and producing finish parts within the tolerances that are specified. The course will also prepare students to complete NIMS level 1 CNC milling certification.

Requisite: Concurrent enrollment in or completion of PMT 100, PMT 110.

Type: C

### **PMT 112 CNC Turning 2-1-3**

Students will be provided with a blueprint and will be responsible for programming, editing, and choosing cutting tools to create a finished part on a computer numerical control turning center. Students will program, set-up and produce finished parts. The course includes HAAS conversational programming for producing fast finished parts along with all documentations needed for the parts produced. The course will also prepare students to complete NIMS level 1 CNC turning certification.

Requisite: Concurrent enrollment in or completion of PMT 100, PMT 110.

Type: C

### **PMT 114 Metallurgy I (Industrial) 2-0-2**

This course is designed to give the student information concerning the various properties of metals. Materials will include critical temperatures, heat treatment, and alloying elements.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **PMT 124 Metallurgy II (Industrial) 3.5-1-4**

Metallurgy II is the second semester of a two-semester course designed to equip those persons entering the field of mechanics with a firsthand knowledge of the metals which are related to the mechanical crafts.

Requisite: IDM 114.

Type: C

### **PMT 201 Advanced Machining 3.5-1-4**

The course begins with reviewing fundamental layout tools, measuring instruments, machine set-ups, and machining processes. It then transitions into advanced machining processes of complex parts which require the use of all machining equipment. Students will also learn the theory of heat treating, along with the grinding process required to manufacture a precision machine part.

Requisite: Concurrent enrollment in or completion of PMT 102.

Type: C

### **PMT 202 Cutting Tools/Fixturing/Insp 2-0-2**

This course begins with the introduction of carbide cutting tools, identifying, using and troubleshooting carbide cutting tools. This course also includes the use and design of jigs and fixtures used in the machine trades. Students will also learn the inspection process used in the inspection of machined parts.

Requisite: None.

Type: C

### **PMT 221 Intro to Master Cam 3.5-1-4**

Using Mastercam the students will learn to draw prints with the aid of a computer. The students will learn how to dimension, edit, and modify drawings. These basic drawing skills will develop into drawing 3-D wire frame and solid model parts.

Requisite: None.

Type: C

### **PMT 222 Advanced Master Cam 3.5-1-4**

Students will use Mastercam to design, draw, and produce a variety of parts using HAAS CNC equipment. This includes verifying and back plotting on the computer using Mastercam. The student will use Mastercam to develop the complex programs needed to produce a variety of parts on three-axis Haas mills and two-axis HAAS lathes.

Requisite: Concurrent enrollment in or completion of PMT 221.

Type: C

### **PMT 226 Geom Dim & Tolerancing (GD&T) 1-0-1**

The course introduces students to GD&T dimensioning, concepts of size control and material tolerances. After defining the terminology used, geometric characteristics and symbols, the course proceeds to demonstrate how the geometric system works and applies to a machined part. Limits of size, MMC, LMC, position verification, product plans and virtual condition, along with the datum reference frame are covered during the course.

Requisite: None.

Type: C

### **PMT 231 Intro to Solid Works 3.5-1-4**

Students will be introduced to Solid Works, setting up their systems, getting started using Solid Works, and customizing settings. The students will then transition to creating sketches for solid models, and finally create a finished drawing with dimensions.

Requisite: None.

Type: C

### **PMT 232 Advanced Solid Works 3.5-1-4**

Students will continue using Solid Works to complete complex solid models. The students then will use their skills to create assemblies, sheet metal parts and use the advance features of Solid Works. This course also will use Solid Works to create all the paper work associated with prints needed in industry.

Requisite: PMT 231.

Type: C

### **PMT 240 NIMS Certification 3.5-1-4**

This course prepares the student to take all Level One NIMS Certification tests. Starting with the basic layout procedures to creating a completed CNC machined part, this course offers the student nine certifications when completed. Students will need to create eight hands-on projects that will need to be inspected by industry and then take nine online tests to earn NIMS certification.

Requisite: Concurrent enrollment in or completion of PMT 201.

Type: C

### **PMT 250 Multi-Axis CNC Programming 3-2-4**

This course is designed to give students an understanding of basic programming including sub-programming and set-up of multi-axis CNC machine tools. Students will learn to set up and program multi-axis computer numerical control machines, which include multiple vises, set ups, CNC tombstones, four-axis vertical mill, and five-axis vertical mill. The course includes advance set ups on CNC turning centers with bar feeding capabilities, live tooling and Y-axis capabilities. After learning set ups on all multi-axis machines, students will then write a basic CNC program to be run on the multi-axis CNC machines.

Requisite: Concurrent enrollment in or completion of PMT 110, PMT 111, PMT 112.

Type: C

### **PMT 262 Advanced Mastercam/Multi-Axis 3-2-4**

Student will import solid models and design simple multi-axis parts into Mastercam CAD/CAM software to create programs for a variety of multi-axis CNC machine tools. The course includes creating tool paths, choosing correct cutting tools and posting a CNC program to be verified on a computer to creating a finished part on a CNC machine tool. Students will be responsible for setting-up and running CNC machines that include multi-vise set-ups, four-axis tombstone, and five-axis trunnion. Along with a CNC turning center with live tooling, Y-axis, and bar feeder. All parts produced will be programmed with Mastercam.

Requisite: Concurrent enrollment in or completion of PMT 221, PMT 222.

Type: C

### **PMT 299 Problems in Precision Machining Technology Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in the Precision Machining Technology field, and to provide them with the knowledge and ability to deal effectively with those topics or problems in relation to their specific requirements.

Requisite: None.

Type: C

## Psychiatric Rehabilitation Certification Program

### **PRCP 151 Survey of Psychiatric Rehabilitation 3-0-3**

This course is the first in the series for the Psychiatric Rehabilitation Certificate. Courses in the series focus on a rehabilitative approach to serving individuals with severe mental illness. This approach is based on the premise that consumers set the goals for the rehabilitation team. The survey course has four major themes: (1) understanding psychiatric disability and current approaches to treatment, (2) the mental health system and surrounding legal issues, (3) psychiatric rehabilitation through vocational and skills training, and (4) family and community support systems. The orientation of the course is more practical than theoretical, and there is considerable opportunity to observe and practice relevant skills. Consumers serve as guest speakers to highlight issues of empowerment and stigma, and to increase understanding of consumer experiences with the mental health system. This course is appropriate for students planning careers in mental health.

Requisite: None.

Type: C

## Course Description Guide (continued)

### **PRCP 152 Psychiatric Rehabilitation Skills 3-0-3**

This course is the second in the series for the Psychiatric Rehabilitation Certificate. The orientation of the course is more practical than theoretical, and there is considerable opportunity to observe and practice relevant skills. Students learn basic techniques for conducting interviews for use in assessment, treatment planning, and therapeutic interactions with consumers. Students learn to conduct skills training groups and apply behavioral techniques for implementing programs that promote desired skills. Techniques for intervening in crisis situations, and preventing and managing aggression are presented.

Requisite: PRCP 151.

Type: C

### **PRCP 153 Health Skills for Psychiatric Rehabilitation 3-0-3**

This course is the third in the series for the Psychiatric Rehabilitation Certificate. The Health Skills course examines three dimensions of wellness: physical, emotional, and environmental. This organization uses a multidimensional model of health based on wellness continua in each dimension. This view that wellness is more than the absence of illness guides students through discussions and skill development designed to improve the overall well-being of persons with severe mental illness.

Requisite: PRCP 151.

Type: C

### **PRCP 154 Vocational and Community Living Skills 3-0-3**

This course is the fourth in the series for the Psychiatric Rehabilitation Certificate. The Vocational and Community Living Skills examines Vocational Rehabilitation and Community Living skills. Both themes address skills for working with community, state, and federal agencies that serve persons with severe mental illness.

Requisite: PRCP 151.

Type: C

### **PRCP 155 Psychiatric Rehabilitation Practicum 1-10-4**

This practicum requires a minimum of 152 clock hours of field experience by the student. Experiences are a combination of observation and participation/interaction with consumers of mental health services. The 152 hours will encompass four 38-hour competency experiences. All experiences will focus on a rehabilitative approach to serving individuals with severe mental illness. Group or individual supervision with on-site clinical staff and/or supervision by field placement director is also required.

Requisite: PRCP 151, 152, 153, 154. Department consent.

Type: C

## Psychology

### **PSYC 151 General Psychology 3-0-3**

The study of human behavior with special emphasis on an understanding of research methods in psychology, the workings of the human brain, the social, emotional and cognitive changes of human beings from birth to death, the processes of learning and memory, the impact of our social surroundings on human behavior, the development of personality and an understanding of psychological disorders.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-S6 900

### **PSYC 200 Applied Psychology 3-0-3**

The study of the practical application of scientific, psychological principles of everyday living. Emphasis is on applying the principles of motivation, psychological measurement, mental health, consumerism, advertising, learning, management, crime and law enforcement, and stress management.

Requisite: PSYC 151.

Type: T

### **PSYC 210 Life-Span Development 3-0-3**

This is an introductory course that explores significant events in people's lives as they move from infancy and early childhood into adolescence, early and middle adulthood, and late adulthood. The course presents up-to-date research in the biological, cognitive, psychological, and socioemotional processes of human development. The study of life-span is intriguing because each of us, and everyone we care about, is constantly developing.

Requisite: PSYC 151.

Type: T, IAI-S6 902

### **PSYC 225 Human Sexuality 3-0-3**

This course examines sexuality from biological, social and psychological perspectives. Topics include the research methods for human sexuality, biological foundations of sexuality, the development of loving relationships, legal issues related to sexuality such as rape, domestic violence, incest, pornography and prostitution, health issues such as sexually transmitted infections, pregnancy, and contraception, and current societal debates related to sexual issues such as sexual orientation, gender identity, commercial sex, sex education and the implications of new reproductive technologies.

Requisite: PSYC 151.

Type: T

### **PSYC 250 Child Development 3-0-3**

Child development studies theoretical and practical uses of child growth from conception to age thirteen. Included are discussion of major theoretical approaches to understanding children; genetic and environmental influences; as well as physical, cognitive and social/emotional growth factors. Additional topics include parenting issues such as child-rearing techniques, school issues, and divorce.

Requisite: PSYC 151.

Type: T, IAI-S6 903

### **PSYC 251 Adolescent Development 3-0-3**

A study of contemporary adolescence focusing upon biological, cognitive, social and emotional developmental characteristics and today's influences upon them. Topics will vary widely from traditional theoretical description and explanations of adolescence to discussions of media, peers, problems in adolescence, etc.

Requisite: PSYC 151.

Type: T, IAI-S6 904

### **PSYC 252 Educational Psychology 3-0-3**

Educational psychology is a survey course introducing students to major areas related to teaching and learning. It explores motivation, intelligence, creativity, evaluation, measurement, growth and development learning perspective.

It focuses on the learning process and the impact of culture on learning styles. It may include observational experiences.

Requisite: PSYC 151.

Type: T

### **PSYC 253 Adult Development and Aging 3-0-3**

An introduction to the developmental and aging processes occurring during early, middle, and late adulthood. The biological, psychological, and sociological aspects of adult development and aging will be reviewed. Strong emphasis will be placed on how the developmental processes can be influenced by the individual to enhance successful aging.

Requisite: PSYC 151.

Type: T, IAI-S6 905

### **PSYC 254 Death and Dying 3-0-3**

This course is intended to provide an investigation of issues relevant to the study of death and dying, primarily from a psychological perspective. One primary assumption in death education is confronting, learning about, and discussing death in an open forum leads to greater acceptance. The course centers on key aspects of death and dying, including living with a terminal illness, the psychological process of dying, and grief and bereavement.

Requisite: PSYC 151.

Type: T

## Course Description Guide (continued)

### **PSYC 259 Abnormal Psychology 3-0-3**

This course offers students the opportunity to study abnormal behavior and its place in contemporary society. The emphasis will be on human behavior ranging from the normal to the abnormal ends of the continuum. The course will be taught within a DSM-5 classification framework.  
Requisite: PSYC 151.  
Type: T, IAI-PSY 905

### **PSYC 260 Psychology of Addictive Behaviors 3-0-3**

This course will examine the spectrum of the symptoms, causes and treatment of major forms of addictive behaviors. The major focus will be on psychoactive drugs, substance abuse and dependence; however, coverage will also extend to other addictive behaviors including gambling, sexual addiction, and internet addiction. Special attention will be paid to research findings pertaining to traditional and contemporary models of addiction. Additional topics covered will include related issues such as the effectiveness of prevention efforts, the search for the “addictive personality,” and the abstention/moderation debate.  
Requisite: PSYC 151.  
Type: T

### **PSYC 265 Psychology of Women 3-0-3**

This course examines sex and gender from biological, sociocultural, and psychological perspectives. Topics will include 1) research methods, 2) gender differences, biases, and stereotypes, 3) gender development, 4) mental and physical health issues for women, 5) women's role in the media and workplace, 6) the relationships, sexuality, and victimization of women.  
Requisite: PSYC 151.  
Type: T

### **PSYC 266 Cognitive Psychology 3-0-3**

Cognitive psychology exerts a strong influence on psychology. It is the study of the human mind in all its complexity and significance. It includes the study of the human mental processes and their role in thinking, feeling, and behaving. Perception, memory, acquisition of knowledge and expertise, comprehension and production of language, problem solving, creativity, decision making, and reasoning are a few categories that are studied in cognitive psychology. Cognitive neuroscience, which is the scientific study of the relationships between cognitive psychology and neuroscience, is also studied in this course.  
Requisite: PSYC 151.  
Type: T

### **PSYC 267 Psychology of African Americans 3-0-3**

This course is an overview of theory and research on the psychology of African-Americans. This course will cover: theoretical perspectives, self-concept, personality, racial identity, education, testing and intelligence, social psychology, skin color, clinical/counseling psychology, and health psychology.  
Requisite: PSYC 151.  
Type: T

### **PSYC 270 Health Psychology 3-0-3**

This course is a detailed overview of health psychology. The course will cover theoretical models of health behavior, health-compromising behaviors, patient provider relations, psychological issues in preventative health behaviors, and the psychological issues involved in the management of chronic and terminal illness.  
Requisite: PSYC 151.  
Type: T

### **PSYC 277 Cross-Cultural Psychology 3-0-3**

Cross-cultural psychology is the critical and comparative study of cultural effects on human psychology. Cross-cultural psychology examines psychological diversity and the underlying reasons for such diversity. In particular, cross-cultural psychology studies the link between cultural norms and behavior and the ways in which particular human activities influence different, sometimes dissimilar social and cultural forces. Cross-cultural psychology seeks to discover meaningful links between a culture and the psychology of individuals living in the culture. Students will gain a perspective on differences and similarities among various cultures through this experiential and writing intensive course.  
Requisite: PSYC 151.  
Type: T

### **PSYC 280 Introduction to Personality Theory 3-0-3**

An introduction to the field and methods of personality psychology. The major theoretical orientations within personality psychology will be reviewed. Current research in each orientation will be presented. The application of personality theories to pertinent issues in the modern world will be discussed.  
Requisite: PSYC 151.  
Type: T

### **PSYC 288 Biological Psychology 3-0-3**

Biological psychology is the study of the physiological, evolutionary, and developmental mechanisms of behavior and experience. Students enrolled in this course will learn about major issues as they relate to brain and behavior. Specifically, this course will cover the anatomy and functions of the brain as it relates to concepts such as genetics, drug use, intelligence, disorders of movement and brain damage and what makes one a morning person versus an evening person. This course is an excellent course for any student interested in learning about disorders such as narcolepsy, attention deficit disorder, substance abuse and addiction or psychological disorders as each relates to the brain.  
Requisite: PSYC 151.  
Type: T

### **PSYC 295 Social Psychology 3-0-3**

This course examines the ways in which people think about, influence, and relate to one another, or how the individual affects and is affected by his or her social world. Emphasis will be placed on current theory and research in social psychology, as well as the development of critical thinking skills that can be applied to both theory and research methodology.  
Requisite: PSYC 151.  
Type: T, IAI-PSY 908, IAI-S8 900

### **PSYC 299 Problems in Psychology Variable up to (3)-0-(3)**

A course designed to present problems and topics in psychology through readings, individual research and discussions. Problems and topics vary each semester. In-depth study of such topics as learning, motivation and personality theories. This course may be taken more than once if different topics are considered.  
Requisite: PSYC 151.  
Type: T

## Radiologic Technology

### **RT 100 Radiologic Technology I 2.5-0-2.5**

This course provides a general orientation to the radiologic technology profession in health care. Topics presented are the history of radiologic technology, department organization, medical ethics, professional conduct, patient care, radiographic terminology, contrast media administration, and professional organizations and accreditation. Emphasis is placed on anatomy, physiology and radiographic positioning of the chest, abdomen, upper and lower extremities and an introduction to cross sectional anatomy.  
Requisite: Program admission, concurrent enrollment in or completion of RT 101 with a grade of “C” or better.  
Type: C

### **RT 101 Radiographic Positioning I 3.5-0-3.5**

Designed to provide the student radiographer with the opportunity to apply the principles of radiographic equipment operations, film processing, radiation protection and radiographic film evaluation. Emphasis is placed on positioning performance of the radiographic examinations specified in RT 100, utilizing the energized lab and phantom patient.  
Requisite: Program admission, concurrent enrollment in or completion of RT 100 with a grade of “C” or better.  
Type: C

## Course Description Guide (continued)

- RT 102 RT Math Computations 1-0-1**  
This course is for students who will use mathematics for the calculations of physics formulas used by radiologic technology. This course covers a review of basic mathematical principles of addition, subtraction, multiplication and division of whole numbers, mixed numbers, fractions, decimals, ratio, proportion, basic principles of algebra and geometry, exponents, scientific notation, and metric conversions.  
Requisite: Program admission, concurrent enrollment in or completion of RT 100 and RT 101, each with a grade of "C" or better.  
Type: C
- RT 110 Radiologic Technology II 3-0-3**  
Basic principles of radiographic anatomy and positioning procedures of the digestive, biliary and urinary systems, vertebral column and bony thorax. Supervised clinical experience is assigned at a medical facility to meet the competency requirements in radiographic principles and procedures as specified.  
Requisite: RT 100, RT 101 each with a grade of "C" or better.  
Type: C
- RT 111 Radiographic Positioning II 4-0-4**  
Designed to provide the student radiographer with the opportunity to apply the principles of radiographic positioning of the examinations specified in RT 110, utilizing the energized lab and phantom patient.  
Requisite: RT 100, RT 101 each with a grade of "C" or better.  
Type: C
- RT 112 Clinical Experience I 0-16-3**  
Supervised clinical experience is assigned at a medical facility to meet the competency requirements in radiographic principles and procedures as specified.  
Requisite: RT 100, RT 101 each with a grade of "C" or better.  
Type: C
- RT 131 X-Ray Physics I 4-0-4**  
An introductory course to X-ray physics including X-ray production, basic radiation safety, radiographic technique, darkroom and quality assurance.  
Requisite: RT 100, RT 101 each with a grade of "C" or better.  
Type: C
- RT 150 Radiologic Technology III 3-0-3**  
Basic principles of radiographic anatomy and positioning procedures of the skull and visceral cranium. Included is the introduction of special procedures, basic positioning skills, usage of specialized equipment and contrast media. Emphasis is placed upon mobile radiography, angiography, tomography, cross sectional anatomy, mammography, computer applications, and the imaging modalities of ultrasonography, CT, MRI.  
Requisite: RT 110 with a grade of "C" or better.  
Type: C
- RT 151 Radiographic Positioning III 4-0-4**  
Designed to provide the student with the opportunity to apply the principles of radiographic positioning of the skull, visceral cranium, utilizing the energized lab and phantom patient. Instruction and experiments demonstrating technical factors influencing radiographic quality are implemented.  
Requisite: RT 111 with a grade of "C" or better.  
Type: C
- RT 152 Clinical Experience II 0-16-3**  
Supervised clinical experience is assigned at a medical facility to meet competency requirements in radiographic principles and procedures of the skull and visceral cranium. Practical applications presented in RT 100, 101, 110, and 111 are included. Observation and assistance in special procedure examinations will be included.  
Requisite: RT 112 with a grade of "C" or better.  
Type: C
- RT 160 Clinical Experience III 0-16-3**  
Supervised clinical experience is assigned at a medical facility to meet competency requirements in radiographic principles and procedures presented in the first year. (30 clinical hours per week)  
Requisite: BIOL 105, RT 150, RT 151, RT 180 each with a grade of "C" or better and completion of or concurrent enrollment in HRO 100 with a grade of "C" or better.  
Type: C
- RT 180 X-Ray Physics II 4-0-4**  
This course includes basic atomic structure, electricity, magnetism, electromagnetics, the X-ray circuit, X-ray production, and X-ray interaction with matter.  
Requisite: RT 131 with a grade of "C" or better.  
Type: C
- RT 230 Pathology for Radiographers 1-0-1**  
This course is designed to help student radiographers appreciate the relationship of diseases visualized on radiographs. Topics covered are pathological terminology, cross sectional anatomy, and the systems of the human body.  
Requisite: RT 160 with a grade of "C" or better.  
Type: C
- RT 241 Clinical Experience IV 0-15-3**  
A hospital affiliated course designed to increase the students efficiency in performing routine and special procedure radiographic exams.  
Requisite: RT 160 with a grade of "C" or better.  
Type: C
- RT 242 Clinical Modalities I 0-4-1**  
In radiation therapy, the students observe treatment planning, treatments, follow-up exams and become familiar with the equipment utilized. In nuclear medicine, the students observe preparation and administration of radiopharmaceuticals, examinations performed and become familiar with the equipment utilized. In sonography students observe the use of high-frequency sound waves to create images.  
Requisite: RT 160 with a grade of "C" or better.  
Type: C
- RT 244 Radiobiology 4-0-4**  
A study of the principles of radiation biology, radiation protection, cellular response, systematic response, the early and late effects of radiation exposure, and the regulations regarding ionizing radiation hazards.  
Requisite: RT 160 with a grade of "C" or better.  
Type: C
- RT 265 Computerized Tomography Review 2-0-2**  
This review class is designed to assist technologists in their efforts to prepare for the American Registry of Radiologic Technologists' CT Registry Examination. It is ideal, but not required, for a technologist in this class to currently be working in the CT or have had CT experience. This class addresses computed tomography's history, instrumentation, applications, physics, patient care, cross sectional anatomy, and the CT registry examination. The technologist is responsible to coordinate their performance of CT examinations in a clinical setting per the required categories, and be aware of the time frame and the number of procedures that must be performed, prior to taking a CT certification examination. NOTE: RT(R), CT experience desirable but not required.  
Requisite: Department consent.  
Type: C
- RT 296 IT for Radiographers 1-0-1**  
The technology for digital imaging in health care for computed radiography and digital radiography are addressed in this class. It includes the basic concepts of image acquisition for the creation of electronic images that can be displayed, viewed, transmitted, archived and retrieved. Also addressed in this class is image quality, patient dose and radiation safety as it relates to digital imaging as well as the basics of Radiology Information Systems and PACS.  
Requisite: RT 230, RT 244 each with a grade of "C" or better.  
Type: C

## Course Description Guide (continued)

### **RT 297 Radiologic Technology Review 4-0-4**

A continuation of theory and practice in radiographic procedures, radiation protection, equipment operation and maintenance, image production and evaluation and patient care.

Requisite: RT 230, RT 244 each with a grade of "C" or better.

Type: C

### **RT 298 Clinical Modalities II 0-4-1**

In CT, the student observes large series of two-dimensional x-rays images taken around a single axis of rotation to visualize various structures. In MRI, a student observes how imaging is performed with the use of radio frequency signals and a magnetic field. In interventional radiology, a student observes minimally invasive, targeted treatments performed using imaging for guidance.

Requisite: RT 241, RT 242 each with a grade of "C" or better.

Type: C

### **RT 299 Clinical Experience V 0-15-3**

A hospital affiliated course in which the student performs routine, advanced and special radiographic procedures.

Requisite: RT 241, RT 242 each with a grade of "C" or better.

Type: C

## Respiratory Care

### **RC 102 Cardiopulmonary Anatomy and Physiology 3-0-3**

This course involves an in-depth study of the anatomy and physiology of the respiratory and cardiovascular systems, including aspects of the central nervous system. Diffusion, gas transport, ventilation and perfusion are closely examined.

Requisite: Program admission.

Type: C

### **RC 103 Applied Science 3-0-3**

Provides the student with a foundation in the basic sciences relevant to respiratory care. Areas covered include chemistry, physics, microbiology, computers, and mathematics/algebra concepts as related to the practice of respiratory care.

Requisite: Program admission.

Type: C

### **RC 104 Respiratory Care Practices and Procedures I 3-4-5**

Provides classroom instruction and laboratory practice for the equipment used to administer general respiratory care. Classroom instruction and laboratory practice is provided for many general respiratory care procedures, as well as certification in BLS.

Requisite: Program admission, HRO 100, BIOL 105 each with a grade of "C" or better, concurrent enrollment in or completion of RC 105 with a grade of "C" or better.

Type: C

### **RC 105 Patient Assessment 2-2-3**

This course provides the student with knowledge of how patient assessment procedures are performed. Information gathered from these assessments as well as from diagnostic tests, and laboratory assessment is related to the patient's health status and response to treatment. This course also includes obtaining, analyzing, and basic interpretation of blood gases as well as blood gas analyzer function and the quality assurance standards for blood gas analyzers.

Requisite: HRO 100, BIOL 105 each with a grade of "C" or better, concurrent enrollment in or completion of RC 104 with a grade of "C" or better.

Type: C

### **RC 110 Cardiopulmonary Pathology 3-0-3**

This course provides an overview of diseases of the cardiopulmonary and related systems requiring medical and/or surgical intervention. Each pathological process is discussed with regard to etiology, diagnosis, treatment, and prognosis. An overview of pulmonary function testing and a more in-depth discussion of acid-base balance is also provided.

Requisite: RC 102 with a grade of "C" or better.

Type: C

### **RC 111 Respiratory Care Pharmacology 3-0-3**

Provides an introduction to the theory and use of medications, with emphasis on those used in cardiorespiratory care. Content will include weights, measures, actions, indications, contraindications and hazards of drugs. Normal physiology and pathophysiology are reviewed to clarify the role of medications in the treatment of disease processes.

Requisite: RC 103 with a grade of "C" or better.

Type: C

### **RC 112 Respiratory Care Practices and Procedures II 3-4-5**

Provides a continuation of classroom instruction and laboratory practice for respiratory care procedures, including airway management and noninvasive positive pressure ventilation. The course concludes with an introduction to continuous mechanical ventilation and critical care procedures.

Requisite: Concurrent enrollment in or completion of RC 110, RC 111, RC 113 each with a grade of "C" or better; RC 102, RC 103, RC 104, RC 105 each with a grade of "C" or better.

Type: C

### **RC 113 Clinical Practice I 0-16-4**

This course provides under supervision: observation, practice, and application of patient assessment and general respiratory care procedures and airway management in the clinical setting, with an introduction to mechanical ventilation and critical care procedures toward the end of the course. Note: This course requires clinical practice each week. Dates, times and locations will be announced.

Requisite: Concurrent enrollment in or completion of RC 110, RC 111 each with a grade of "C" or better; RC 102, RC 103, RC 104, RC 105 each with a grade of "C" or better.

Type: C

### **RC 114 Respiratory Care Practices and Procedures III 1.5-2-2.5**

This course provides a continuation and completion of classroom instruction and laboratory practice for mechanical ventilatory support and its use in respiratory care. Specific areas of interest include improving ventilation and oxygenation of the ventilated patient, ventilator graphics, assessment of the critically ill patient, and troubleshooting the ventilator. The course will conclude with an overview of pediatric respiratory care; including assessment, monitoring, basic therapies, and mechanical ventilation of the pediatric patient as well as the etiology, pathophysiology, diagnosis, and management of pediatric diseases.

Requisite: RC 110, RC 111, RC 112, RC 113 each with a grade of "C" or better; concurrent enrollment in or completion of RC 115 with a grade of "C" or better.

Type: C

### **RC 115 Clinical Practice II 0-8-2**

This course continues to provide clinical experience in the intensive care unit to gain more experience with mechanical ventilation and critical care procedures. The course will focus on advanced ventilator management including assessing the critically ill patient, adjusting the ventilator, ventilator graphics, and troubleshooting. The student will gain more experience with critical care skills such as airway management and arterial blood gas analysis. NOTE: This course requires clinical practice each week. Dates, times and locations will be announced.

Requisite: RC 110, 111, 112, 113 each with a grade of "C" or better, concurrent enrollment in or completion of RC 114 with a grade of "C" or better.

Type: C

### **RC 203 Respiratory Care Practices and Procedures IV 3-4-5**

The course begins with ACLS certification with extensive review of electrocardiogram technique and interpretation, cardiac pharmacology, as well as myocardial infarction and stroke care. The course will also include basic overview of Pediatric Advanced Life Support. The student will then be provided with a more in-depth study of pulmonary function testing in the classroom and lab. The course will conclude with information related to fetal development, neonatal assessment, and neonatal resuscitation. Information will include airway management, oxygen therapy, transcutaneous monitoring, capillary sticks, and mechanical ventilation of the neonatal patient.

Requisite: RC 114, RC 115 each with a grade of "C" or better, concurrent enrollment in or completion of RC 204 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **RC 204 Clinical Practice III 0-16-4**

This course provides under supervision: observation, practice, and application of respiratory care procedures to critically ill adults and pediatric patients. The course includes continuous mechanical ventilation and advanced patient assessment and monitoring procedures of critically ill adult and pediatric patients as well as patients in long-term care facilities. NOTE: This course requires clinical practice each week. Dates, times and locations will be announced.

Requisite: RC 114, RC 115 each with a grade of "C" or better, concurrent enrollment in or completion of RC 203 with a grade of "C" or better.  
Type: C

### **RC 205 Respiratory Care Practices and Procedures V 4.5-0-4.5**

This course provides information about respiratory care in alternate sites, cardiopulmonary rehabilitation, polysomnography, patient and community education, assessment of hemodynamics, transport inside and outside of the hospital, nutrition and metabolic testing, legal and moral ethics of health care, and health care management and reimbursement. The course will also provide career assistance such as interview skills and resume design.

Requisite: RC 203, RC 204 each with a grade of "C" or better; concurrent enrollment in or completion of RC 207, RC 206 each with a grade of "C" or better.

Type: C

### **RC 206 Clinical Practice IV 0-16-4**

This course provides under supervision: observation, practice, and application of respiratory care procedures to critically ill neonatal patients, continuous mechanical ventilation of the new born, rehabilitation of respiratory care patients, care and testing of patients with sleep disorders, testing of patients' pulmonary function, cardiac stress testing and electrocardiography, and the care of respiratory care patients in alternate settings. Note: This course requires clinical practice each week. Dates, times and locations will be announced.

Requisite: RC 203, RC 204 each with a grade of "C" or better; concurrent enrollment in or completion of RC 207, RC 206 each with a grade of "C" or better.

Type: C

### **RC 207 Respiratory Care In Review 3-0-3**

This format allows for a variety of pertinent, current respiratory care and health care topics to be presented as needed. Set topics will include preparation for the National Board for Respiratory Care's NBRC Therapist Multiple Choice Exam and Clinical Simulation Exam, as well as exercises in critical thinking and review of clinical practice guidelines and therapist driven protocols.

Requisite: RC 203, RC 204 each with a grade of "C" or better; concurrent enrollment in or completion of RC 205, RC 206 each with a grade of "C" or better.

Type: C

## Russian

### **RUSS 101 Elementary Russian I 4-0-4**

This introductory language course focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in Russian. Students are also introduced to the history and cultures of the Russian-speaking world.

Requisite: Reading placement above ENG 91 or completion of ENG 91.

Type: T

### **RUSS 102 Elementary Russian II 4-0-4**

This introductory language course is a continuation of RUSS 101 and focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in Russian. Students are also introduced to the history and cultures of the Russian-speaking world.

Requisite: RUSS 101.

Type: T

## Service Learning

### **SRV 200 Service Learning 2-2-3**

This course gives students the opportunity to provide service to their communities through volunteer work. The course combines community service and classroom instruction with a focus on critical reflective thinking, civic responsibility, and social awareness. Students will be assigned to or choose an agency, community action group, or educational facility for service based upon their skills, knowledge, and general interests. Main topics of the course will include: volunteerism, civic/social responsibility, civic engagement, social issues, empowerment, professionalism, and other social issues topics. Students cannot receive credit for both ENG 200 and SRV 200.

Requisite: ENG 101 with a grade of "C" or better.

Type: T

## Sign Language Studies: Interpreter

### **SLS 100 Non-Verbal Communication 2-0-2**

This course compares and contrasts non-verbal behavior and actions to speech and signs. Facial expressions, posture, movement, gestures will be examined and how the literal use of words/signs don't always convey the meaning of the message. Students learn to use pantomime versus actual signs depending on the signing ability of the deaf or hard of hearing individual.

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: C

### **SLS 101 American Sign Language I 5-0-5**

In depth and eventual total immersion exposure to American Sign Language for the development of beginning-level communication skills used with deaf persons. Focus is on building sign vocabulary, fingerspelling, grammar and syntax rules, non-manual markers, appropriate hand shapes and movement, use of personal space and the development of sensitivity and awareness through required socialization with the deaf community. (Fall only)

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T

### **SLS 102 American Sign Language II 5-0-5**

Continued development of intermediate-level sign language communication skills as utilized in interaction by deaf persons. Emphasis given to comprehension, use of classifiers, locatives and production skills within a total immersion sign language environment. Linguistic and cultural features presented in the context of language learning experiences. (Spring only)

Requisite: ENG 101, SLS 100, SLS 101, SLS 110, SLS 125 each with a grade of "C" or better.

Type: T

### **SLS 105 Field Experiences 1-2-2**

During this course, students will be paired with/mentored by a deaf or hard of hearing individual to expose students to the daily experience of someone who is deaf or hard of hearing. Students will attend deaf socials and club events, informal coffee chats, home parties, etc. During these experiences, students will have the opportunity to develop practical sign vocabulary and increase their comfort level when interacting with individuals who are deaf or hard of hearing. A minimum of 30 hours of involvement with the deaf community is required. (Spring only)

Requisite: Concurrent enrollment in or completion of SLS 102 with a grade of "C" or better.

Type: C

## Course Description Guide (continued)

### **SLS 110 Deaf Studies/Culture 3-0-3**

This course is an introduction to the studies of the language, culture and community of deaf people. Topics include deaf history, education, sociology, language, legal issues, art and literature, audism, services for the deaf, organizations, assistive technology devices, and the nature of deafhood. Several controversial issues will be analyzed such as oralism, methods of deaf education, signing systems, cochlear implants, and student protest movements. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: C

### **SLS 120 ASL Linguistics I 3-0-3**

An introductory course that focuses on the study of ASL and English phonology, morphology, syntax, semantics, rules of classifier systems, ASL storytelling, and language variation, with an introduction to discourse analysis and language in context. The course is built around discussion of readings, in class exercises and video projects to allow students to apply concepts that have been discussed. (Spring only) Requisite: ENG 101 with a grade of "C" or better, concurrent enrollment in or completion of SLS 102 with a grade of "C" or better. Type: C

### **SLS 125 ASL Fingerspelling and Numbers 1-0-1**

This course is designed to assist students in the development of expressive and receptive fingerspelling and numbering system skills embedded with ASL conversational phrases and stories. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: C

### **SLS 203 American Sign Language III 5-0-5**

Continued exposure to ASL, within a total immersion sign language environment, allowing further study and development of expressive and receptive communication skills. Emphasis will be on the development of sign vocabulary within expanded stories and disclosure. Linguistic and cultural features presented in the context of language learning experiences. (Fall only) Requisite: SLS 102 with a grade of "C" or better. Type: T

### **SLS 205 Interpreting I 3-0-3**

This is a skill development course which provides students the opportunity to practice the skills associated with interpretation using a consecutive to simultaneous process. Students will be introduced to the cognitive processing skills involved in interpreting. Coursework will consist of videotaped projects and activities for skill enhancement in working with English/ASL interpretations. (Fall only) Requisite: SLS 105 with a grade of "C" or better; concurrent enrollment in or completion of SLS 203, SLS 206, SLS 210 each with a grade of "C" or better. Type: C

### **SLS 206 Interpreter Principles & Practices 3-0-3**

This is a survey course that is designed to introduce students to contemporary theories regarding interpretation and the world of work of interpreters. Students will become familiar with the specialized jargon used within the field of interpretation to describe various aspects of the work and the protocol that influences interpretation work in different settings. Ethical standards associated with interpretation will be introduced and applied to a variety of work situations. (Fall only) Requisite: SLS 105, SLS 120 each with a grade of "C" or better; concurrent enrollment in or completion of SLS 203 with a grade of "C" or better. Type: C

### **SLS 210 ASL Linguistics II 3-0-3**

Students continue the study of ASL and English linguistics, building on information introduced in SLS 120, through study of semantics, pragmatics, turn-taking, discourse analysis, and language in context. The primary focus of this course is translation through discourse analysis and techniques of rephrasing and restructuring meaning in ASL and in English. Power dynamics, language in context and turn-taking in interpreted settings will also be discussed in relation to the interpreter's role. (Fall only) Requisite: SLS 120 with a grade of "C" or better, concurrent enrollment in or completion of SLS 203 with a grade of "C" or better. Type: C

### **SLS 220 Interpreting II 3-0-3**

Students build upon skills learned in SLS 205, with a focus on simultaneous interpretation of unrehearsed texts from English to ASL. Coursework will consist of videotaped projects, in class exercises, activities and individual work for skill enhancement. (Spring only) Requisite: SLS 205 with a grade of "C" or better. Type: C

### **SLS 225 Sign to Voice 3-0-3**

Students develop the skill of simultaneously interpreting ASL and Contact Sign into an equivalent message in spoken English. Students will learn the basics in the sign to voice process, progressing from sentential to textual formats working with comprehension, appropriate English word choices, vocal inflection, and English structure. Coursework will consist of lecture and discussion, videotaped projects and in class exercises and activities for skill enhancement. (Spring only) Requisite: SLS 255 with a grade of "C" or better. Type: C

### **SLS 230 Interpreting Practicum 1.5-6.2-3**

Students will interpret in a variety of low-risk settings under the supervision of the instructor and/or a selected professional practitioner/mentor. Weekly seminar discussions will include review and analysis of the interpreting experiences and application of professional ethics and decision making skills. Students will prepare professional resumes and submit an interpreting log, documenting a minimum of 100 hours of interpreting experience. (Spring only) Requisite: SLS 255 with a grade of "C" or better; concurrent enrollment in or completion of SLS 220 and SLS 225 each with a grade of "C" or better. Type: C

### **SLS 255 Transliterating 3-0-3**

This is a skill development course that provides students with the opportunity to practice the skills associated with simultaneously transliterating between spoken and Contact Sign. Students will be introduced to the specialized skills and terms involved in the transliteration process. Coursework will consist of lecture and discussion, videotaped projects and in-class exercises and activities for skill enhancement. (Fall only) Requisite: Concurrent enrollment in or completion of SLS 203, SLS 206, SLS 210 each with a grade of "C" or better. Type: C

### **SLS 270 Educational & Special Interpreter Settings 3-0-3**

Students will discuss interpreting in the school and classroom environment, as well as in specialized community settings. Professional roles and responsibilities will be examined from the perspective of working with minors, their parents/guardians, educators, and school staff. Students will learn how the role of an interpreter changes from a pre-K environment through post-secondary levels. Students will participate in role-play and live interpretation of dialogues that occur in educational, social service, employment, and other special interpreting settings. Students will learn specialized vocabulary and the general principles and protocol associated with interpreting in each setting. (Spring only) Requisite: SLS 203 with a grade of "C" or better; concurrent enrollment in or completion of SLS 220, SLS 225, SLS 230 each with a grade of "C" or better. Type: C

## Course Description Guide (continued)

### **SLS 275 Interpreting Practicum II 1-6-2**

Students will interpret in a variety of low-risk settings under the supervision of the instructor and selected professional practitioners/mentors, building on the skills and experiences acquired in SLS 230. Weekly discussions will contain review and analysis of the interpreting experiences as well as individual skill development. The focus of this course will be field work (50 hours) with mentorship opportunities and skill development based on individual need. Requisite: SLS 230 with a grade of "C" or better. Type: C

### **SLS 299 Special Topics In SLS Variable up to (4)-(8)-(4)**

This course is designed to familiarize students with special topics or problems in Sign Language Studies: Interpreter field to provide them the knowledge or ability to deal effectively with those topics or problems in relation to their specific requirements. NOTE: Requisite varies by topic. Requisite: SLS 230. Type: C

## **SMA** – See Construction Sheetmetal

## Sociology

### **SOC 153 Introductory Sociology 3-0-3**

This course is an introduction to the field of sociology – the scientific study of human social behavior. The intersection and interaction of the individual and society is emphasized. Consideration will be given to key areas of sociological research (socialization, group dynamics, social roles, social stratification, social theory, deviance and social control) and how these processes work in key social situations (such as the family, education, religion and economy). The course will focus on assisting the student to develop a Sociological Imagination. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: T, IAI-S7 900

### **SOC 203 Social Problems 3-0-3**

This course will introduce the sociological study of social problems focusing on both the structural context and symbolic construction within U.S. society. Social issues such as poverty, unemployment, racism, gender inequality, pollution, war, issues in education, drugs and crime will be explored. Research will be used to understand the nature of these problems and to explore ongoing and new solutions. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: T, IAI-S7 901

### **SOC 210 Deviance, Crime and Society 3-0-3**

This course explores the nature and variety of crime and deviant behavior in American society. Violence, crime, sexual deviance, alcohol and drug use and elite deviance are examined. Various theoretical approaches will be explored and applied. Issues surrounding social control will be considered. Requisite: SOC 153 or ANTH 150. Type: T

### **SOC 222 Survey of Social Work 3-0-3**

This course is an introduction to generalist social work within the context of social welfare, including its historical origins, conceptual framework, and contemporary focus. An overview of principal social work values and codes of ethics, practice methods, research considerations, and policy issues will be presented with emphasis on the unique experiences of client groups facing a variety of social challenges. These groups include, but not limited to, women, minorities, persons with disabilities, gays and lesbians, and older adults. Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95. Type: T

### **SOC 230 Race & Ethnicity in the United States 3-0-3**

This class is an introduction to the sociological study of race and ethnicity in the United States. The focus is major sociological concepts, theories and ideas related to race and ethnicity. The historical development of racial and ethnic diversity and the current social circumstances of a variety of racial and ethnic groups in the United States will be included. The development and use of a sociological perspective will be emphasized to critically examine our current situation and our future as a multicultural society. Requisite: SOC 153 or ANTH 150. Type: T, IAI-S7 903D

### **SOC 255 The Family 3-0-3**

This course is an examination of the origin and evolution of the human family as a social institution. Consideration will be given to traditional family types with special emphasis on the structure and function of the American family. It offers analyses of courtship patterns, marriage and the family forms, relationships and functions, and socio-cultural differences in family. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: T, IAI-S7 902

### **SOC 259 Sociology of Small Communities 3-0-3**

Sociological study of small communities and their institutions, usually in a rural environment. Includes social organization, values and beliefs, social stratification, political sociology, socio-economic conditions and challenges, and the ongoing struggle of small communities for survival in today's global economy. Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better; Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements. Type: T

### **SOC 265 Aging and Society 3-0-3**

This course is an introduction to social gerontology (the sociology of aging and the aged). It examines age, aging and the aged from a sociological perspective. Specific emphasis is placed upon theories of aging, demographic trends (past, present and speculative), the social construction of aging, the interplay of social institutions and aging, and issues of age and inequality. Particular attention will be given to applied sociological ideas, including analysis and discussion of public policy and medical sociology. Requisite: SOC 153. Type: T

### **SOC 299 Research Study Problems in Soc. Variable up to (3)-0-(3)**

Seminar on a special topic or current issue in sociology. Requisite: Sophomore standing and at least one previous sociology course. Type: T

## Spanish

### **SPAN 101 Elementary Spanish I 4-0-4**

This introductory language course focuses on establishing a solid foundation in the four basic skill areas of reading, writing, listening comprehension and speaking in Spanish. Students are also introduced to the history and cultures of the Spanish-speaking world. Requisite: Reading placement above ENG 91 or completion of ENG 91. Type: T

### **SPAN 102 Elementary Spanish II 4-0-4**

An introductory course whose primary purpose is to help beginning-level students become functionally proficient in Spanish. Emphasis is placed on the development of listening, speaking, reading and writing skills in the target language. An introduction is given to the history and culture of Spanish-speaking countries. Requisite: SPAN 101. Type: T

## Course Description Guide (continued)

### **SPAN 201 Intermediate Spanish I 4-0-4**

Continued development of listening, speaking, reading and writing skills in Spanish. Grammar review. Cultural and literary readings and compositions. Course is conducted almost entirely in Spanish.

Requisite: SPAN 102.

Type: T

### **SPAN 202 Intermediate Spanish II 4-0-4**

Continued development of listening, speaking, reading and writing skills in Spanish. Grammar review. Cultural and literary readings and compositions. Course is conducted almost entirely in Spanish.

Requisite: SPAN 201.

Type: T, IAI-H1 900

### **SPAN 211 Conversational Spanish I 3-0-3**

This course focuses on developing speaking competency in Spanish. Individual exercises and group discussions on general topics and everyday situations help students improve their self-expression and aural comprehension. Oral exercises also help students acquire correct pronunciation and expand their knowledge of vocabulary and idioms in Spanish.

Requisite: SPAN 102.

Type: T

### **SPAN 212 Conversational Spanish II 3-0-3**

A continuation of SPAN 211. This course focuses on developing speaking competency in Spanish. Individual exercises and group discussions on general topics and everyday situations help students improve their self-expression and aural comprehension. Oral exercises also help students acquire correct pronunciation and expand their knowledge of vocabulary and idioms in Spanish.

Requisite: SPAN 211.

Type: T

### **SPAN 299 Special Topics in Spanish Variable up to (4)-0-(4)**

An in-depth study of various areas in Spanish language and culture presented through lectures, discussions, and/or individual research and readings by the students. Topics will vary. May include travel/study activities.

Requisite: None.

Type: T

## Speech

### **SPCH 151 Fundamentals of Public Speaking 3-0-3**

The basic principles of public speaking, including selecting a subject, determining the specific purpose of the speech, collecting materials, adapting the speech to a particular audience, organizing the speech, wording the speech, using visual materials and delivering the speech. Each student prepares and delivers several informative and persuasive speeches.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-C2 900

### **SPCH 155 Interpersonal Communication 3-0-3**

This course will provide the student with the means for becoming a better interpersonal communicator through the study of interpersonal communication theory and the application of major concepts, including language processes; types of verbal and nonverbal communication; oral and visual means of transmitting information; methods of encoding information; social consequences; and creating, maintaining and terminating various types of relationships.

Requisite: Reading and writing placement at ENG 101 or completion of all reading and writing developmental requirements.

Type: T, IAI-MC 901

### **SPCH 170 Persuasion 3-0-3**

Provides the student with an in-depth understanding of persuasion components, ethics and the process of persuasive speaking. Students will speak individually and as panel discussants. Students will also study various forms of persuasion, including advertising and political campaigns.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **SPCH 174 Applied Forensics I 0-3-1**

Applied Forensics is a course offering instruction and practical experience in intercollegiate individual events speech competition. In addition, programs are available for presentation for community service organizations as a way to address the citizenship component of Learning Outcomes Assessment. There are possibilities of judging high school tournaments also as an additional way of serving the community. The course will cover a variety of competitive speech events: informative and persuasive speaking, oral interpretation, duo interpretation, communication analysis, extemporaneous and impromptu speaking, and speaking to entertain. Students may take Applied Forensics I, II and III once each graduated order. Applied Forensics IV may be taken more than once.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **SPCH 175 Applied Forensics II 0-3-1**

Applied Forensics is a course offering instruction and practical experience in intercollegiate individual events speech competition. In addition, programs are available for presentation for community service organizations as a way to address the citizenship component of Learning Outcomes Assessment. There are possibilities of judging high school tournaments also as an additional way of serving the community. The course will cover a variety of competitive speech events: informative and persuasive speaking, oral interpretation, duo interpretation, communication analysis, extemporaneous and impromptu speaking, and speaking to entertain. Students may take Applied Forensics I, II and III once each graduated order. Applied Forensics IV may be taken more than once.

Requisite: SPCH 174.

Type: T

### **SPCH 180 Interviewing 3-0-3**

Provides the student with a practical understanding of the interview process.

A variety of interview types are examined, and each student prepares and participates in several interviews. This course provides the opportunity for valuable interview experience as both the interviewer and interviewee.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### **SPCH 200 Oral Interpretation 3-0-3**

The principles of selecting, cutting and interpreting poetry, prose and drama, and of reading these materials to the class. Also featured is work preparing and taking part in readers theatre presentations.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-TA 916

### **SPCH 213 Intro to Public Relations 3-0-3**

This course is designed to introduce students to the history and evolution of public relations as a profession. The course looks at the range of responsibilities and functions that public relations practitioners assume in a variety of organizational structures as well as the significant issues and trends that will continue to influence the practice of public relations in the future.

Through lectures, discussions, activities and assignments, students will learn about the history and theories of public relations and ultimately have a better understanding of current public relations practices.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-MC 913

### **SPCH 240 Group Communication 3-0-3**

Group Communication introduces students to the fundamental principles, skills and dynamics of the group process. The course will give students practical experience in working within the group framework and will focus on problem-solving, leadership, listening, conflict, and interpersonal relationships as they pertain to the overall effectiveness and success of small group discussions and presentations.

Requisite: SPCH 151 or SPCH 155 each with a grade of C or better.

Type: T

## Course Description Guide (continued)

### SPCH 274 Applied Forensics III 0-3-1

Applied Forensics is a course offering instruction and practical experience in intercollegiate individual events speech competition. In addition, programs are available for presentation for community service organizations as a way to address the citizenship component of Learning Outcomes Assessment. There are possibilities of judging high school tournaments also as an additional way of serving the community. The course will cover a variety of competitive speech events: informative and persuasive speaking, oral interpretation, duo interpretation, communication analysis, extemporaneous and impromptu speaking, and speaking to entertain. Students may take Applied Forensics I, II and III once each graduated order. Applied Forensics IV may be taken more than once.

Requisite: SPCH 175.

Type: T

### SPCH 275 Applied Forensics IV 0-3-1

Applied Forensics is a course offering instruction and practical experience in intercollegiate individual events speech competition. In addition, programs are available for presentation for community service organizations as a way to address the citizenship component of Learning Outcomes Assessment. There are possibilities of judging high school tournaments also as an additional way of serving the community. The course will cover a variety of competitive speech events: informative and persuasive speaking, oral interpretation, duo interpretation, communication analysis, extemporaneous and impromptu speaking, and speaking to entertain. Students may take Applied Forensics I, II and III once each graduated order. Applied Forensics IV may be taken more than once.

Requisite: SPCH 274.

Type: T

### SPCH 299 Problems in Speech Variable up to (3)-(6)-(3)

Seminar on a special topic or current issue in speech.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

## Technical Math (General Technology)

### GT 104 Math for Electronics 4-0-4

Topics of fundamentals of algebra, operations of signed numbers, exponents and square roots, triangular trigonometry and metric conversion with emphasis on the applications found in the study of electrical/electronics circuits will be studied. Offered in fall, spring, and summer. Graphing calculator required (TI-84).

Requisite: None.

Type: C

### GT 105 Intro to Technical Mathematics 3.5-1-4

GT 105 will cover operations of signed numbers, exponents and square roots, basic algebra, ratios and proportions, angle measurements, area and perimeters of polygons, circles, geometric solids, and triangular trigonometry. Offered in fall, spring, and summer. Graphing calculator required (TI-84).

Requisite: Math placement above MATH 93 or completion of MATH 93 with a grade of "C" or better.

Type: C

### GT 106 Technical Mathematics I 3-0-3

Topics of elementary and intermediate algebra with applications in technical fields. The properties of real numbers, algebraic polynomials and fractions, systems of linear equations, functions, graphs, exponents and radicals, ratio and proportion. Offered in fall, and spring. Graphing calculator required (TI-84).

Requisite: Math placement above MATH 94 or completion of MATH 94 with a grade of "C" or better.

Type: C

### GT 107 Technical Mathematics II 3-0-3

Topics of intermediate algebra and trigonometry, with application in the technical fields. Angular measurement, trigonometric functions, solution of right triangles, graphs of trigonometric functions, identities, complex numbers, angle formulas, composite vectors, quadratic equations and logarithms. Offered in spring only. Graphing calculator required (TI-84).

Requisite: GT 106.

Type: C

### GT 208 Technical Mathematics III 3-0-3

Topics in differential and integral calculus with applications in the technical fields. Derivatives, slope differentials, minimum and maximum value of functions related rates, integration, definite integral, area, volume and transcendental functions. Graphing calculator required (TI-84).

Requisite: GT 107.

Type: C

## Theatre

### THEA 120 Theatre Appreciation 3-0-3

A Humanities course that surveys the nature and function of theatre as a collaborative art. The foundations and basic elements, historical and contemporary forms of experience, production processes, and criteria for performance criticism of theatre will be explored using lecture, selected readings, films, demonstrations, guest speakers, and slide presentations. Some play attendance will be required.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T, IAI-F1 907

### THEA 150 Stagecraft 1-5-3

The purpose of this course is to introduce students to the world of technical theatre. Through lecture, hands-on lab and stage experience, students will gain a working knowledge of theatre terminology, operations, stage equipment and construction methods and materials in such areas as scenery, lighting, sound, and costumes, and safely demonstrate their use.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### THEA 161 Production Lab 0-3-1

This is a theatre performance class designed to instruct students in dramatic interpretation and presentation. Examining different acting, movement, and vocal techniques, students will have opportunities for developing skills by examining concepts, principles, and techniques for dramatic performance through regular rehearsal and performance.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

### THEA 162 Production Lab 0-3-1

This is a theatre performance class designed to instruct students in dramatic interpretation and presentation. Examining different acting, movement, and vocal techniques, students will have opportunities for developing skills by examining concepts, principles, and techniques for dramatic performance through regular rehearsal and performance.

Requisite: SPCH 161.

Type: T

### THEA 251 Theatre Production 3-0-3

A beginning approach to directing dramatic production, focusing on principles of script analysis, visual composition, auditory design and movement theory. In addition to directing theory, areas such as set design, lighting, costuming, make-up and business management are covered. The student is guided from an initial discussion of how to select a play and interpret the script to the rehearsal and actual production of a one-act play of his or her choice.

Requisite: Reading placement above ENG 91 or completion of ENG 91;

Writing placement above ENG 95 or completion of ENG 95.

Type: T

## Course Description Guide (continued)

### **THEA 256 Theatre Acting** **3-0-3**

Theatre Acting is designed for the college student possessing little or no background in the performing arts and/or the student with some knowledge and experience. Course content includes beginning technique, theory, and the methodology needed to grasp the concept of acting. The practice of acting is explored through exercises using imagination, concentration, relaxation, intention, improvisation, spontaneity, and the reality of doing (as each applies to the craft of acting).

Requisite: Reading placement above ENG 91 or completion of ENG 91; Writing placement above ENG 95 or completion of ENG 95.  
Type: T, IAI-TA 914

### **THEA 261 Production Lab** **0-3-1**

This is a theatre performance class designed to instruct students in dramatic interpretation and presentation. Examining different acting, movement, and vocal techniques, students will have opportunities for developing skills by examining concepts, principles, and techniques for dramatic performance through regular rehearsal and performance.

Requisite: SPCH 162.  
Type: T

### **THEA 262 Production Lab** **0-3-1**

This is a theatre performance class designed to instruct students in dramatic interpretation and presentation. Examining different acting, movement, and vocal techniques, students will have opportunities for developing skills by examining concepts, principles, and techniques for dramatic performance through regular rehearsal and performance.

Requisite: SPCH 261.  
Type: T

## Warehousing

### **WRH 120 Warehousing Environment** **1.5-0-1.5**

This course provides learners with an overview of the functional and structural composition of warehousing and distribution centers. Topics include product flow, warehousing processes, working safely in a warehousing environment, principles in running a business, workplace ethics and how employees affect the bottom line.

Requisite: None.  
Type: C

### **WRH 121 Warehousing Workforce Skills** **1.5-0-1.5**

Learners will be provided with an overview of workplace practices that contribute to the success of the job. The art of effective communication, working with others, projecting a positive image, and learning interview skills will be stressed in this course.

Requisite: None.  
Type: C

### **WRH 122 Warehousing & Distribution Process** **2.5-0-2.5**

This course provides learners with the knowledge and understanding of the core skills associated with warehousing and distribution. Learners will focus on the physical aspects of warehousing and distribution functions like material handling, staging and shipping. Other topics to be covered in this course include: warehousing productivity measures, inventory management, protecting materials and merchandise, palleting, handling systems, and processing hazardous materials.

Requisite: None.  
Type: C

### **WRH 123 Warehousing Technology Skills** **2-0-2**

Warehousing technology skills are those practices important to working in a technical environment. This course covers the use of scanners and data applications along with the understanding of industrial controls and computers and automation.

Requisite: None.  
Type: C

### **WRH 124 Representative Warehousing Skills** **2.5-0-2.5**

This course discusses and applies mathematical concepts used in warehousing and distribution. It also focuses on powered material handling equipment and safety requirements. Warehousing simulations provide the opportunity to participate in problem solving of both warehousing and personal performance issues.

Requisite: None.  
Type: C

## Web Development and Administration

— See *Computer Information Systems*

## Welding Technology

### **WLDT 101 Introduction to Welding** **3-6-6**

Introduced the basic concepts of joining metal by fusion processes. This course covers SMAW (stick welding), using 6010, 7018 and 7024 electrodes and the FCAW wire welding process. Emphasis is put on building proper size fillet welds in the 2F horizontal position. Introduction to Electric Air Carbon Arc cutting. Also included is the acetylene cutting of mild steel and FCAW 2-F fillet welds, along with the care and use of welding tools and equipment.

Requisite: None.  
Type: C

### **WLDT 106 Weld Fabrication Blueprint Reading** **3-0-3**

A progressive course that covers the basics of reading and understanding blueprints. Provides special training for students who want to know how to read blueprints or expand their knowledge in this area. A variety of machine and welded fabrication drawings will be covered.

Requisite: None.  
Type: C

### **WLDT 107 Advanced Blueprint Reading** **2-0-2**

This course includes a review of architectural and technical drawing fundamentals. It also includes structural shapes, detailing, shop drawings, welding symbols and sketching.

Requisite: WLDT 106.  
Type: C

### **WLDT 115 Industrial Welder I** **3.5-1-4**

This course is designed to introduce the student to the fundamentals of arc welding. Materials covered in this course will include welding machines, equipment, and welding supplies.

Requisite: None.  
Type: C

### **WLDT 125 Industrial Welder II** **3.5-1-4**

This course will introduce the student to arc and acetylene cutting equipment. Also introduced will be material covering special cutting procedures.

Requisite: None.  
Type: C

### **WLDT 135 Industrial Welder III** **3.5-1-4**

This course will introduce the student to types of welding equipment and their uses. The three basic welding positions will be covered in detail. Special welding application also will be covered.

Requisite: None.  
Type: C

### **WLDT 145 Industrial Welder IV** **3.5-1-4**

This course will introduce the student to semi-automatic and automatic welding processes; also included will be information on welding nonferrous metals using the TIG process.

Requisite: None.  
Type: C

## Course Description Guide (continued)

- WLDT 152 All Position Arc Welding 2-6-5**  
Deals exclusively with covered electrode electric arc welding in the four basic positions which are flat, vertical, horizontal and overhead. Introduction to Gas Metal Arc Welding and Flux Core Arc Welding. Types and weldability of metals with electric cutting and gouging also included.  
Requisite: None.  
Type: C
- WLDT 201 Advanced Arc Welding 2-8-6**  
Provides the advanced welding students and shop welders further experience with out-of-position arc welding. Emphasis is put on dealing with V groove welds. An AWS test will be given in the vertical and overhead position from the D1.1 Code Book. Introduction to Submerged Arc Welding, Flux Core Arc Welding, and Gas Metal Arc Welding.  
Requisite: None.  
Type: C
- WLDT 252 Pipe Welding 2-4-4**  
Develops skill in the technique of pipe welding. Pipe welding practices in the horizontal 2G, vertical fixed 5G, and 45-degree 6G position. Fillet welds of pipe are covered. The laying out and flame cutting of pipe joints is covered.  
Requisite: None.  
Type: C
- WLDT 253 GTAW/GMAW/FCAW/PAC 2-4-4**  
Provides welding practice and theory in Gas Tungsten Arc Welding, Gas Metal Arc Welding, Flux Cored Arc Welding with and without gas shielding, and Plasma Arc Cutting. Welding and cutting techniques on both ferrous and nonferrous metals.  
Requisite: None.  
Type: C
- WLDT 254 Testing and Inspection of Welds 3-0-3**  
Provides instruction in the destructive and nondestructive tests used in the welding industry. Writing welding procedures to meet welding-code specifications is also covered.  
Requisite: None.  
Type: C
- WLDT 255 Layout and Fitup for Welders 3-0-3**  
Provides instruction in the complete process of plate, structural and pipe fabrication. Students will be able to read and understand fabrication drawings and make plate, structural and pipe layouts. Layout templates needed in fabrication of tanks, including structural and pipe, will also be covered.  
Requisite: None.  
Type: C
- WLDT 256 Qual & Cert Procedures - Welding Insps 3-0-3**  
This covers the basic material required for a student to prepare for the American Welding Society Certification Test or to improve his knowledge of inspection of weldments and welded-products. This is a preparatory course and in no way guarantees the individual will successfully complete the certification test.  
Requisite: None.  
Type: C
- WLDT 260 Welding Automation 3-4-5**  
This course introduces the student to welding automation. It provides detailed instruction and hands on experience working with controls for welding automation and automated welding systems. The student will work with many types of equipment including an automatic voltage control, cold wire feeder, arc video camera and monitor, longitudinal seamer, sidebeam and carriage, tilt and rotate positioner, turning roll system and weld lathe.  
Requisite: WLDT 253.  
Type: C
- WLDT 270 Robotic Welding & CNC Cutting 3-4-5**  
This is an introductory course that will introduce the student to robotic arc welding and CNC cutting. It provides detailed instruction on the safe operation of robotic arc welding and CNC plasma/oxy-fuel cutting systems. Students will be required to program and perform various robotic arc welds with the GMAW process, program CNC equipment to perform cutting operations with both the plasma cutting process and oxy-fuel process on both plate and pipe. Also covered will be the use of a CNC plate marking system.  
Requisite: WLDT 253.  
Type: C
- WLDT 299 Special Problems in Welding Variable up to (1)-(10)-(6)**  
Meets the needs of the experience welder. Material covered is determined on an individual basis. Each student submits an outline of the material he/she would like to cover. Should consist of a special project or special welding techniques.  
Requisite: None.  
Type: C