

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

Career Technology Programs of Study

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Here is an example to aid in understanding the course description designations:

- 1) ACC: 2)146 3)Managerial Accounting 4) 3 cr.
- 5) A continuation of Principles of Accounting I, this course introduces corporate structures related to accounting for
- 6) (59.4 Lec. Hrs.)
- 7) Prerequisite: ACC:142 or permission of instructor.
- 8) Co-requisite:
 - 1) Academic area prefix:
Example: ACC is Accounting.
 - 2) Course number:
If the first number is less than 100, the course is for internal college credit only.
 - 3) Course title
 - 4) Number of semester hours the course is worth
 - 5) Description of course content
 - 6) Designates the number of 50-minute contact hours per semester spent in lecture (Lec. Hrs.) and/or laboratory setting (Lab Hrs.) and/or cooperative learning setting.
 - 7) Prerequisites are courses that must be successfully completed or other qualifications that must be met prior to enrolling in the listed course.
 - 8) Co-requisites are courses that must be taken before or at the same time as the listed course.

Not all courses are available on all campuses each semester.

ACCOUNTING

ACC:051 Basic Accounting 3 cr.

Designed for the student who has not had high school bookkeeping. Emphasis is placed on learning the accounting cycle, structures systems and records usually incorporated by small businesses and professional offices. Completion of assigned problems will coincide with the readings.
(59.4 Lec. Hrs.)

ACC:109 Introduction to Accounting 2 cr.

This course is an introduction to accounting concepts and is designed for non-accounting majors. Students will learn the accounting cycle and will become familiar with the financial records usually maintained by small service businesses and professional offices. Concepts will be reinforced by completing accounting exercises, problems, and an introductory-level simulation.
(39.6 Lec. Hrs.)

ACC:110 Introduction to Accounting II 2 cr.

This course is a continuation of ACC:109. The students will learn the generally accepted principles of accounting for a merchandising business. Students will learn to use special journals and subsidiary ledgers, to prepare financial statements for a merchandising business, and to perform basic financial statement analysis. Concepts will be reinforced by completing accounting exercises, problems, and a simulation.
(39.6 Lec. Hrs.)

Prerequisite: ACC:109.

ACC:111 Introduction to Accounting 3 cr.

Designed for the student who has not had high school bookkeeping or for the student desiring to enter office employment. Emphasis is placed on learning the accounting cycle, structured systems, and records usually incorporated by small businesses and professional offices. A practice simulation provides an opportunity for students to apply those concepts learned throughout the course and also indicates to the instructor that competencies have been met.
(59.4 Lec. Hrs.)

Prerequisites: MAT:041.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ACC:121 Principles of Accounting I 3 cr.

An introduction to accounting terminology and concepts and accepted accounting practices of analyzing, recording, summarizing, presenting, and interpreting business financial transactions of sole proprietorships and partnerships. Significant emphasis is placed upon practice and application. (59.4 Lec. Hrs.)

ACC:142 Financial Accounting 3 cr.

An introduction to the use of accounting in the decision making process. Information will be presented with a bias toward user orientation as opposed to preparer orientation. Course competencies will be developed in the areas of identifying the role of accounting in society, basic accounting and business terminology, concepts behind financial information, accepted accounting practices, analysis and interpretation of financial statements of sole proprietorships and corporations. (59.4 Lec. Hrs.)

ACC:146 Managerial Accounting 3 cr.

A continuation of Financial Accounting, this course emphasizes financial statement analysis, including the reporting of cash flows, and managerial accounting as it relates to decision-making and to the manufacturing environment. This course serves as a foundation for other accounting courses for students planning careers in accounting, as well as providing for the needs for students in business administration. (59.4 Lec. Hrs.)

Prerequisite: ACC:142 or equivalent

ACC:161 Payroll Accounting 3 cr.

This introductory course covers the processes of payroll accounting. Topics include methods of computing compensations, state and federal laws affecting payroll, mandatory and voluntary payroll deductions, methods of keeping payroll records, and preparation of internal and governmental reports. (59.4 Lec. Hrs.)

Prerequisite: ACC:142.

ACC:221 Cost Accounting 3 cr.

A study of basic cost accounting concepts and product cost accumulation procedures emphasizing differences between job order, process and standard costing. Emphasis is placed on the managerial accounting activities of controlling costs, cost analysis and decision making. (59.4 Lec. Hrs.)

Prerequisite: ACC:146.

ACC:237 Intermediate Accounting 4 cr.

The in-depth study of selected financial accounting theory and practices. Topics may include professional organization structures, financial statements, the time-value of money, inventories, other current and non-current assets and liabilities. As time permits some other specialty topics, such as the statement of cash flows, accounting for leases, and revenue recognition principles are introduced. (59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ACC:146.

ACC:251 Governmental and Nonprofit Accounting 3 cr.

The purpose of this course is to give the student a basic background in accounting principles and practices for governmental units and other nonprofit organizations. (59.4 Lec. Hrs.)

ACC:265 Income Tax Accounting 4 cr.

Covers federal income taxes as they apply to the individual, partnerships and business. Major emphasis is placed on the individual return including supporting schedules and statements. Considerable effort is expended in actual form completion and understanding of IRS requirements. (59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ACC:121.

ACC:311 Computer Accounting 3 cr.

Transfers manual accounting skills to a microcomputer operation. In addition to learning computer operation procedures, accounting units covered are the general ledger, special journals, vouchers, financial statement analysis, depreciation, inventory, payroll and Lotus 1-2-3. Simulations of business activities are processed through an entire accounting cycle and various reports are generated. Student will also learn to create an entire computerized accounting system. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ACC:142 or equivalent preferred, ACC:051 acceptable.

ACC:312 Computer Accounting 4 cr.

This course is designed to develop accounting and problem solving skills on microcomputers. Students will complete the accounting cycle through financial statement preparation using integrated accounting software packages. Use of electronic spreadsheet capabilities will be explored. (59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ACC:146.

ACC:332 Computer Accounting-QuickBooks I 2 cr.

Students apply accounting concepts to keep financial records for small service and merchandising companies using the accounting software QuickBooks. Topics include setting up a company, creating a chart of accounts, recording customer and vendor transactions, processing payroll, printing financial reports, and recording adjusting entries. (39.6 Lec. Hrs.)

Prerequisite: ACC:110.

ACC:701 Certified Bookkeeper Review 3 cr.

This course is designed to prepare the student to successfully sit for the Certified Bookkeeper Exam. Material will be reviewed to aid the student in attaining the knowledge and skills required to conduct all key bookkeeping and accounting functions through the adjusted trial balance and basic payroll concepts for small to mid-size organizations. (59.4 Lec. Hrs.)

Prerequisite: ACC:146.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ADMINISTRATIVE ASSISTANT

ADM:102 Telephone and Mailing Techniques 1 cr.

Students will learn how to use the telephone as an effective communication tool by learning how to speak clearly, correctly and convincingly. Students will also have an opportunity to gain hands-on experience by developing, practicing and making simulated calls covering a wide variety of topics and situations. (19.8 Lec. Hrs.)

ADM:105 Introduction to Keyboarding 1 cr.

This course is designed for the student with no prior keyboarding experience. The major objective is to develop touch control of the keyboard with speed and accuracy through proper keyboarding techniques. (39.6 Lab Hrs.)

ADM:106 Introduction to Keyboarding 2 cr.

This course is designed to improve keyboarding speed and/or accuracy. Students at any skill level may enroll, as the course work is individually prescribed to improve skill level. (19.8 Lec. Hrs./39.6 Lab Hrs.)
Prerequisite: ADM:105.

ADM:122 Document Formatting 2 cr.

This course is designed to take the student beyond basic keyboarding. The student will learn the proper formatting of business and personal-business letters, envelopes and labels, simple tables, short business and academic reports, and interoffice memorandums. In addition, the student will continue to improve keyboarding speed and accuracy through the completion of skill-building exercises. Review and application of language arts skills and accurate proofreading of documents are also emphasized. (39.6 Lec. Hrs.)

Prerequisite: ADM:105, BCA:129 and BCA:130.

ADM:123 Document Formatting 3 cr.

A course designed for the student with little or no prior keyboarding experience. The major objectives are to develop touch control of the keyboard with speed and accuracy through proper keyboarding techniques and to learn proper formatting of letters, simple tables, short reports and memorandums. (19.8 Lec. Hrs./79.2 Lab Hrs.)

ADM:125 Document Formatting II 2 cr.

An intermediate level document formatting class designed for the student who can demonstrate basic keyboarding and formatting skills. The student will learn correct formatting of business correspondence for different situations, complex tables, multi-page reports and a variety of business forms. Emphasis is placed on efficient and accurate production of documents from unarranged and rough-draft copy. Continued improvement of keyboarding speed and accuracy is integrated into the class through skill development drills and exercises. Test Out Available. (39.6 Lec. Hrs.)

Prerequisite: ADM:123 or ADM:122.

ADM:127 Advanced Document Formatting 3 cr.

An advanced level course requiring students to demonstrate a high level of keyboarding and formatting skills. Emphasis is placed on production of office-quality documents with minimal direction under a variety of simulated business environments. Continued improvement of keyboarding speed and accuracy is integrated into the class through skill development drills and exercises. (19.8 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: ADM:123, ADM:130.

ADM:130 Intermediate Document Formatting 3 cr.

An intermediate level document formatting class designed for the student who can demonstrate basic keyboarding and formatting skills. The student will learn correct formatting of business correspondence for different situations, complex tables, multi-page reports and a variety of business forms. Emphasis is placed on efficient and accurate production of documents from unarranged and rough-draft copy. Continued improvement of keyboarding speed and accuracy is integrated into the class through skill development drills and exercises. A report project is included in this class. (19.8 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: ADM:123.

ADM:132 Business Math and Calculators 2 cr.

This course is designed to advance the student's knowledge of the fundamentals of mathematics and to apply these fundamentals to business situations. Students will develop speed and accuracy in using the touch method of entry on electronic calculators. Topics covered include addition, subtraction, multiplication, division, fractions, percentages, simple interest, discounts, and payroll taxes. (39.6 Lec. Hrs.)

ADM:133 Business Math and Calculators 3 cr.

Designed to refresh the student's knowledge of mathematics fundamentals and applications of these fundamentals to business and office occupations. Topics covered include addition, subtraction, multiplication, division, fractions, percentages, interest, discounts, payroll taxes, insurance, bank reconciliation, installment loans, stocks and bonds. (59.4 Lec. Hrs.)

Prerequisite: MAT:041.

ADM:141 Desktop Publishing 2 cr.

This course gives the student knowledge and practice in desktop publishing using Microsoft Publisher software. Desktop publishing is the integration of graphics, text, and design to create such documents as flyers, letterhead, business cards, newsletters, brochures, web pages, etc. Decision-making skills will be used to complete desktop publishing projects. (39.6 Lec. Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ADM:148 Transcription 2 cr.

This course is designed to help students develop machine transcription skill. Students will learn to transcribe business documents accurately and efficiently from taped dictation. As the course progresses, the dictation becomes more complex, giving the students many opportunities to make formatting, spelling, grammar, punctuation, word usage, and style decisions. Good word processing and business English skills are necessary for success.

(39.6 Lec. Hrs.)

Prerequisites: ADM:156, BCA:130 and ADM:122.

ADM:149 Transcription 3cr.

This course emphasizes the development of efficient transcription skills.

Throughout this course, students are challenged to spell correctly and use proper punctuation while transcribing documents from taped dictation. The exercises gradually become more complex, giving the students many opportunities to make formatting, grammar, punctuation, usage, and style decisions.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: ADM:123 and ADM:157.

ADM:154 Business Communications 3 cr.

This course is designed to develop proficiency in writing business letters and other types of communications used in business. Verbal communication and listening skills, reports, communications theory, semantics, human behavior, and possible dictation of letters may be included. Various types of business communications will be analyzed and practical applications written.

A review of business English skills and proofreading will also be included.

(59.4 Lec. Hrs.)

Prerequisites: ADM:157, ADM:123 or ADM:122.

ADM:155 Essentials of Business English I 2 cr.

This course is designed to help students improve their verbal and written communication skills. Students will receive comprehensive, up-to-date, and relevant instruction in the correct use of English grammar. In addition, students will have the opportunity to improve their spelling and proofreading skills.

(39.6 Lec. Hrs.)

ADM:156 Essentials of Business English II 2 cr.

This course is a continuation of Essentials of Business English I. Students will have the opportunity to improve their abilities in the areas of punctuation, capitalization, number style, and editing. In addition, students will continue to improve their abilities in the areas of grammar and word usage, spelling, and proofreading. The course is also designed to introduce students to basic composition skills, such as sentence structure, paragraph development, and message organization.

(39.6 Lec. Hrs.)

Prerequisite: ADM:155.

ADM:157 Business English 3 cr.

This course is designed to help the students sharpen their communication skills. The students will study and upgrade their skills in the basic areas of grammar and usage, punctuation, spelling, proofreading and editing.

(59.4 Lec. Hrs.)

ADM:158 Effective Business Writing 2 cr.

This course is designed to provide for the development of written communication skills that allow students to plan and create effective and professional documents in the work place. The students will use critical thinking skills to determine the appropriate approach to use in the preparation of various business messages. Different types of business communications are analyzed for style and effectiveness. A review of business English skills may be included.

(39.6 Lec. Hrs.)

Prerequisites: ADM:156 and BCA:129.

ADM:162 Office Procedures 3 cr.

Focuses on a variety of knowledge and skills needed to function in a business environment. Topics may include, but are not limited to, customer service concepts, professional telephone skills and the use of other forms of electronic communication, services of the U.S. Postal Service, acquisition of supplies and equipment, time and stress management, professional appearance and image, domestic and international travel considerations, and preparation and follow-up for meetings and/or conferences.

(59.4 Lec. Hrs.)

Prerequisites: ADM:171, ADM:179, ADM:123 or ADM:122 and ADM:157.

ADM:171/179 Records Management 2-3 cr.

This course is designed for the student to learn and apply the indexing and filing rules that are applicable to the four major filing systems: alphabetic, geographic, numeric and subject filing. Numerous records management supplies, equipment, computer database information, etc., are also integrated into this course.

(39.6 - 59.4 Lec. Hrs.)

ADM:195 Legal Terminology 1 cr.

This course is designed to develop a general basic background in legal terms. The definition, correct spelling and pronunciation of common legal terms will be emphasized.

(19.8 Lec. Hrs.)

ADM:223 Office Procedures 4 cr.

This course focuses on a variety of knowledge and skills needed to function in a business environment. Topics may include, but are not limited to, customer service concepts, professional telephone skills and use of other forms of electronic communication, services of the U.S. Postal Service, acquisition of supplies and equipment, time and stress management, professional appearance and image, domestic and international travel considerations, and preparation and follow-up for meetings and /or conferences.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: ADM:123, ADM:157.

Co-requisite: ADM:133.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ADM:254 Business Professionalism 1 cr.

This course is designed to develop professional growth in the areas of leadership, community service, cooperation, patriotism and business knowledge through membership and participation in a professional organization. This course may be repeated once.
(19.8 Lec. Hrs.)

ADM:255 Business Professionalism II 1 cr.

This course is designed to continue the professional growth of the students in the areas of leadership, community service, cooperation, patriotism and business knowledge through continued membership and participation in a professional organization. This course may be repeated once.
(19.8 Lec. Hrs.)

ADM:257 Professionalism at the Workplace 2 cr.

This course is designed to help students develop the skills, attitudes, and knowledge to work effectively in a variety of professional business environments. Some of the topics to be included are personal appearance, health and well-being, professional attire, manners and etiquette, ethics, professional certifications, professional growth, and job advancement.
(39.6 Lec. Hrs.)

ADM:270 Introduction to Speech Recognition Software 1 cr.

Speech-recognition software is revolutionizing legal, medical, dental, government, and business offices everywhere. In this course you will master speech-recognition fundamentals as you work through 50 basic skill lessons to achieve speech writing proficiency of 110-150 words per minute with 97-99% accuracy. This course will also help you achieve speech writing proficiency and learn essential voice formatting communication skills in order to succeed in today's speech-driven world.
(19.8 Lec. Hrs.)

ADM:279 Meeting and Conference Planning 2 cr.

Meetings play an important role in the communication of information in every kind of business. This course is designed to provide guidelines for planning and conducting informal and formal business meetings, conferences, and conventions. Note taking techniques and the basics of parliamentary procedure will be presented. Students will learn to complete the follow-up activities associated with the event, such as preparation of minutes, resolutions, correspondence, and expense reports.
(39.6 Lec. Hrs.)

Prerequisite: BCA:129.

ADM:360 Administrative Project Management I 3 cr.

This course is designed to be a capstone in the Administrative and Office Support program. The courses will provide a hands-on production setting.
(59.4 Lec. Hrs.)

Prerequisite: Completion of the diploma.

ADM:361 Administrative Project Management II 3 cr.

This course is a two-semester course and is designed to be a capstone in the Administrative and Office Support program. The courses will provide a hands-on production setting.
(59.4 Lec. Hrs.)

Prerequisite: Completion of the diploma.

ADM:936 Cooperative Work Experience Variable cr.

Cooperative Education Experience will integrate classroom theory with on-the job training. The College will assist the student in securing employment which will be related to the student's major field of study and/or career interests. Under the supervision of the college and the employer, the student participates in job training experiences. In addition to employment, attendance at scheduled on campus seminars is required. Seminars may include job searching skills as well as professional development. Student eligibility consists of the successful completion of 12 EICCD credit hours with at least two courses in the major and maintenance of a grade point average of 2.0 or higher. Eligibility requirements and credit hours available vary by program area.

(Variable Coop. Hrs.)

Prerequisite: Consent of instructor.

ADM:940 Office Leadership Seminar 2 cr.

This course is designed to develop self- and professional growth in the area of leadership. The course will provide a base for students to build and increase self-esteem, discover the components of leadership, become aware of leadership issues, participate in a service project and develop their own leadership style.
(39.6 Lec. Hrs.)

ADM:941 Administrative and Office Support Practicum 4 cr.

This is a realistic approach to management support training for the advanced student who is an Associate Degree candidate. All skill courses in the AOS program must have been completed prior to taking this course. The student will have direct involvement with a series of high-level, long-range assignments patterned as closely as possible to business problems that are faced by administrative assistants today.
(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: Completion of the diploma.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGRICULTURE - AGRONOMY

AGA:162 Soil Management and Conservation .5 cr.

Designed to assist the student in the classification of soils, the proper use of soils and the cropping system by the use of tillage equipment. Surveys soil conservation practices and their place in agriculture.

(18 Lec. Hrs.)

Prerequisite: AGC:862.

AGA:207 Soybean Production 1 cr.

This course is designed to enable the student to learn and discuss the most current issues and research information dealing with the commercial production of soybeans. Primary focus of the course will be on the factors of growth and development, variety selection and plant population, fertility management, herbicide usage and herbicide damage, insect and disease identification and control, harvesting, safe storage and the fundamental process of marketing the soybean crop. Special focus will be placed on management's critical thinking abilities in relation to the above production factors and the economical use of all resources.

(24 Lec. Hrs.)

AGA:208 Corn Production I 1 cr.

This course covers the principles of corn production relative to managerial decisions needed to produce maximum economic yield. Topics to include crop budgets and budget troubleshooting, cost analysis and control, physiology of plant development, factors affecting yield, variety selection, insect and weed control concerns, and basic managerial decision making regarding producing corn in the U.S. Corn Belt.

(30 Lec. Hrs.)

Prerequisite: AGC:862.

AGA:210 Corn and Soybean Production 2 cr.

This course covers the principles of corn and soybean production relative to managerial decisions needed to produce maximum economic yield. Topics to include: crop enterprise budgets and budget troubleshooting, partial budgeting, cost analysis and control, physiology of plant development, factors affecting yield, variety and cultivar selection, plant population, fertility management, insect, weed, and disease identification, and control concerns, harvesting, safe storage, and basic managerial decision making regarding producing corn and soybeans in the U.S. Corn Belt. This course is designed to enable the student to learn and discuss the most current issues and research information dealing with the commercial and specialized production of corn and soybeans. Special focus will be placed on management's critical thinking abilities in relation to the above production factors and the economical and responsible use of all resources.

(60 Lec. Hrs.)

AGA:285 Crop Protection 2.5 cr.

Deals with the safe handling and use of agricultural chemicals, the control of weeds through chemical methods and the calibration of equipment. Designed as a field observation of chemical control of weeds, insects, insect life cycles and principles of pesticide use and ecological use in modern production operations. Students are advised to take the state private pesticide applications exam upon completion of this class.

(72 Lec. Hrs.)

Prerequisite: AGC:942.

AGA:333 Forage Production 1 cr.

Deals with current recommended practices and economics of oats, wheat and forage production including varieties, seeding, control of weeds, harvesting and storage of legumes and grasses.

(24 Lec. Hrs.)

AGA:349 Fertilizers 1.25 cr.

The manufacture and kinds of lime and fertilizer materials, the economical and efficient use of lime and fertilizer materials, and the impact of lime and fertilizer material on the environment with practical application to production. Agriculture and horticulture soil and fertilizer management will be discussed.

(30 Lec. Hrs.)

Prerequisite: AGA:351 and AGA:890.

AGA:350 Fertilizers 1 cr.

Includes applied chemistry and mathematics in the study of the kinds and processing of fertilizers, fertilizer combinations, and the bulk blending of materials, methods and timing of fertilizer application, use of micronutrients or trace minerals, the effect of various pHs and microorganism activities upon nutrient availability and economic principles as they apply to the fertilizer business and environment. Current topics within the industry will also be discussed.

(30 Lec. Hrs.)

AGA:351 Soil Science 1 cr.

The nature of soils including soil formation, soil physical properties, biological properties, and soil stewardship with practical application to production agriculture and horticulture soil and fertilizer management will be addressed.

(25 Lec. Hrs.)

Prerequisite: AGC:942

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGA:370 Crop Management 1.25 cr.

This course covers the principles of corn production relative to managerial decisions needed to produce maximum economic yield. Topics to include crop budgets and budget troubleshooting, cost analysis and control, physiology of plant development, factors affecting yield, variety selection, insect and weed control concerns, and basic managerial decision making regarding producing corn in the U.S. Corn Belt. This course is designed to enable the student to learn and discuss the most current issues and research information dealing with the commercial production of soybeans. Primary focus of the course will be on the factors of growth and development, variety selection and plant population, fertility management, herbicide usage and herbicide damage, insect and disease identification and control, harvesting, safe storage and the fundamental process of marketing the soybean crop. Special focus will be placed on management's critical thinking abilities in relation to the above production factors and the economical use of all resources. This class will conclude with the agronomic and economic study of small grain and forage production in the Midwest Corn Belt Region.

(33.6 Lec. Hrs.)

Prerequisite: AGC:942.

AGA:371 The Green Plant 1.25 cr.

Deals with the principles of botany, including the study of photosynthesis, nutrient transport, plant propagation, effect of length of days, kinetics of growth, some plant classification, translocation of nutrients, nutrient disease relationships, variations in plant composition, effect of fertilizer elements on growth and nutritive requirements of plants. Attention is also on the control of harmful molds, fungi and organisms causing disease in crops.

(33.6 Lec. Hrs.)

Prerequisite: AGC:942.

AGA:373 Integrated Crop Management 1 cr.

Major emphasis of this course deals with the study of integrated pest management and the knowledge and use of diagnostic tools and techniques producers have available. This course will primarily deal with nutrient deficiencies, weed control, insect control and disease control in corn production enterprises.

(24 Lec. Hrs.)

AGA:881 Grain Science 1.25 cr.

Study of grain grading, discounts, pricing, drying, storage and insects. Various equipment and proper use including sampling and testing will be emphasized. Practices used in grain handling at elevator and grain terminal businesses will be explained.

(30 Lec. Hrs.)

Prerequisite: AGC:941.

AGA:890 Soil Chemistry 1 cr.

Soil chemical properties, including clay mineralogy, cation exchange, pH, and availabilities of nitrogen, phosphorus, potassium, and micronutrients in the soil with practical application to production agriculture and horticulture soil and fertilizer management will be discussed.

(25 Lec. Hrs.)

Prerequisite: AGA:351

AGA:901 Seed Science 1.25 cr.

Study of crop conditioning and handling. Various methods of handling and drying grain will be emphasized. Changes within the grain will be discussed. The economics of storage and drying systems along with grain quality will be emphasized.

(25 Lec. Hrs.)

Prerequisite: AGC:866.

AGRICULTURE - FARM MANAGEMENT

AGB:103 Agricultural Economics 1 cr.

Deals with the economic principles applied to the feed, grain seed and fertilizer business. Topics include supply, demand, marginal returns, opportunity costs, prices, taxation, finance and fundamentals of hedging of agricultural products as applied to agricultural business.

(25 Lec. Hrs.)

AGB:105 Business Principles for Agriculture I 1.25 cr.

Designed to provide the student with a general introduction to the business environment.

(36 Lec. Hrs.)

Prerequisite: AGC:941.

AGB:106 Business Principles for Agriculture II 1.25 cr.

A study of the overall operation of the agriculture business. The student is assigned a project on establishing a business.

(36 Lec. Hrs.)

Prerequisite: AGC:943.

AGB:108 Human Relations I 1.5 cr.

Designed to help the student prepare for employment, satisfactory work performance, co-worker relations, employer-employee relations, work habits and attitudes and the procedures for applying and interviewing for a job.

(25 Lec. Hrs.)

AGB:112 Human Relations II 2 cr.

This course is designed to help students function better in today's complex work and social environment. Interpersonal relations in an organization are emphasized as well as an understanding of human relations, importance in achieving job satisfaction and accomplishment. Areas of specific discussion are attitudes, self-disclosure, emotional control, positive reinforcement, first impressions, team building, conflict management and coping with life changes.

(36 Lec. Hrs.)

Prerequisite: AGC:941.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGB:141 Applied Agri-Business Accounting I 1.25 cr.

An introduction to the accrual accounting system. Emphasis is also given to the accounting cycle and basic accounting principles and practices used by many companies in the input/supply sector of the agriculture industry.

(36 Lec. Hrs.)

Prerequisite: AGC:941.

AGB:142 Applied Agri-Business Accounting II 1.25 cr.

This is the second of a two-course series of double entry, accrual accounting. Major emphasis of this course focus on payroll accounting and the accounting practices of a merchandising business like you would find in retail agribusiness. Accounting for Sales and Purchases puts an end to this series.

(36 Lec. Hrs.)

Prerequisite: AGC:941.

AGB:191 Agricultural Sales I 1 cr.

Investigates selling as a career, preparing for the selling process, and selling and the behavioral sciences. Selling techniques and procedures will also be studied.

(30 Lec. Hrs.)

AGB:192 Agricultural Sales II 1.25 cr.

Selling techniques and procedures will be emphasized in this course. Each student will practice these techniques and procedures in role playing situations.

(36 Lec. Hrs.)

Prerequisite: AGC:941.

AGB:193 Agricultural Sales III 1.25 cr.

A continuation of AGB:191 and AGB:192 with emphasis on sales to agricultural customers. The total scope of the duties of a salesperson is emphasized. Use of the phone in sales is covered. Each student makes several sales presentations.

(36 Lec. Hrs.)

Prerequisites: AGB:191 and AGB:192

AGB:231 Futures and Options 1 cr.

A basic study of the principles of futures and options will be covered. Subjects included will be the futures market, trading mechanics, hedging and speculating, arbitrage, fundamental and technical analysis and following futures and options. Attention is given to show where hedging and/or the use of options may fit the agribusiness.

(30 Lec. Hrs.)

Prerequisite: AGC:861.

AGB:232 Livestock and Grain Marketing 2 cr.

Emphasis on the alternatives available for marketing grain and livestock, establishing a marketing plan and grading alternatives. This course also continues the discussion of hedging and options.

(60 Lec. Hrs.)

AGB:255 Applied Agri-Business Accounting III 1.25 cr.

Continuation of FF:106 and FF:124 with emphasis on the analysis of financial statements. Each student is assigned a practice set and keeps records for the business.

(36 Lec. Hrs.)

Prerequisites: AFB:141, AGB:142 and AGC:943.

AGB:280 Business Law for Agriculture 1.25 cr.

Deals with contracts, sales, commercial paper and agency relationships.

(36 Lec. Hrs.)

Prerequisite: AGC:942.

AGB:300 Farm Record Analysis 1 cr.

Deals with the various crop and livestock budgets, cash flow, whole farm budgeting, rental and leasing agreements. Each student must make his/her own management decisions in regard to purchasing equipment, choosing crop and livestock operations and keeping complete records. Weather, prices and market information are given as the year progresses.

(30 Lec. Hrs.)

Prerequisite: AGC:864.

AGB:301 Applied Accounting for Farm Management I 1 cr.

Emphasis is placed on the importance of farm recordkeeping as an essential management tool. Topics include inventory, depreciation, receipts and expenses, cash and accrual methods of accounting, net farm income statements and net worth statements. Students gain experience by working a practical recordkeeping problem.

(30 Lec. Hrs.)

Prerequisites: AGC:861.

AGB:302 Applied Accounting for Farm Management II 1 cr.

To develop the student's understanding of income tax management, depreciation, capital gains, setting up cash flows, net farm income statements, and net worth statements to help the student analyze the farm business.

(30 Lec. Hrs.)

Prerequisite: AGC:862.

AGB:304 Agricultural Credit 1 cr.

Covers the importance of obtaining credit, its wise use, credit sources for farmers and maintaining a good credit rating. Students are exposed to credit instruments and the necessary budgets required for obtaining credit.

(30 Lec. Hrs.)

AGB:305 Agricultural Law 1 cr.

A study of contracts, torts, restrictions on the use and ownership of land, water rights and estate planning.

(30 Lec. Hrs.)

AGB:306 Risk Management 1 cr.

Deals with the principles of insurance coverage used in the farm business.

(30 Lec. Hrs.)

Prerequisite: AGC:865.

AGB:350 Advertising in Agribusiness 2.5 cr.

Designed to develop the student's understanding of advertising and its role in today's business community. Primary emphasis is placed on the advertising function in the business industry.

Topics include purposes of advertising, planning an ad program, radio, print and creative advertisements. Each student, through use of an advertising budget, develops a detailed advertising program for a business.

(72 Lec. Hrs.)

Prerequisite: AGC:942.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGB:351 Principles of Marketing and Retailing for Agriculture 1.25 cr.

Study of the principles, practices and theory involved in supplying consumers with goods and services and of the retail business as the last step in the channel of distribution. Topics include marketing mix planning, consumer behavior, market research, merchandising techniques, margin and markup, discounts and inventory procedures. (33.6 Lec. Hrs.)

Prerequisite: AGC:942.

AGRICULTURE - COMPREHENSIVE

AGC:861 Farm Experience I 3 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (288 Coop Hrs.)

Prerequisite: Consent of instructor and enrollment in Farm Management program.

AGC:862 Farm Experience II 3.5 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (336 Coop Hrs.)

Prerequisite: Consent of instructor and enrollment in Farm Management program.

AGC:863 Farm Experience III 2 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (192 Coop Hrs.)

Prerequisites: Consent of instructor and enrollment in Farm Management program.

AGC:864 Farm Experience IV 3 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (288 Coop Hrs.)

Prerequisite: Consent of instructor and enrollment in Farm Management program.

AGC:865 Farm Experience V 3.5 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (336 Coop Hrs.)

Prerequisites: Consent of instructor and enrollment in Farm Management program.

AGC:866 Farm Experience VI 2 cr.

Students select an employment center (their home farm or other) to gain practical farm experience. (192 Coop Hrs.)

Prerequisite: Consent of instructor and enrollment in Farm Management program.

AGC:901 Seminar I .5 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (12 Lec. Hrs.)

AGC:902 Seminar II .5 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (12 Lec. Hrs.)

AGC:903 Seminar III .25 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (4.8 Lec. Hrs.)

AGC:904 Seminar IV .5 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (10 Lec. Hrs.)

AGC:905 Seminar V .5 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (10 Lec. Hrs.)

AGC:906 Seminar VI .25 cr.

Designed to give the student an opportunity to present and discuss current topics, problems and ideas that do not relate to current classes, hear speakers and discuss questions pertaining to Extension meetings. Instructors will guide students' discussion and attempt to provide conclusions and attitudes conducive to successful farm operation. (4.8 Lec. Hrs.)

Prerequisite: AGC:866.

AGC:910 Alpha Mu Sigma I .5 cr.

Designed to help the student develop a working knowledge of parliamentary procedure, develop the ability to successfully conduct meetings, develop leadership qualities, develop and foster relationships with other students, DECA chapters and industry on a state and national level. (12 Lec. Hrs.)

Co-requisite: Must be a student in the Feed and Fertilizer Marketing program or have instructor consent.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGC:911 Alpha Mu Sigma II .5 cr.

Designed to help the student develop a working knowledge of parliamentary procedure, develop the ability to successfully conduct meetings, develop leadership qualities, develop and foster relationships with other students, DECA chapters and industry on a state and national level.
(12 Lec. Hrs.)

Co-requisite: Must be a student in the Feed and Fertilizer Marketing program or have instructor consent.

AGC:912 Alpha Mu Sigma III .25 cr.

Designed to help the student develop a working knowledge of parliamentary procedure, develop the ability to successfully conduct meetings, develop leadership qualities, develop and foster relationships with other students, DECA chapters and industry on a state and national level.
(8.4 Lec. Hrs.)

Co-requisite: Must be a student in the Feed and Fertilizer Marketing program or have instructor consent.

AGC:913 Alpha Mu Sigma IV .5 cr.

Designed to help the student develop a working knowledge of parliamentary procedure, develop the ability to successfully conduct meetings, develop leadership qualities, develop and foster relationships with other students, DECA chapters and industry on a state and national level.
(12 Lec. Hrs.)

Co-requisite: Must be a student in the Feed and Fertilizer Marketing program or have instructor consent.

AGC:914 Alpha Mu Sigma V .5 cr.

Designed to help the student develop a working knowledge of parliamentary procedure, develop the ability to successfully conduct meetings, develop leadership qualities, develop and foster relationships with other students, DECA chapters and industry on a state and national level.
(12 Lec. Hrs.)

Co-requisite: Must be a student in the Feed and Fertilizer Marketing program or have instructor consent.

AGC:924 Honors Project 1 cr.

A research project requiring individual initiative and research exploring a problem area relative to the business during the employment experience. The report is to be in acceptable form, preferably typed, may include pictures and charts, and is signed by the employer. Topic must be different than other research writing course.
(60 Lab Hrs.)

Co-requisite: AGC:943.

AGC:941 Employment Experience I 3 cr.

Instructors and students select employment centers to gain practical experience from approved places of business during a six- to seven-week employment experience period. The experience centers are approved and coordinated by a faculty member. Students receive the going wages during these periods.
(288 Coop Hrs.)

Co-requisite: Consent of instructor and enrollment in Feed and Fertilizer Marketing program.

AGC:942 Employment Experience II 3.5 cr.

Instructors and students select employment centers to gain practical experience from approved places of business during a six- to seven-week employment experience period. The experience centers are approved and coordinated by a faculty member. Students receive the going wages during these periods.
(336 Coop Hrs.)

Prerequisite: AGC:941.

Co-requisites: Consent of instructor and enrollment in Feed and Fertilizer Marketing program.

AGC:943 Employment Experience III 3 cr.

Instructors and students select employment centers to gain practical experience from approved places of business during a six- to seven-week employment experience period. The experience centers are approved and coordinated by a faculty member. Students receive the going wages during these periods.
(288 Coop Hrs.)

Prerequisite: AGC:942.

Co-requisites: Consent of instructor and enrollment in Feed and Fertilizer Marketing program.

AGC:944 Employment Experience IV 3.5 cr.

Instructors and students select employment centers to gain practical experience from approved places of business during a six- to seven-week employment experience period. The experience centers are approved and coordinated by a faculty member. Students receive the going wages during these periods.
(336 Coop Hrs.)

Prerequisite: AGC:943.

Co-requisites: Consent of instructor and enrollment in Feed and Fertilizer Marketing program.

AGC:949 Special Problems 2 cr.

Designed to allow the student to research and study a production or management topic in an area of interest. Areas of possible study could include sustainable agriculture on value-added crop or livestock production. After the student has approved the topic area with the instructor, research on the paper can begin, with an oral presentation and paper project to be turned in at the close of the class.
(60 Lec. Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGRICULTURE - FLORAL

AGF:139 Floral Design I 2 cr.

Introduces the student to design theory. Emphasis is given to the development of special techniques in basic design as it applies to flowers, foliages and accessories. Hands on work with floral design is given in three medias, fresh, silk and dried.
(39.6 Lec. Hrs.)

AGF:141 Floral Design II 2 cr.

This course is designed to acquaint the student with the basic skills required to be a successful floral designer. Instruction will include principles and elements of design, care and conditioning of fresh cut materials, drying and preserving methods, and sales technique. Opportunity for extensive lab work is offered.
(39.6 Lec. Hrs.)

AGF:149 Retail Flower Shop Operation 2 cr.

A study of the principles of organizing, financing, and managing a retail flower shop.
(39.6 Lec. Hrs.)

AGRICULTURE - HORTICULTURE

AGH:115 Turf Management 2 cr.

This course introduces the types of grass species and their uses; their growth habits, and development as a unique plant species. Proper culture and establishment procedures are studied as well as their importance to the environment.
(39.6 Lec. Hrs.)

AGH:130 Greenhouse Management 2 cr.

This course presents management of greenhouse crops and environment. Commercial crops grown in Iowa will be investigated and emphasis will be given to proper fertilization and utilization of modern fertilizer application equipment.
(39.6 Lec. Hrs.)

AGH:143 Equipment Repair 3 cr.

An introductory course in basic horticulture equipment maintenance. Areas to be covered will include safety, basic tools, air-cooled engine technology, fuel and lubrication, electrical systems, governor systems, failure analysis, and engine disassembly and inspection, maintenance schedules and basic repairs.
(12 Lec. Hrs.)

AGH:149 Drawing and Design 2 cr.

This course provides students with the skills necessary to design residential landscapes. Attention will be given to choosing plant materials, design surfaces and site analysis. This course is specifically designed to allow students to go through the steps involved in residential site design.
(39.6 Lec. Hrs.)

AGH:152 Landscape and Design 3 cr.

Studies the theory and principles of landscape design as they are applied to selected problems in landscape development. The use of trees, shrubs, and planting in the public, living and service area of the home will be included.
(59.4 Lec. Hrs.)

AGH:234 Plant Identification and Care I 2 cr.

Introduces the student to the study of garden and house flowering and foliage plants. Topics will include production, culture, propagations and materials necessary for the growth of annuals, perennials, bulbs, ground cover, ferns, exotic and tropical plants, shrubs and roses.
(39.6 Lec. Hrs.)

AGH:235 Plant Genetics 2 cr.

An introductory genetics class for students majoring in Horticulture Science. This course will provide insight into many aspects of plant genetics, including inheritance in conjunction with methods for the isolation and detection of specific gene fragments so that the student can understand the detection of genetic diseases and identification of individual (DNA fingerprinting). Students can discover how genes are organized, how they reproduce and how they affect the next generation of cells. Recombination, structure and replication of DNA, and gene expression will be major topics of study.
(39.6 Lec. Hrs.)

AGH:237 Plant Identification and Care II 2 cr.

Continues the study of garden and house flowering and foliage plants.
(39.6 Lec. Hrs.)

AGH:254 Pest Management 2 cr.

This course provides basic knowledge of the weeds, diseases and insects that commonly affect or attach to ornamental plants. The structure, function and life cycles of these pests will be studied. A collection of pests will help students with the identification process.
(39.6 Lec. Hrs.)

AGH:274 Nursery Management 2 cr.

This course will focus on the administration and culture of the nursery business. This will include retail garden centers and nurseries. Specifics will include fertilization, Irrigation, plant growth and long-term nursery production cycles.
(38.4 Lec. Hrs./9.6 Lab Hrs.)

AGH:339 Athletic Field Maintenance 1 cr.

A study of specific sport facilities utilizing turfgrasses including football, soccer, field hockey, baseball and softball fields. Techniques of operation, management, maintenance, budgets, construction and irrigation will be covered.
(19.2 Lec. Hrs./4.8 Lab Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGH:402 Golf Course Maintenance 2 cr.

This course provides opportunities for students to learn techniques of golf course management and operation. Proper construction of specific golf course areas such as: greens, tees, bunkers are studied. Basic golf course design is presented. Budgets, irrigation, maintenance and integrated pest management programs are presented.
(38.4 Lec. Hrs./9.6 Lab Hrs.)

AGH:450 Horticultural Leadership I .75 cr.

Designed to provide students the opportunity to discuss current issues in horticulture, be introduced to horticulture professionals as well as other horticulture students throughout the region.
(18 Lec. Hrs.)

AGH:452 Horticultural Leadership II .5 cr.

Designed to provide students the opportunity to discuss current issues in horticulture, be introduced to horticulture professionals as well as other horticulture students throughout the region.
(12 Lec. Hrs.)

AGH:454 Horticultural Leadership III .75 cr.

Designed to provide students the opportunity to discuss current issues in horticulture, be introduced to horticulture professionals as well as other horticulture students throughout the region.
(18 Lec. Hrs.)

AGH:455 Horticultural Leadership IV .5 cr.

Designed to provide students the opportunity to discuss current issues in horticulture, be introduced to horticulture professionals as well as other horticulture students throughout the region.
(12 Lec. Hrs.)

AGH:805 Horticulture Internship I 2.5 cr.

This course provides on-the-job experience in a commercial horticulture business. Students will gain an in-depth understanding of the skills necessary to be successful in the field of horticulture.
(3.5 Credits/186.7 Coop. Hrs.)

AGH:815 Horticulture Internship II 4 cr.

This course provides on-the-job experience in a commercial horticulture business. Students will gain an in-depth understanding of the skills necessary to be successful in the field of horticulture.
(300 Coop. Hrs.)

AGH:827 Horticulture Internship III 3.5 cr.

This course provides on-the-job experience in a commercial horticulture business. Students will gain an in-depth understanding of the skills necessary to be successful in the field of horticulture.
(262.5 Coop. Hrs.)

AGRICULTURE - MECHANICS

AGM:121 Machinery Repair and Maintenance 4 cr.

Deals with systems of routine farm machinery upkeep, maintenance, adjustment and repair.
(40 Lec. Hrs./72 Lab Hrs.)
Prerequisite: AGC:866.

AGM:130 Farm Electrification 1 cr.

A study in basic electrical planning including farmstead distribution planning, layout of circuits, electrical code and selection of electric motors. Emphasis is placed on wiring skills.
(24 Lec. Hrs./6 Lab Hrs.)
Prerequisite: AGC:861.

AGM: 157 Machinery Management 2 cr.

The economics of machinery selection and use will receive major emphasis. Management decisions concerning size of machine, purchasing, and the operation of major farm machines will also be topics for class consideration.
(50 Lec. Hrs.)

AGM:160 Farm Structures 1 cr.

Deals with building material and planning, providing the student with knowledge needed in selecting economical, flexible and highly useful farm buildings. Emphasis is placed on structure trends, types, building materials and plan reading.
(30 Lec. Hrs.)
Prerequisite: AGC:865.

AGM:202 Agricultural Welding 2 cr.

Designed to teach the student how to weld with different electrodes in all positions. Emphasis is on the E-6010 and E-7018 electrodes. Students safely set up welding equipment, adjust, operate, weld and braze in all four positions. The learning experience is also enhanced by cutting freehand with the cutting torch and operating semi-automatic cutting equipment.
(6.0 Lec. Hrs./42.0 Lab Hrs.)

AGRICULTURE - PRECISION AG

AGP:242 Precision Agricultural Applications 2 cr.

This introductory course will concentrate on the theories and applications of Geographic Information Systems (GIS), Site Specific Farming (SSF), Precision Farming (PF), and Global Positioning Systems (GPS); exploration of various tools for Variable Rate Technology (VRT) and Variable Rate Application (VRA); remote sensing as a diagnostic tool for managerial decisions. This course is designed to help retail students assist agricultural producers become more profitable and preserve non-renewable resources: identify computer hardware and software needs; and make recommendations to producers based on agronomic and economic data.
(60 Lec. Hrs.)

Prerequisite: AGA:350.

Co-requisites: AGP:242 or AGC:913.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AGRICULTURE - ANIMAL SCIENCE

AGS:119 Livestock Management 1.75 cr.

Designed to provide the student with an understanding of practices, feeding programs, space requirements, production testing programs, gestation periods, sanitation and disease control problems and background knowledge needed to advise farmers on their livestock problems.

(48 Lec. Hrs.)

Prerequisite: AGC:943.

AGS:180 Sheep Production 1 cr.

Students will gain the basic production principles necessary for raising sheep such as genetics, reproduction, health, nutrition and management.

(30 Lec. Hrs.)

Prerequisite: AGC:865.

AGS:315 Principles of Animal Nutrition 2 cr.

A study of the digestive systems of farm livestock, the basic food nutrients, how and why they are needed by the animals and the individual nutrient requirements of each farm animal depending on stage of growth, development or function. It will also cover topics such as selection of feeds for feeding farm animals and the procedures used to determine what feeds to use. We will also select the proper feed rations to use and learn to formulate balanced feed rations.

(60 Lec. Hrs.)

AGS:317 Animal Nutrition 2 cr.

A study of the digestive systems of farm livestock, the basic food nutrients, how and why they are needed by the animals and the individual nutrient requirements of each farm animal depending on stage of growth, development or function. It will also cover topics such as selection of feeds for feeding farm animals and the procedures used to determine what feeds to use. We will also select the proper feed rations to use and learn to formulate balanced feed rations.

(60 Lec. Hrs.)

AGS:318 Feed Formulation 1.25 cr.

A study of the analysis of feed, development of ration, formulation of feeds on both a nutritional and an economical basis and the substitution of ingredients in feed formulas.

(36 Lec. Hrs.)

Prerequisite: AGC:943.

AGS:324 Dairy Production 1 cr.

Designed to teach the student how to manage a dairy herd profitably.

Consideration is given to rations, feeding practices, care of replacements and use of records.

(30 Lec. Hrs.)

Prerequisite: AGC:864.

AGS:352 Genetics 1 cr.

Deals with the basic genetics in both livestock and crop science. Topics include breeding systems and selection, breeding animals based on individual type, progeny testing and genetic improvement. Seed selection based on hybrid characteristics and basic biotechnical advances will be discussed.

(25 Lec. Hrs.)

Prerequisite: AGC:861.

AGS:400 Swine Production I 2 cr.

This is the first of two courses that together give a basic foundation for one planning to operate a profitable swine enterprise. Swine facilities from past to present are analyzed with special emphasis on the economic, social, environmental and physical demands of sustainability. Included are the fundamentals of swine care, selection, breeding, reproduction, management and disease prevention and control.

(60 Lec. Hrs.)

AGS:410 Swine Production II 1 cr.

A continuation of AGS:400. Emphasis is placed on reproduction, reproduction management, animal selection and reproductive nutrition.

(30 Lec. Hrs.)

Prerequisite: AGC:865.

AGS:554 Beef Production 2 cr.

This course is designed to explore the principles and concepts of the various beef production enterprises in the Midwest including commercial cow calf, purebred cow calf and feedlot production centers, including stocker and feeder operations. Major emphasis of the course is placed on the topics of breeds, selection and genetics; cow calf investment, profitability and risk management; EPDs, reproductive management and efficiency; health management, nutritional management, facilities, and handling and marketing of beef cattle.

(60 Lec. Hrs.)

Prerequisite: AGB:302.

AGS:881 Feeds 1.25 cr.

Deals primarily with the composition feeds. Topics also include grain and grain by-products, roughages, pasture grasses, soilage and silage, manural values of feeds and feed palatability.

(28.8 Lec. Hrs./4.8 Lab Hrs.)

Prerequisite: AGC:942.

AMERICAN SIGN LANGUAGE

ASL:151 American Sign Language I 5 cr.

This is an introductory level course which is designed with a sequenced series of readiness activities in the language of American signs. The course emphasizes vocabulary building, sign principles and development of expressive and receptive signing skills. The students participate in exercises that develop a comprehension of sign vocabulary and grammatical patterns of ASL.

(79.2 Lec. Hrs./59.4 Clinical Hrs.)

ASL:181 American Sign Language II 5 cr.

This course is designed for students to continue to study American Sign Language (ASL). The students will participate in various exercises that will increase their receptive skills as well as expressive skills. The students will also be signing more, along with the full use of body language, facial expression, pantomime and gesture. The students will continue their awareness and developmental patterns and tendencies of ASL.

(79.2 Lec. Hrs./59.4 Clinical Hrs.)

Prerequisite: ASL:151.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ASL:251 American Sign Language III 5 cr.

Expands on previously learned grammatical structures and lexical items of the target language. The student learns to control the language in a variety of conversational settings through directed conversations and group discussion. (79.2 Lec. Hrs./59.4 Clinical Hrs.)
Prerequisite: ASL:181.

ASL:281 American Sign Language IV 4 cr.

Expands on previously learned grammatical structures and lexical items of the target language. The student learns to control the language in a variety of conversational settings through directed conversations and group discussion. (59.4 Lec. Hrs./59.4 Clinical Hrs.)
Prerequisite: ASL:251.

ART

ART:101 Art Appreciation 3 cr.

Introduction to the world of paintings, sculpture and architecture. Emphasis is on the appreciation of well-known works of art in a variety of media. The artist and the creative process are explored.

This course satisfies a general education requirement in the Arts and Humanities Area. (59.4 Lec. Hrs.)

ART:120 2D Design 3 cr.

An introduction to the principles and procedures which guide the way images and objects are created. Provides a valuable basis for other subsequent fine art studio pursuits as well as for those who wish to progress into commercial applications of graphic and product design.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

ASSOCIATE DEGREE NURSING

ADN:432 Nursing the Childbearing Family 5 cr.

Nursing the Childbearing Family is one of three courses which allow a student to articulate to the associate degree level of nursing education. The course is designed as a family-centered approach to caring for childbearing clients and families. The student will build on prior learning to apply critical thinking principles while caring for the childbearing family. The concepts of caring, health, environment, person and nursing are closely re-examined as they relate to the childbearing family. Emphasis is placed on concepts such as bonding, parenting and the family. Also, patient/client and family teaching are introduced as related to the childbearing years and the neonatal period. The various roles of the professional maternity nurse team member are examined. (59.4 Lec. Hrs./118.8 Clinical Hrs.)

erequisites: BIO:151, BIO:173, BIO:186, PSY:111, PSY:121, PNN:165 & 166, PNN:210 & 211, PNN:511 & 512.
Co-requisites: BIO:168, ENG:105 AND SOC:110.

ADN:442 Nursing of Children and Families 5 cr.

Nursing of Children and Families is one of three courses which allow a student to articulate to the associate degree level of nursing education. This course focuses on a family-centered approach in the promotion of child and family health. The previously taught concepts are reexamined as related to disorders of children. Emphasis is placed on meeting children's health needs through the concepts of play, parenting and client-family teaching. The various roles of a pediatric professional nurse team member are examined.

(59.4 Lec. Hrs./118.8 Clinical Hrs.)
Prerequisites: BIO:151, BIO:173, BIO:186, PSY:111, PSY:121, PNN:165 & 166, PNN:210 & 211, PNN:511 & 512.
Co-requisites: BIO:168, ENG:105 AND SOC:110.

ADN:473 Nursing in Mental Health 5 cr.

Mental Health Nursing is one of three courses which allow a student to articulate to the associate degree level of nursing education. The course focuses on the maladaptive neuro-biological and behavioral responses of individuals to developmental and situational events throughout the life span. Theoretical concepts are presented to assist the student in developing self awareness, as well as understanding the meaning of behavior of others. The basic philosophical approach emphasizes the intrinsic worth and dignity of all individuals. Mental health nursing principles are presented with emphasis on the concept of caring, therapeutic use of self and the practice of therapeutic communication skills. The focus is on holistic nursing, and because mental health nursing is applicable to every nurse's individual practice, the concepts discussed in this course may be utilized in all clinical nursing settings.

Application of specific mental health nursing principles and practice is determined by the nursing diagnosis of the client's psychosocial and behavioral problems. The mental health nursing clinical experience provides an opportunity for the student to utilize the nursing process in a variety of mental health care facilities. (59.4 Lec. Hrs./118.8 Clinical Hrs.)

Prerequisites: BIO:151, BIO:168, BIO:173, PNN:210 and 211, PNN:165, PNN:511 and 512, PSY:111 and PSY:121.
Co-requisites: BIO:186, ENG:105 and SOC:110.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

ADN:541/542 Concepts in Clinical Nursing II Modules A and B 13 cr.

(ADN:541 - 6 cr.; ADN:542 - 7 cr.)

Focuses on the utilization of the nursing process and therapeutic communication in the care of individuals/groups with a variety of complex health problems.

Theoretical concepts and principles underlying health problems during various developmental phases are explored. The nursing student will utilize critical thinking skills to analyze and synthesize previous and concurrent knowledge in the use of the nursing process. Clinical experiences are offered in a variety of environmental settings in which a registered nurse may practice. In each area, the role of the registered nurse will be emphasized. This course is offered in two modules.

(89.1 Lec. Hrs./118.8 Clinical Hrs. per Module)

Prerequisites: BIO:168, BIO:173, BIO:151, BIO:186, PSY:111, PSY:121, PNN:210 & 211, PNN:165 & 166, PNN:511 & 512, ADN:473, ADN:432, ADN:442, ENG:105, SOC:110.

ADN:811 Comprehensive Nursing 5 cr.

This is an exit course for associate degree nursing students which builds on concepts taught in previous nursing courses. The concepts of caring, health, environment, person and nursing are closely examined. Emphasis is placed on the use of the nursing process to meet the health needs of individuals and groups across the life span, focusing particularly on the unique needs of elderly clients. Current patient care management philosophies along with varying leadership styles are presented. The student is provided an opportunity to examine ethical, legal and moral principles that relate to the delivery of nursing care through the examination of current trends and legislation affecting the health care industry. Specific strategies to meet the challenges of role transition from student to professional practitioner are discussed.

(51.0 Lec. Hrs./72.0 Clinical Hrs.)

Prerequisites: BIO:168, BIO:173, BIO:151, BIO:186, PSY:111, PSY:121, PNN:210, PNN:211, PNN:165, PNN:166, PNN:511, PNN:512, ADN:473, ADN:432, ADN:442, ADN:541, ADN:542, ENG:105, SOC:110.

AUTOMATION TECHNOLOGY AND ROBOTICS

ATR:122 Automated Manufacturing Technology 4 cr.

A beginning course in robotics and automation designed to give students the fundamentals needed to complete further coursework in robotics. Topics covered will include computer usage, keyboarding, programming using LOGO, robot systems, computer aided design, robot geometry, analog and digital devices, logic circuits and machine vision. (39.6 Lec. Hrs./118.8 Lab Hrs.)

Prerequisites: MAT:720 and IND:102.

ATR:123 Automation Technology 3 cr.

This course introduces various devices used in the manufacturing environment. Robotic systems are studied in detail along with work cell designs. Common robotic applications are studied along with robot terminology. The students also will study hard automation and its applications.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ELT:123.

ATR:176 Networking for Industry 3 cr.

This course gives the student experiences with common types of networks used in industrial locations. The student will learn computer communication techniques and gain hands-on experience with RS 232, RS 422 and Ethernet networks.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

AUTO TECHNOLOGY

AUT:115 Automotive Shop Safety 1 cr.

This course is designed to acquaint the student with the proper personnel and shop safety procedures needed to function in an automotive shop. Tool identification, tool care and maintenance will be covered. Policy, procedures and orientation will also be included in this course.

(19.8 Lec. Hrs.)

AUT:164 Automotive Engine Repair 4 cr.

Basic theory of two-cycle and four-cycle gasoline engines and their application will be introduced. Disassembly, inspection and reassembly competencies will be experienced as well as cooling, lubrication, induction, exhaust, compression and valve systems. Students will develop competencies in precision measuring and services procedures.

(39.6 Lec. Hrs./118.8 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115.

AUT:232 Automotive Automatic Transmissions I 3 cr.

This course is designed to provide basic knowledge in the diagnosis and repair of the automatic transmission. The student will develop skills necessary to perform in-car automatic transmission service. The student will also develop an understanding of the operation and service of torque converters, planetary gear trains and hydraulic components used in automatic transmissions. In-car service, as well as, removal-installation and overhaul procedures will be stressed in the lab portion of this course.

(39.6 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AUT:233 Automatic Transmission II 3 cr.

This course is designed to provide advanced knowledge and skills in the diagnosis and repair of automatic transmissions and transaxles. The student will develop skills in reading transmission hydraulic control circuit schematics, perform diagnosis of electronically controlled automatic transmissions and transaxles and dis-assemble and re-assemble an automatic overdrive transaxle. The use of pressure gauges, scan tools and other test equipment will be practiced.
(34.65 Lec. Hrs./74.25 Lab Hrs.)

Prerequisites: AUT:115 and AUT:232

AUT:304 Automotive Manual Drive Train and Axles 4 cr.

Provides basic knowledge in automotive clutches, standard transmissions, transaxles and differentials. Basic theory, diagnosis and service procedures are covered. Students will be able to correctly disassemble and reassemble standard transmissions, transaxles and differentials in accordance with manufacturers' guidelines.
(49.5 Lec. Hrs./89.1 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115.

AUT:404 Automotive Suspension and Steering 4 cr.

This course deals specifically with automobile suspension and steering systems. Specific skills needed for the development of competencies will be taught. Competencies that are developed in this course are aimed at entry-level skills as a suspension and steering specialist.
(49.5 Lec. Hrs./89.1 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115.

AUT:524 Automotive Brake Systems and Service 4 cr.

This course is designed to allow the student to begin the mastery of the brake systems used on today's cars and light trucks. This course deals specifically with disc and drum brakes, power and conventional braking systems and emergency braking systems. Topics also include hydraulic and electro-hydraulic brake components, basic diagnosis and anti-lock braking systems. The use of measuring tools, brake lathes and ABS scantools will be stressed. Students will develop competencies aimed at entry-level skills as a brake specialist.
(49.5 Lec. Hrs./89.1 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115.

AUT:606 Basic Automotive Electricity/Electronics 3 cr.

In this course the student is introduced to basic electrical and electronics principles. The basics are applied to automotive electrical circuits. What electricity is and how it does its work is covered in detail. Lab sessions are spent turning theory into hands-on practice with meters and basic circuits.
(39.6 Lec. Hrs./59.4 Lab Hrs.)

AUT:614 Automotive Electrical I 3 cr.

In this course the student is introduced to basic automotive battery, charging and starting systems. The operating principles will be discussed during the lecture/ discussion sessions. Lab sessions are spent practicing testing, diagnosis and repair.
(39.6 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite: AUT:606

Co-requisite: AUT:115.

AUT:656 Automotive Electrical II 4 cr.

This course deals specifically with the automobile chassis electrical systems. The student will be taught how automobile circuits are wired and how they operate. Troubleshooting and repair of the systems will be stressed. Upon completion the student should be able to demonstrate an understanding of the operation and design of the following types of chassis electrical systems: lighting systems, horn, wiper/washer, cooling fan, instruments and warning devices, speed control, anti-lock brake and traction control, HVAC, heated windows and mirrors, power accessories, and passive restraint systems.
(59.4 Lec. Hrs./59.4 Lab Hrs.)

Prerequisites or Co-requisites: AUT:614 and AUT:115.

AUT:704 Automotive Heating and Air Conditioning 4 cr.

Students will be instructed in basic theory, system diagnosis and service procedures. Students will gain competencies in troubleshooting, purging, evacuating charting, and performance testing vehicles with air conditioning systems. Students will be provided with the opportunity to become certified to handle refrigerants.
(59.4 Lec. Hrs./59.4 Lab Hrs.)

AUT:802 Engine Performance I 3 cr.

This course is designed to train the student in engine mechanical testing and ignition system theory and testing. Basic ignition system theory, operation and diagnosis will be covered. Electronic (EI) and distributor (DI) ignition systems will be discussed. Lab time will be used to learn the use of diagnostic equipment in troubleshooting and repair of engine mechanical and ignition systems as they relate to drivability issues.
(39.6 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite or Co-requisite: AUT:115, AUT:606.

AUT:811 Engine Performance II 4 cr.

This course is designed to give students an understanding of electronic fuel injection and the use of computer controls in today's automobiles. The course will present Electronic Fuel Injection theory and component operation as well as automotive computer operation, sensor inputs and actuator outputs. Diagnosis and testing of these systems will be discussed and practiced. Similarities and differences of various Original Equipment Manufacturer systems will be discussed.
(59.4 Lec. Hrs./59.4 Lab Hrs.)

Prerequisites: AUT:606, AUT:115 and AUT:802.

AUT:817 Automotive Engine Performance III 3 cr.

The course will present automotive emissions, emission control devices and 5-gas analysis. This course is designed to help the student improve his/her ability to diagnose driveability problems. Diagnosis and testing will be discussed and practiced. A review of fuel, ignition and computer system testing will also be included.
(34.65 Lec. Hrs./74.25 Lab Hrs.)

Prerequisite: AUT:115, AUT:606, AUT:802 and AUT:811.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

AUT:911 Co-op Experience 4 cr.

Cooperative Education Experience will integrate classroom theory with on-the job training. The College will assist the student in securing employment which will be related to the student's major field of study and/or career interests. Under the supervision of the college and the employer, the student participates in job training experiences. In addition to employment, attendance at scheduled oncampus seminars is required. Seminars may include job searching skills as well as professional development. Student eligibility consists of the successful completion of 12 EICCD credit hours with at least two courses in the major and maintenance of a grade point average of 2.0 or higher. Eligibility requirements and credit hours available vary by program area.

(316.8 Coop. Hrs.)

Prerequisite: Consent of instructor.

BIOLOGY

BIO:114 General Biology IA 4 cr.

Introduction to basic principles of biology. Topics include chemical applications in biology, cellular biology, bioenergetics, cell division and genetics. *This course satisfies a general education requirement in the Natural Sciences Area.*

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: RDG 032, MAT 041 and MAT 047. Recommended: Successful completion of CHM:122 or one year high school chemistry.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

BIO:125 Plant Biology 4 cr.

An introduction to the study of plants, emphasizing structure, function, reproduction and diversity. Topics include basic plant anatomy and physiology and the evolution of plant diversity. *This course satisfies a general education requirement in the Natural Sciences Area.*

(59.4 Lec. Hrs./39.6 Lab Hrs.)

BIO:151 Nutrition 3 cr.

Surveys the normal nutritional needs for all individuals. Emphasizes identifying the various essential nutrients and their functions. Diets and their components are discussed as well as food protection and preservation. American and international food patterns are discussed and evaluated.

(59.4 Lec. Hrs.)

Prerequisite: BIO:114 or BIO:168.

BIO:163 Essentials of Anatomy and Physiology 4 cr.

A one-semester course covering the fundamentals of human anatomy and physiology. Units of study include cell chemistry and structure and systems of the body (integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, urinary, reproductive and sensory).

This course is not equivalent to or intended to replace BIO:168 and/or BIO:173.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

BIO:168 Human Anatomy and Physiology I w/Lab 4 cr.

A study of the structure and function of the human body. The study begins at the cellular level and proceeds through selected organ systems: Integumentary, Skeletal, Muscular, Nervous, and Endocrine. This course is the first course of a two-semester sequence. *This course satisfies a general education requirement in the Natural Sciences Area.*

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: BIO:114, CHM:110 or CHM:122 or CHM:165 or CHM:179 or one year of high school chemistry within the last five years.

BIO:173 Human Anatomy and Physiology II w/Lab 4 cr.

The second course in a two-semester sequence. The content includes the completion of the study of the organ systems.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: BIO:168.

BIO:186 General Microbiology 4 cr.

An in-depth examination of the microbial world with emphasis on classification, reproduction, genetics, physiology, infectious disease and control.

Laboratory exercises will be directed toward the use of equipment and identification of clinically and economically important organisms.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

BIO:208 Introduction to Anatomy 2 cr.

An introductory non-laboratory course to familiarize the student with the general structure and function of the systems of the human body. Emphasizes mastery of the vocabulary associated with the anatomical parts and their function.

(39.6 Lec. Hrs.)

BIO:255 Neuroanatomy 3 cr.

The gross anatomy of the brain and spinal cord will be discussed. Emphasis will be placed on clinical applications of the functional anatomy of the nervous system. Topics will include the structure and function of the sensory and motor pathways, basal ganglia, cranial nerves, ventricular system, vascular system and peripheral nervous system.

(59.4 Lec. Hrs.)

Prerequisites: BIO:168 and BIO:173.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

BUSINESS

BUS:102 Introduction to Business 3 cr.

Introduces the student to American contemporary business, its nature and environment. A survey course providing exposure to social responsibilities of business, management, production, human resources, marketing, finance, quantitative methods, world business and business law.
(59.4 Lec. Hrs.)

BUS:106 Employment Strategy 2 cr.

Students will complete assignments focused on their individual and career targets, while developing successful lifetime job search skills and career management tools. Students will also learn job search techniques, such as completing employment applications, preparing letters of application and resumes and participating in a mock interview.
(39.6 Lec. Hrs.)

Prerequisites: ADM:157 and ADM:123 or ADM:122.

BUS:107 Business Careers 1 cr.

Designed to assist students in making a career choice in the Administrative and Office Support program. Participants will have an opportunity to investigate employment in their area of interest through a number of activities including field trips, guest speakers and career counseling.
(19.8 Lec. Hrs.)

BUS:108 Customer Service Strategies 1 cr.

Students will learn how to deal with customers in a variety of settings and will be exposed to practical, real-world concepts and experiences. Using actual case studies, students will learn how to successfully handle a variety of customer situations and problems.
(19.8 Lec. Hrs.)

BUS:110 Business Mathematics and Calculators 3 cr.

Review of math fundamentals and their application to business. Topics covered include multiplication, division, fractions, percentages, interest, discounts, etc., on an electronic calculator. The student will be able to operate proficiently by the touch system.
(59.4 Lec. Hrs.)

BUS:112 Business Math 3 cr.

This course provides a review of basic mathematical fundamentals and their application to business situations. Topics covered may include fractions, percentages, markups and markdowns, interest (both simple and compound), amortization, and statistical measurement. The student will be able to identify how these mathematical tools can aid management in business decision making.
(59.4 Lec. Hrs.)

Prerequisite: MAT:041 or placement by college assessment test.

BUS:161 Human Relations 3 cr.

Provides a foundation of accepted personal and business behavior in professional working relationships. Personality characteristics with relation to fellow employees and business associates are an integral part of the course. Topics include motivation of individuals and groups, contribution to a desirable working atmosphere, adjustment to the job, stress management techniques and other areas of human relations.
(59.4 Lec. Hrs.)

BUS:180 Business Ethics 3 cr.

Study of ethical principles and the application of ethical principles to situations relevant to decision-making in the professional and business world.
(59.4 Lec. Hrs.)

BUS:185 Business Law I 3 cr.

Provides the student with a basic understanding of business law. Includes an introduction to the legal environment (including ethics, property and computer law); contracts; sales; employer/employee relations (including agency); consumer protection and product liability; property and wills.
(59.4 Lec. Hrs.)

BUS:908 Cooperative Work Experience Variable cr.

Cooperative Education Experience will integrate classroom theory with on-the job training. The College will assist the student in securing employment which will be related to the student's major field of study and/or career interests. Under the supervision of the college and the employer, the student participates in job training experiences. In addition to employment, attendance at scheduled oncampus seminars is required. Seminars may include job searching skills as well as professional development. Student eligibility consists of the successful completion of 12 EICCD credit hours with at least two courses in the major and maintenance of a grade point average of 2.0 or higher. Eligibility requirements and credit hours available vary by program area.
(Variable Coop. Hrs.)

Prerequisite: Consent of instructor.

BUSINESS COMPUTER APPLICATIONS

BCA:106 Windows Operating Systems 1 cr.

Students will learn about user interfaces, Windows, Windows Explorer and each Office Suite application. Topics include using the mouse, minimizing, maximizing and restoring windows, sizing and scrolling windows, launching and quitting an application, displaying the contents of a folder, creating a folder, selecting and copying a group of files, renaming and deleting a file and a folder, using the Windows Help menu and shutting down the Windows system. A brief overview of the following software will also be given: Word, Excel, Access, PowerPoint and Outlook. Test Out Available.
(19.8 Lec. Hrs.)

Prerequisite: BCA:118.

BCA:118 Introduction to the PC 1 cr.

Students taking this course will have had little experience with computers. The class will cover computer hardware and software concepts to consider when purchasing, installing or maintaining a personal computer.
Test Out Available.
(19.8 Lec. Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

BCA:129 Basic Word Processing 2 cr.

This course is designed to give the student an introductory knowledge of an industry-standard word processing software. Topics to be covered include creating, printing, and editing documents; formatting characters and paragraphs; formatting documents and sections; printing envelopes and labels; cutting and pasting text within and between documents; formatting text into newspaper columns; and creating headers, footers, and footnotes and endnotes in reports.
(39.6 Lec. Hrs.)

Prerequisite: ADM:105

BCA:130 Advanced Word Processing 2 cr.

In this course, the student will learn the advanced features of an industry-standard word processing software. Topics include merging documents, creating tables, inserting graphics and clip art, creating styles, sorting text, selecting records, and creating fill-in forms.
(39.6 Lec. Hrs.)

Prerequisites: BCA:129

BCA:134 Word Processing 3 cr.

This course is designed to give the student an in-depth knowledge of an industry-standard word processing software. Topics to be covered may include the basics of producing documents by creating, formatting, editing, saving and printing along with advanced commands used for mail merge, tables, macros, columns and graphics.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ADM:123 or ADM:122.

BCA:146 Basic Spreadsheets 1 cr.

Students are introduced to Excel terminology, the Excel window and the basic characteristics of a worksheet and workbook. Topics include starting and quitting Excel, entering text and numbers, selecting a range, using the AutoSum button, copying using the fill handle, changing font size, formatting in bold, centering across columns, using the AutoFormat command, charting using the ChartWizard, saving and opening a workbook, editing a worksheet, using the Auto Calculate area and using the Excel Help system.

Test Out Available.

(19.8 Lec. Hrs.)

Prerequisites: BCA:118 and BCA:106.

BCA:147 Basic Spreadsheets 2 cr.

This course offers the student the opportunity to learn the fundamentals of Microsoft Excel, to be exposed to practical examples of the computer as a useful tool, and to become acquainted with the proper procedures to create worksheets suitable for course work, professional purposes, and personal use. The student will learn to write formulas and use built-in functions, answer what-if questions, format spreadsheets, create graphs, and use database functions of spreadsheets.
(39.6 Lec. Hrs.)

BCA:148 Advanced Spreadsheets 2 cr.

This class is designed to take students beyond the fundamentals of spreadsheets and to give them the opportunity to learn how to solve complex spreadsheet problems. Some of the topics include financial functions, templates, 3-D references in formulas, macros, an introduction to Visual Basic for Applications (VBA) for Excel, the Solve command, and pivot charts and pivot tables.
(39.6 Lec. Hrs.)

Prerequisite: BCA:147.

BCA:149 Spreadsheet III 1 cr.

Students will use formulas and functions to build a worksheet and learn more about formatting and printing a worksheet. Topics include entering formulas, using functions, verifying formulas, formatting text, formatting numbers, conditional formatting, drawing borders and adding colors, changing the widths of columns and rows, spell checking, previewing a worksheet, printing a section of a worksheet and displaying and printing the formulas in a worksheet.
Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:146 or consent of instructor.

BCA:153 Spreadsheet III 1 cr.

Students will learn how to work with larger worksheets, how to create a worksheet based on assumptions, how to use the IF function and absolute cell references, charting techniques and how to perform what-if analysis. Topics include assigning global formats, rotating text, using the fill handle to create a series, deleting, inserting, copying and moving data on a worksheet, displaying and formatting the system date, displaying and docking toolbars, creating a 3-D pie chart on a chart sheet, enhancing a 3-D pie chart, freezing titles, changing the magnification of worksheets, displaying different parts of the worksheet using panes and completing simple what-if analysis and goal seeking.
Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:149.

BCA:156 Intermediate Databases 1 cr.

Students will learn to use queries to obtain information from the data in their databases. Topics include creating queries, running queries and printing the results. Specific query topics include displaying only selected fields, using character data in criteria, using wildcards, using numeric data in criteria, using various comparison operators and creating compound criteria. Other related topics include sorting, joining tables and restricting records in a join. Students will use computed fields, statistics and grouping.

Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:164.

BCA:158 Spreadsheet Applications 2 cr.

This course offers the student the opportunity to learn proficient use of a popular spreadsheet program, to set up formulas and use built-in functions, to answer what-if questions, to format spreadsheets, to create graphs and to perform sorts and queries. The student will build several spreadsheets, learning new commands with each one.
(19.8 Lec. Hrs./39.6 Lab Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

BCA:159 Database Applications 2 cr.

This course provides basic training using Microsoft Access, a database management system. The term database describes a collection of data organized in a manner that allows access, retrieval, and use of that data. Using Access, students will create databases; add, change, and delete records in tables; establish relationships among tables; sort and index data; retrieve data using queries; and calculate statistics from the databases. In addition, students will create and edit forms for data entry and reports for more formal presentation of the data.
(39.6 Lec. Hrs.)

BCA:160 Intermediate Databases 1 cr.

Students will learn to use queries to obtain information from the data in their databases. Topics include creating queries, running queries and printing the results. Specific query topics include displaying only selected fields, using character data in criteria, using wildcards, using numeric data in criteria, using various comparison operators and creating compound criteria. Other related topics include sorting, joining tables and restricting records in a join. Students will use computed fields, statistics and grouping. Test Out Available.
(19.8 Lec. Hrs.)

Prerequisite: BCA:164 or Instructor Permission

BCA:164 Basic Databases 1 cr.

Students are introduced to the concept of a database and shown how to use Access to create a database. Topics include creating a database, creating a table, defining the fields in a table, opening a table, adding records to a table, closing a table and previewing and printing the contents of a table. Additional topics include using a form to view data, using the report Wizard to create a report and using the Access Help system. Students will learn how to design a database and eliminate redundancy.
Test Out Available.
(19.8 Lec. Hrs.)

Prerequisite: BCA:106.

BCA:169 Advanced Database 1 cr.

Students learn the crucial skills involved in maintaining a database. These include using datasheet view and form view to add new records, change existing records, delete records and locate and filter records. Students learn the processes of changing the structure of a table, adding additional fields, changing characteristics of existing fields, creating a variety of validation rules and specifying referential integrity. Students will also perform mass changes and deletions using queries, create single-field and multiple-field indexes and use sub-datasheets to view related data.

Test Out Available.
(19.8 Lec. Hrs.)

BCA:188 Computer Fundamentals for Technicians 3 cr.

This course will cover microcomputer operating systems, hardware and application software. Spreadsheets, database management, word processing and 2-D graphics packages will be specific areas of coverage. Lab exercises will follow lecture and class discussion.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

BCA:207 PowerPoint/Outlook 2 cr.

Students will learn how to create business presentations using Microsoft PowerPoint, a presentation software application. They will also learn to use Microsoft Outlook, an integrated task, scheduling, and communications management program, to improve their ability to organize their time and stay abreast of correspondence in a business or personal environment.
(39.6 Lec. Hrs.)

BCA:216 Introduction to Microsoft Applications 4 cr.

An introduction to computers including Windows, database and spreadsheet applications. This course is designed for use in a Windows environment and will include student computer projects.
(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: ADM:105.

BCA:220 Integrated Computer Business Applications 2 cr.

This course offers the student the opportunity to understand and apply OLE (object linking and embedding) concepts by creating documents using spreadsheet, word processing, database, and presentation software applications and then transferring data from one application to another. This is an office simulation that will allow students to utilize their decision-making and time management skills.

(39.6 Lec. Hrs.)

Prerequisite: BCA:130, BCA:147 or BCA:159.

BCA:228 Integrated Software Applications 4 cr.

This is an advanced course in microcomputer software applications. Students will plan and create spreadsheets, databases, presentations and word processing documents using integrated systems software that allows for data transfer among applications.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: ADM:127, BCA:134, ADM:127, BCA:216 and CSC:110

Prerequisite: BCA:156.

BCA:250 Desktop Publishing 3 cr.

This course takes the student beyond the basic commands of word processing while gaining knowledge and practice in desktop publishing. Desktop publishing is the integration of graphics and text. The student will learn advanced features of the word processing software, such as creating and applying styles, macros and master documents. Decision-making skills will be used to complete desktop publishing projects such as graphs, bulleted charts, newsletters and folded brochures.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: BCA:134, ADM:123 or ADM:122.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

BCA:711 Introduction to Microsoft PowerPoint 1 cr.

Students are introduced to PowerPoint terminology, the PowerPoint windows and the basics of creating a multi-level bulleted list presentation. Topics include selecting a design template, increasing font size, changing font style, ending a slide show with a black slide, saving a presentation, viewing the slides in a presentation, checking a presentation for spelling and style errors, changing line spacing on the slide master, printing copies of the slides and using the PowerPoint Help system.

Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:118.

BCA:722 Introduction to the Internet 1 cr.

Students are introduced to the World Wide Web and its components. They will explore the World Wide Web and learn how the Web is organized, URLs, browsing Web pages, Web page management techniques and saving and printing material obtained from a Web site. In addition, they will learn techniques for searching the vast amount of material using search engines.

Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:106.

BCA:732 Getting Organized with Outlook 1 cr.

Students will discover the benefits of using a powerful desktop information management program. They will learn how this program can assist in organizing a busy schedule, keeping track of files and communicating with others. Students will learn how individuals and work groups can organize, find, view and share information easily. Students will receive hands-on experience entering both on-time and recurring appointments and events. Other topics include sending e-mail messages, generating and managing daily, weekly and monthly schedules, printing and saving a calendar, generating a list of contacts, creating and printing tasks and creating, importing and exporting personal subfolders.

Test Out Available.

(19.8 Lec. Hrs.)

Prerequisite: BCA:118.

CANCER INFORMATION MANAGEMENT

CIM:200 Registry Organization & Operations 3 cr.

Students will develop an understanding of the regulatory requirements for an approved cancer program. Emphasis will be given to the requirements outlined by the Commission on Cancer (CoC) of the American College of Surgeons (ACoS), data standards set by the North American Association of Central Cancer Registries (NAACCR), data standards set by the National Cancer Institute (NCI) in its Surveillance, Epidemiology and End Results (SEER) program, data standards set by the World Health Organization (WHO) and other organizations. Legal, ethical and confidentiality issues in both the internal and external settings will be addressed. Students will obtain an overview of the relationships between a registry and other departments within a facility. Basic daily operational tasks, reference resources and computer hardware and software needs will be introduced.

(59.4 Lec. Hrs.)

Prerequisites: Completion of HIT diploma, CIM first year coursework.

CIM:210 Oncology Coding and Staging Systems 4 cr.

This course will focus on the basic concepts of coding and staging of malignant neoplasms. It will provide a general overview of the *International Classification of Disease for Oncology*, 3rd Ed. topography codes and *International Classification of Disease*, 9th Ed. morphology nomenclature and classification systems. American Joint Committee on Cancer (AJCC) staging, SEER Summary staging, and extent of disease concepts used by physicians and cancer surveillance organizations to determine treatment and survival will be emphasized.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisites: Completion of HIT diploma, CIM first year coursework.

Co-requisite: CIM:200.

CIM:215 Abstracting Principles & Practice I 2 cr.

Students will be introduced to the principles of cancer registry abstracting. Identification and selection of appropriate clinical information from medical records in a manner consistent with cancer registry regulatory core data item requirements will be emphasized. Recording accurate coding and staging of site-specific cancer information and use of CNExT cancer registry software from C/NET Solutions will be introduced. (79.2 Lab. Hrs.)

Prerequisites: Completion of HIT diploma, CIM first year coursework.

Co-requisites: CIM:200, CIM:210.

CIM:220 Abstracting Principles & Practice II 2 cr.

This course further applies the principles of cancer registry abstracting. Identification and selection of appropriate clinical information from medical records in a manner consistent with cancer registry regulatory core data item requirements; recording, coding and stating site-specific cancer information; and using accuracy, timeliness and completeness of data.

(79.2 Lab. Hrs.)

Prerequisite: CIM:215.

CIM:240 Cancer Patient Follow-up 2 cr.

This course will cover follow-up methodology, confidentiality and ethical issues; identification of second primaries, recurrence, spread of disease and survival data. Physician, patient and other follow-up resources and activities will be introduced.

(39.6 Lec.Hrs.)

Prerequisites: Completion of HIT diploma, CIM first year coursework.

Co-requisites: CIM:200, CIM:210.

CIM:250 Cancer Statistics & Epidemiology 3 cr.

This course will introduce the student to cancer statistics, principles of epidemiology, cancer surveillance, annual report preparation, presentation of cancer data and special studies. Use of cancer statistical data for marketing and strategic planning will also be studied.

(59.4 Lec. Hrs.)

Prerequisites: Completion of HIT diploma, CIM first year coursework.

Co-requisites: CIM:200, CIM:210.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CIM:260 CIM Seminar 1 cr.

This course provides a comprehensive discussion of all topics common to the cancer registry profession. Emphasis is placed on application of professional competencies, job search tools and preparation for the certification exam. (19.8 Lec. Hrs.)

CIM:270 Cancer Registry Practicum 4 cr.

Students must have student health forms completed and on file. This course will provide students with hands-on experience in all aspects of registry organization and operation. A total of 224 hours under the supervision of a CTR will be spent by the student abstracting and experiencing all the tasks of a full-time cancer registrar.

(237.6 Clinical Hrs.)

Prerequisite: Completion of all other CIM coursework.

CHEMISTRY

CHM:110 Introduction to Chemistry 3 cr.

Designed for the student with no high school chemistry background. A study of chemistry in our lives and chemical principles preparatory to CHM:122 or CHM:165. An introduction to the composition and properties of matter, bond types, acids and bases, pH and a description of the major branches of chemistry.

(59.4 Lec. Hrs.)

CHM:122 Introduction to General Chemistry 4 cr.

An elementary approach to chemical principles and laboratory practices. Emphasizes the nature of matter, bonding, nomenclature, equations, acids and bases and chemistry as applied to everyday life. Intended primarily to fulfill laboratory science requirements and to fulfill chemistry requirements for nursing, dental hygiene, or some home economics and agricultural programs. *This course satisfies a general education requirement in the Natural Sciences Area.*

(59.4 Lec. Hrs./39.6 Lab Hrs.)

CHM:132 Introduction to Organic and Biochemistry 4 cr.

A continuation of CHM:122. Study of aliphatic and aromatic compounds, their chemistry and uses in consumer products such as polymers, drugs and foods. Attention is also given to biologically important compounds: proteins, nucleic acids, carbohydrates and lipids and the chemistry of these molecules in the living organism.

(59.4 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CHM:122 or CHM:165/166.

CHM:165/166 General Chemistry I 4-5 cr.

The first course in a sequence of two general chemistry courses for students in pre-med, pre-chiro, pre-vet, pre-dental, pre-pharmacy, pre-engineering, other physical or biological sciences, or liberal arts. Topics include calculation methods, stoichiometry, gases, atomic structure and periodicity, solutions and chemical bonding. The five credit hour course also covers nuclear chemistry. *This course satisfies a general education requirement in the Natural Sciences Area.*

(59.4-79.2 Lec. Hrs./39.6-59.4 Lab Hrs.)

Prerequisites: CHM:110 or CHM:122 or high school chemistry, and MAT:073 or two years of high school algebra.

CHM:179 Principles of General Chemistry 6 cr.

Presents the structure of the atom and how different elements combine, mathematical relationships involving chemical equations, chemical bonding, the gas laws, solutions, chemical equilibria, acid-base solutions, chemical kinetics, thermodynamics and electrochemistry. *This course satisfies a general education requirement in the Natural Sciences Area.*

(79.2 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: CHM:110 or CHM:121 or high school chemistry, and MAT:073 or two years of high school algebra or permission of instructor.

COLLISION REPAIR/REFINISH

CRR:113 Welding Survey 2 cr.

This course is designed to acquaint the student with the fundamentals in MIG and oxy-acetylene welding as they pertain to the auto collision repair industry. Instruction will be given in equipment, setup, safety and application in the oxy-acetylene and MIG processes, with an emphasis on safety. The lab will be correlated with the lecture to provide the student with practical hands-on experience.

(19.8 Lec. Hrs./59.4 Lab Hrs.)

Co-requisite: CRR:140.

CRR:114 Welding Systems and Techniques 2 cr.

This course is designed to increase the student's proficiency with basic welding concepts and to further knowledge and skills of other welding processes used in auto collision repair. Topics covered include resistance and spot welding, aluminum and flux core welding, TIG welding, plasma cutting and the equipment used for these operations.

(19.8 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite: CRR:113 or comparable experience.

CRR:115 Advanced Welding Techniques 1 cr.

A lab course which is designed to enhance the student's skills with all the welding concepts typically used in the auto collision repair industry. It will include all welding processes used on steel, aluminum and other metallic parts typically encountered on the automobile. Joint design and fabrication will be covered to prepare the student for applicable certification tests.

(59.4 Lab Hrs.)

Prerequisite: CRR:114.

Co-requisite: CRR:507.

CRR:140 Orientation and Safety 3 cr.

This course is an orientation to the college and departmental activities, functions and regulations and an overall safety program. It covers all areas of shop and tool safety and includes topics pertinent to the ACR industry regarding employee and community right-to-know and the laws and regulations governing the handling of hazardous materials.

(59.4 Lec. Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CRR:200 Plastics Repair 1 cr.

This course is designed to acquaint the student with the methods and techniques used to identify and repair plastics commonly used on modern day automobiles. Major topics of instruction include welding and adhesive repairs and panel replacements made on plastics, composites and fiberglass. Pre-paint cleaning and preparation will also be emphasized.

(19.8 Lec. Hrs.)

Prerequisite: CRR:113.

Co-requisite: CRR:140.

CRR:322 Basic Metal Bumping and Repair 5 cr.

This course is designed to acquaint the student with the tools, equipment and techniques utilized for repairing minor collision damage. Emphasis will be placed on damage identification and analysis and formulating an appropriate repair plan.

(59.4 Lec. Hrs./118.8 Lab Hrs.)

Co-requisites: CRR:140.

CRR:370 Collision Lab 1 cr.

This lab course will give the student an opportunity to complete any unfinished requirements they did not complete in any one of the courses for which they had registered. The student may enroll for this course more than one time.

(59.4-178.2 Lab Hrs.)

CRR:405 Non-Structural Panel Repair and Replacement 5 cr.

This course will provide training in the repair and replacement of metallic and composite non-structural component and stationary parts. Topics covered in the course include pre-replacement roughing and aligning, force application analysis, glass service and replacement and the alignment of all adjustable panels.

(59.4 Lec. Hrs./118.8 Lab Hrs.)

Prerequisites: CRR:322 and CRR:113.

Co-requisite: CRR:114.

CRR:452 Trim and Component Panel Service 2 cr.

This course will address all facets of the final detailing of the interior and exterior trim and accessories as required for vehicle's pre-delivery prep. It also includes servicing all door and window mechanisms, removal and replacement of all interior and exterior trim components, and adjusting all exterior component panels.

(19.8 Lec. Hrs./59.4 Lab Hrs.)

CRR:507 Structural Panel Repair and Replacement 5 cr.

This course is designed to provide the student with the skills necessary to repair the undercarriage on severely damaged vehicles. It will include an in-depth study of measuring and tracking systems commonly used to analyze, isolate and repair damage on the undercarriage and other structural parts of collision damaged vehicles. Replacement and corrosion protection of said parts will also be included as part of the repairs.

(59.4 Lec. Hrs./118.8 Lab Hrs.)

Prerequisites: CRR:114 and CRR:405.

Co-requisite: CRR:612.

CRR:605 Mechanical Service 3 cr.

This course is designed to help the student identify and repair the mechanical problems and failures that typically occur as a result of an automobile accident. The course will include diagnosing and repairing problems with the brake system, drive train, exhaust system and other mechanical components typically damaged in a collision situation. The course will also include instruction in diagnosing and repairing problems with the vehicle's A/C cooling system and the regulations governing the handling and use of CFC gases.

(19.8 Lec. Hrs./118.8 Lab Hrs.)

CRR:612 Steering and Suspension 3 cr.

This course is designed to acquaint the student with the suspension and steering systems, and how they are affected by a collision. It will include instruction in the diagnosis and repair of problems affecting the drivability of a vehicle after it has been involved in a collision. It also includes a study of the steering geometry, alignment principles, tracking and replacement procedures for damaged components. The interrelation of each part to the overall handling of the vehicle are all included.

(39.6 Lec. Hrs./59.4 Lab Hrs.)

CRR:674 Electrical Service 4 cr.

This course will acquaint the student with the methods utilized to diagnose and troubleshoot electrical problems that affect the operation of various electrically integrated parts of the vehicle. It will include energy production, electrical theory, interpreting wiring diagrams, electrical measuring and testing equipment as they are used in the repair of damaged passive and active restraint systems, air bags, anti-lock braking systems and other electrical problems which typically occur as a result of a collision.

(59.4 Lec. Hrs./59.4 Lab Hrs.)

CRR:743 Estimating 3 cr.

This course is designed to acquaint the student with the methods and techniques used to analyze and identify the damage sustained by a vehicle involved in a collision. It will also include an in-depth study of the collision and specification manuals typically used in writing an automobile damage report. A survey of the day-to-day activities performed by shop personnel such as scheduling, customer relations and inventory control will also be included.

(59.4 Lec. Hrs.)

Co-requisite: Math elective-math above 100 level.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CRR:798 Spray Techniques & Surface Coating I 2 cr.

This is an entry level course for individuals seeking to become employed as spray painters in industry. The course is designed to acquaint the student with the principles and concepts utilized for applying various automotive, commercial and industrial surface coatings using both the virtual painting system and conventional spray painting equipment. Emphasis will be placed on proper equipment selection, setup, manipulation and maintenance. The course will also include instruction in the OSHA hazard communication and all applicable employee right-to-know requirements. (19.8 Lec. Hrs./39.6 Lab Hrs.)

CRR:799 Spray Techniques & Surface Coatings II 1 cr.

This course is designed for the experienced painters seeking to upgrade their skills and become more proficient with the mechanics of the spray gun and application techniques. The course will provide the student with a more in-depth analysis of the principles and concepts utilized for applying various automotive, commercial and industrial surface coatings using both the virtual painting system and conventional spray painting equipment. Emphasis will be placed on proper equipment selection, setup, manipulation and maintenance. (39.6 Lab Hrs.)

CRR:801 Refinishing I 3 cr.

This is an introductory course designed to acquaint the student with all phases of surface removal and the preparation required for application of fillers, paint and primer coatings. Proper substrate preparation and basecoat application will be emphasized. Other topics will include pre-cleaning, surface removal, abrasives, fillers, basecoat selection, masking and proper spray application. (19.8 Lec. Hrs./118.8 Lab Hrs.)

Co-requisite: CRR:140.

CRR:825 Refinishing Principles 5 cr.

This course will prepare the student to select and apply basecoats and topcoats that are compatible with the existing finish and substrates. Topics covered will include methods used to identify existing finishes, selecting and applying the proper basecoats, top coats, solvent and additive selection and maintenance on all air supply and spray equipment. VOC tracking regulations and applications will also be introduced.

(59.4 Lec. Hrs./118.8 Lab Hrs.)

Prerequisite: CRR:140.

CRR:842 Color Matching 5 cr.

This course is an in-depth study of color and its makeup and the proper techniques utilized for tinting and shading paint to accomplish a color match on a vehicle. Spot repairing and blending techniques to obtain a color match on direct gloss, two and three stage finishes will also be included. The students will also be trained and evaluated using the spray technique analysis and research (star) criteria.

(39.6 Lec. Hrs./178.2 Lab Hrs.)

Prerequisite: CRR:825.

CRR:878 Advanced Refinishing 2 cr.

This is the last in a series of refinishing courses which is designed to acquaint the student with diagnosing and repairing various paint problems and failures and repairing them using a systems approach. In-depth study and comparative analysis will be conducted on various paint manufacturers' products and how they are to be used in resolving the various paint failures. A VOC analysis will be completed for several of the products used.

(19.8 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite: CRR:842.

CRR:908 Cooperative Work Experience Variable cr.

Cooperative Education Experience will integrate classroom theory with on-the job training. The College will assist the student in securing employment which will be related to the student's major field of study and/or career interests. Under the supervision of the college and the employer, the student participates in job training experiences. In addition to employment, attendance at scheduled on campus seminars is required. Seminars may include job searching skills as well as professional development. Student eligibility consists of the successful completion of 12 EICCD credit hours with at least two courses in the major and maintenance of a grade point average of 2.0 or higher. Eligibility requirements and credit hours available vary by program area.

(Variable Coop. Hrs.)

Prerequisite: Consent of instructor.

COMMUNICATIONS

COM:102 Communication Skills 3 cr.

The purpose of this course is to prepare the student to communicate effectively in business and professional situations. The major emphasis is on improving interpersonal skills, on using standard English in writing and speaking, on gaining proficiency in listening and on composing specific types of business communications.

(59.4 Lec. Hrs.)

Prerequisite: Appropriate placement based on assessment or successful completion of ENG:065 or ENG:013.

COM:105 Communication Skills I 2 cr.

Designed to provide a general background in communication skills concentrating on telephone, employment applications, business letters and basic writing techniques.

(39.6 Lec. Hrs.)

COM:107 Communication Skills II 1 cr.

A continuation of COM:105. Includes a speech component and selected writing skills for various technical programs.

(19.8 Lec. Hrs.)

Prerequisite: COM:105.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

COMPUTER AIDED DRAFTING

CAD:104 Computer Aided Drafting - CAD 3 cr.

This follow-up course to DRF:118 continues to introduce students to the foundations of drafting and descriptive geometry. The course will continue to develop student skills in the areas of computer generated drawings, geometric constructions, sketching and shape description, multiview projections, sectional views, auxiliary views, dimensioning and axonometric projections. Emphasis will be placed on machine drafting concepts while utilizing proper computer aided design (CAD) techniques and methods. (39.6 Lec. Hrs./59.4 Lab Hrs.)

Prerequisite: DRF:118 or equivalent.

CAD:113 AutoCAD I 3 cr.

Designed to familiarize users of CAD systems with all of the tools necessary for the efficient production of drawings. Topics that will be covered include starting and ending commands, two-dimensional drawing commands, drawing management (layers and system settings), editing and viewing commands, text commands, dimensioning techniques and styles, and symbols (blocks and external references). (39.6 Lec. Hrs./39.6 Lab Hrs.)

CAD:114 AutoCAD I 2 cr.

Designed to familiarize users of CAD systems with all of the tools necessary for the efficient production of drawings. Topics that will be covered include starting and ending commands, two-dimensional drawing commands, drawing management (layers and system settings), editing and viewing commands, text commands, dimensioning techniques and styles, and symbols (blocks and external references). (19.8 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: DRF:118.

CAD:127 and CAD:128 Intermediate AutoCAD 2000 I/A And I/B 2 cr. each

This course is a follow up to CAD:115 and CAD:116, where students use the various principles to complete more complex mechanical drawings and electrical and piping diagrams. This course will include the use of AutoCAD 2000 training software/hardware that is comparable to equipment used in regional industry. (39.6 Lec. Hrs./79.2 Lab Hrs. each course)

Prerequisites: CAD:127, CAD:115 and CAD:116, CAD:128 and CAD:127.

CAD:130 Applied Drafting 3 cr.

Designed to assist the student in the completion of a set of drafting plans as they may pertain to the indicated special skills of drafting. The student may complete a set of specified drawings/problems that could be used in the actual engineering area. Nomenclature, computation, symbols, and schematics relevant to the indicated industrial area will be utilized. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: CAD:113

CAD:140 Parametric Solid Modeling I 3 cr.

Designed to use parametric solid modeling programs such as Mechanical Desktop or Autodesk Inventor to create mechanically engineered parts. Topics that will be covered include: parametric modeling fundamentals, part modeling, assembly modeling, advanced modeling techniques, sheet metal modeling and creating engineering drawings. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: DRF:154 and CAD:175.

CAD:160 Plane Surveying 3 cr.

Introductory course that covers basic surveying operations which include measuring horizontal and vertical distances and angles. Will cover the various survey methods which are common practice and introduce the various types of field surveying. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: MAT:743.

CAD:161 Architectural Modeling and Rendering 3 cr.

Designed to use programs such as Architectural Desktop or 3d Studio Viz to create three-dimensional architectural forms and layouts. Topics include: 3-D space modeling, 2-D plan development, document creation, importing data, material properties, setting up cameras, setting up lights and animations. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: CAD:175 and CAD:196.

CAD:164 Solid Modeling 2 cr.

Designed to use both AutoCAD's ACIS solid modeler as well as other parametric solid modeling programs to create mechanically engineered parts. Topics that will be covered include 2-D regions, 3-D solid primitives, extruded 3-D solids, revolved solids, Boolean operations, slicing, hiding, shading and rendering 3-D models, sketching profiles, using constraints, sketch planes, work planes, features, multi-view layouts, parametric dimensioning, editing, and paths and sweeps. (19.8 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: DRF:154 and DF:258.

CAD:175 Advanced AutoCAD 2 cr.

Designed to focus on some of AutoCAD's productivity tools that can increase efficiency and productivity. Topics that will be covered include review of 2-D drafting techniques, advanced use of blocks, attributes, labels and tags, external reference files, advanced drawing techniques, model and paper space, 3-D viewing commands, viewports, 3-D wire frame modeling, solid modeling and miscellaneous techniques for customizing. (19.8 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: DRF:118.

CAD:196 Architectural Drafting 3 cr.

An introduction to architectural drawing which includes: basic house design, room planning, foundation plans, floor plans, elevations, electrical plans, plumbing plans, HVAC plans and presentation drawings. The student will be provided enough information to prepare a set of architectural working drawings. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: DRF:154 and CAD:114.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CAD:211 Fundamentals of AutoCAD 4 cr.

This is a tutorial-based course covering the fundamentals of AutoCAD. Students begin with basic shapes and work through multiview drawings in a series of extensive hands-on tutorial lessons. The AutoCAD Heads-Up Design Interface is also covered allowing students to concentrate on design intent rather than the keyboard. Other areas of coverage include the WYSIWYG (What You See Is What You Get) plotting feature as well as Named Plot Style and Layout Plotting. During the course students will cover object properties and organization through layers, orthographic views, dimensioning and notes, auxiliary views and GRIPS, section views, blocks and assembly drawings.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: DRF:114 and DRF:115.

CAD:212 Solid Works 4 cr.

This is a tutorial-based course covering the basics of Solid and Parametric modeling using Solid Works. Students will learn the fundamentals of solid modeling with Solid Works through a series of competency-based projects. Students will learn through a progressive approach from chapter to chapter. Beginning with extruded and revolved features, students move through sweeps, lofts, ribs and patterned features, ending with sub-assemblies, assemblies and finally fundamentals of drawing. As in most solid/parametric modeling packages, parts, drawing and assemblies have an associated relationship with each other.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: DRF:114 and DRF:115.

CAD:225 Descriptive Geometry 2 cr.

This course introduces students to basic principles of descriptive geometry. These principles are valuable for determining true shapes of planes, angles between two lines, two planes, or a line and a plane, and for locating the intersection between two planes, a cone and a plane, or two cylinders. Problems are solved graphically by projecting points onto selected adjacent projection planes in an imaginary projection system. Major areas of concentration will be orthographic projection, primary auxiliary views, lines, planes, successive auxiliary views, piercing points, intersection of planes, angle between planes, parallelism, perpendicularity, angle between lines and oblique planes, and plane tangencies.

(19.8 Lec. Hrs./39.6 Lab Hrs.)

CAD:226 Strength of Materials I 3 cr.

An introductory course in the area of structural mechanics including a complete review of statics, researching simple stresses in members and taking a look at the various structural properties of materials in design.

(59.4 Lec. Hrs.)

Prerequisite: MAT:748.

CAD:227 Strength of Materials II 3 cr.

An advanced course in the area of structural mechanics. The course includes an examination of mechanical connections, center of gravity, properties of sections, beam sizing and column sizing.

(59.4 Lec. Hrs.)

Prerequisite: CAD:226.

CAD:228 Applied Physics I 3 cr.

Standard physics concepts unified in four major systems - mechanical, fluid, electromagnetic and thermal. This unified technical concepts approach allows the student to learn physics in a hands-on atmosphere through extensive laboratory work and demonstrations. Special examples are used making this course pertinent to the drafting technician. The concepts covered are force, work, rate, momentum, resistance, energy and power.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: MAT:748.

CAD:229 Applied Physics II 3 cr.

A continuation of CAD:228 using the unified technical concepts approach to applied physics. Special examples are used making this course pertinent to the drafting technician. The concepts covered are force transformers, energy converters, transducers, vibrations and waves, exponential constants of linear systems, radiation and optics, and optical systems.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CAD:228.

CAD:231 Pro Engineer - Basic Modeling 4 cr.

This is a tutorial-based course covering the basics of solid and parametric modeling using Pro Engineer. Students will learn the fundamentals of solid modeling with Pro Engineer through a series of 11 tutorial-based lessons that include the use of a multimedia CD. Along with exercises at the end of each lesson students will also create projects for use during the assembly and detailing lessons. Students begin by becoming familiar with the user interface, model structure and view controls. These concepts are followed by the creation of simply extruded protrusions and the use of the higher end functionality to create revolved protrusions, mirror copies, rounds and protrusions. Engineering drawings, assembly functionality and sweeps and blends give the students a good sound base for Pro Engineer - Advanced. The final project for the course is a full assembly of a Panavise complete with engineering drawings.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: DRF:114 and DRF:115.

CAD:233 Basic Detailing 4 cr.

This is a course designed for technicians and designers who must use Pro Engineer's drawing functionality. Students will learn how to create orthographic views of part models to be used in detail drawings. Students will completely dimension drawings using title block formats, design tolerancing and GD and T. Students will also create assembly drawings and bill of materials using the table command. Multiple sheet drawings and multi-model drawings will also be created.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CAD:235 Strength of Materials 4 cr.

An introductory course in the area of structural mechanics including a complete review of statics, researching simple stresses in members, and taking a look at the various structural properties of materials in design. The course also includes an examination of mechanical connections, center of gravity, properties of sections, and beam sizing and column sizing.

(79.2 Lec. Hrs.)

Prerequisite: MAT:748.

CAD:241 Advanced Pro Engineer Modeling 4 cr.

This is a continuation of CAD:231 Basic Modeling. Students will gain more experience in part modeling using more advanced sketching and modeling tools. More advanced use of datums, layers, relations and sweeps will be utilized. Students will also create family tables of similar parts and use Pro Program to automate part design and creation. Development of mapkeys and customization of the Pro Engineer interface will also be addressed.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: DRF:114, DRF:115 and CAD:231.

CAD:243 Advanced Pro Engineer Detailing 4 cr.

This course is designed for the user who creates and manipulates large or multiple sheet drawings. Students will use Pro Engineer's layer control and feature show capabilities to create advanced detail drawings. Exploded assemblies and tabulated drawings will be covered, as will simplified reps, the use of symbols, ordinate dimensions and created and shown dimensions.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

CAD:251 Pro Engineer Assemblies 4 cr.

This course is for the designers who will create assemblies from existing parts. The constraint functionality of Pro Engineer will be used to create multiple part assemblies as well as sub-assemblies. Students will learn the differences between Top Down and Bottom Up assemblies. Students will use the start part and start assembly tools in assembly creation. Troubleshooting and redefining assembly constraints will also be emphasized. Students will also learn to modify the assembly explode states for assembly drawing creation.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

CAD:256 Pro Engineer - Sheet Metal 4 cr.

This course is designed for the user who creates and manipulates large or multiple sheet drawings. Students will use Pro Engineers layer control and feature show capabilities to create advanced detail drawings. Exploded assemblies and tabulated drawings will be covered, as will simplified reps, the use of symbols, ordinate dimensions, and created and shown dimensions.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

Prerequisite: DRF:114, DRF:115 and CAD:231.

CAD:257 Pro Engineer - Basic Milling 4 cr.

This course covers the basic fundamentals of NC Milling using Pro Engineer. It is designed for programmers using Pro NC and Programming on 3 - 5 axis NC machines. Students will learn to create simple NC programs by combining the model, coordinate system, machining and tooling parameters to create tool paths. Basic profiling operations involving step depth, multiple passes and lead in and out will be covered. Students will identify and use the machine coordinate system and use NC Check to verify operations. Hole making and surface milling will be addressed as well as face milling and manipulation of tool paths. Finally, students will use Pro Engineer's post processing functionality to create machine code.

(39.6 Lec. Hrs./79.266 Lab Hrs.)

Prerequisite: CAD:231, CAD:233 and CAD:251.

CAD:259 Pro Engineer - Basic Turning 2 cr.

This course covers the basic fundamentals of NC Turning using Pro Engineer. It is designed for programmers needing to create two and four axis tool paths for machining on a CNC lathe. Specifically, students will learn to create the five types of turning sequences: area, profile, groove, thread and hole making. Additionally, all of these sequences, except hole making, can be used to create outside, inside or facing sequences.

(19.8 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CAD:231, CAD:233 and CAD:151.

CAD:260 AutoDesk Inventor 4 cr.

This is a tutorial-based course covering the basics of Solid and Parametric modeling using AutoDesk Inventor. Students begin by creating basic shapes and work into intelligent solid models and assemblies and then multi-view drawings. The text uses a series of tutorial-based lessons to achieve this. Students begin with the fundamentals of parametric modeling and proceed through solid geometry concepts, the model tree, parametric constraints, the BORN technique, geometric construction tools, parent/child relationships and assemblies. Although AutoDesk Inventor is the software used in this course, the techniques and concepts apply to many solid and parametric modeling packages.

(39.6 Lec. Hrs./79.2 Lab Hrs.)

CAD:271 Introduction to GIS 3 cr.

A Geographic Information System (GIS) is a computer-based tool for mapping and analyzing feature events on earth. This course introduces students to the tools and techniques of GIS including applications, components, mapping, topology, data, and data capture.

CAD:272 Cartography 3 cr.

Cartography covers the basic history of mapmaking and the various projections. This course provides a study of GIS applicable cartography including cartographic principles, data acquisition methods used in map production, and methods of base map development. Map projections, map scale, types of thematic maps, and map accuracy will also be covered.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CAD:273 Advanced GIS 3 cr.

A follow-up course to CAD:271 Introduction to GIS which studies advanced topics in spatial modeling, image processing, and GIS project management. Students will learn how to bring all of the pieces of GIS data together for advanced analysis and modeling.

Prerequisite: CAD:271.

CAD:274 Remote Sensing 3 cr.

Remote Sensing is the theory and principles involved in the use of satellite imagery and aerial photogrammetry. This course will show students how to use remotely sensed imagery as data sources for GIS systems. Fundamentals of photogrammetry, basic image interpretation, and classification techniques will be covered.

Prerequisite: CAD:272.

COMPUTER FORENSICS

CFR:100 Introduction to Computer Forensics 3 cr.

This course is designed to provide the student with a comprehensive understanding of Computer Forensics, Investigation Tools and Techniques. Students will learn how to set up an Investigator's office and Laboratory, as well as examine what computer forensic hardware and software available. Topics covered include procedures for identification, preservation, and extraction of electronic evidence, auditing and investigation of network and host intrusions and forensic tools. (39.6 Lec. Hrs./29.6 Lab Hrs.)
Prerequisites: Advanced class standing and background security check.

COMPUTER NETWORKING

NET:104 IT Essentials I: PC Hardware and Software 4 cr.

This course presents an in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. In addition, an introduction to networking is included. This course helps students prepare for CompTIA's A+ certification. (39.6 Lec. Hrs./79.2 Lab Hrs.)

NET:105 PC Printer Maintenance and Repair 3 cr.

This course will prepare the student to: troubleshoot laser, inkjet and dot matrix printer failures, repair or replace the failing units, perform any required adjustments or alignments, and verify proper printer operation. Proper preventive maintenance techniques will also be covered. (39.6 Lec. Hrs./39.6 Lab Hrs.)

NET:106 IT Essentials II: Network Operating Systems 4 cr.

This is an intensive introduction to multi-user, multitasking networking operating systems. Characteristics of the Linux, Windows 2000, NT and XP network operating systems will be discussed. Students will explore a variety of topics including installation procedures, security issues, back-up procedures and remote access. (39.6 Lec. Hrs./79.2 Lab Hrs.)
Prerequisite: NET:104.

NET:107 Hardware/Software Installation and Troubleshooting 3 cr.

This course provides students with "hands-on" experience installing PC hardware and software. Online resources and reference manuals will be utilized for troubleshooting hardware and software problems. (39.6 Lec. Hrs./39.6 Lab Hrs.)
Prerequisite: NET:303.

NET:114 Foundations of Information Technology 3 cr.

This course is designed as an introduction to the general uses, concepts, application and implementation of information technology within business and industry. Topics include programming logic, number systems, basic hardware design and software concepts. Some hands-on experience will consist of working with hardware, operating systems and networking. (39.6 Lec. Hrs./79.2 Lab Hrs.)

NET:155 Introduction to Wireless Networks 3 cr.

This course provides a hands-on guide to planning, designing, installing and configuring wireless LANs that prepares students for the Certified Wireless Network Administrator (CWNA) certification. The course provides an in-depth coverage of wireless networks with extensive coverage of IEEE 802.11b/a/g/pre-n implementation, design, security, and troubleshooting. The lecture is reinforced with hands-on projects. (39.6 Lec. Hrs./39.6 Lab Hrs.)
Prerequisites: NET:114, NET:303 or permission of instructor.

NET:214 CISCO Networking (Networking Fundamentals) 5 cr.

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. Students build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. (79.2 Lec. Hrs./39.6 Lab Hrs.)
Recommended Prerequisites: NET:114, NET:303 and MAT:110.

NET:224 CISCO Routers (Routing Protocols and Concepts) 5 cr.

This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSSPF. Troubleshooting skills are practiced and emphasized. (79.2 Lec. Hrs./39.6 Lab Hrs.)
Prerequisite: NET:214.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

NET:234 CISCO Switches (LAN Switching and Wireless) 5 cr.

This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented, and students develop the knowledge and skills necessary to implement wireless technology in a small to medium network.

(79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:214.

NET:244 CISCO WAN (Accessing the WAN) 5 cr.

This course covers how to implement and configure common data link protocols and how to apply WAN security concepts, principles of traffic, access control and addressing services. The course uses the Cisco Enterprise Composite model (ECM) to introduce integrated network services and explains how to select the appropriate devices and technologies to meet ECM requirements. Students learn how to detect, troubleshoot, and correct common enterprise network implementation issues. This course prepares the student for the ISCW certification exam.

(79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:224, NET:234.

NET:254 Advanced Routing (Building Scalable Internetworks) 5 cr.

Focusing on advanced routing, this course covers configuration of EIGRP, OSPF, IS-IS, and BGP routing protocols, and how to manipulate and optimize routing updates between these protocols. Other topics include multicast routing, IPv6, and DHCP configuration. Students will learn how to create an efficient and expandable enterprise network. Students will also learn how to install, configure, monitor, and troubleshoot network infrastructure equipment. This course prepares the student for the BSCI certification exam.

(79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:244 or CCNA Certification.

NET:264 Remote Access (Implementing Secure Converged WANs) 5 cr.

Students are introduced to secure enterprise-class network services for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with a focus on VPN configuration and securing network access. Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening, and IOS firewall features. This course prepares the student for the BCNAN certification exam.

(79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:244 or CCNA Certification.

NET:274 Multi-Layer Switching (Building Multilayer Switched Networks) 5 cr.

This hands-on, lab-oriented course stresses the design, implementation, operation, and troubleshooting of multilayer switched networks. Students learn how to build of the appropriate Cisco IOS services to build reliable, scalable, multilayer-switched LANs. Focus areas of the course include VLANs, Spanning Tree Protocol, wireless client access, minimizing service loss, and minimizing data theft in a campus network. This course prepares the student for the BCMSN certification exam. (79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:244 or CCNA Certification.

NET:284 Internetwork Troubleshooting (Optimizing Converged Networks) 5 cr.

This course introduces students to effective QoS techniques for optimization in converged networks with voice, wireless, and security applications. Topics include implementing a VoIP network, specific mechanisms for implementing the DiffServ QoS model, AutoQoS, wireless security, and basic wireless management. This course prepares the student for the ONT certification exam. (79.2 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: NET:254, NET:264, NET:274.

NET:303 Windows Workstation Operating Systems 3 cr.

This course prepares the student for supporting and using Windows Operating System Platform in a business setting. Topics of this course include installation, administration of resources, troubleshooting, networking, optimization and security.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: BCA:106 or equivalent Windows Operating System experience.

NET:305 Introduction to Network Operating Systems 3 cr.

This course is designed to give students of varying experience a practical working knowledge of baseline IT skills and technologies. We will cover each of the major operating systems, including DOS, Windows 9x/NT/2000/XP and UNIX/Linux. Topics include: installation, administration of resources, troubleshooting, networking, optimization and security.

(39.6 Lec. Hrs./39.6 Lab Hrs.)

NET:313 Windows Servers 3cr.

This course is designed to give students a practical understanding of Windows Servers. Students will learn to plan, install, configure, manage, and troubleshoot windows servers using hands-on labs as well as group and individual projects. Topics covered include installing and configuring the server operating system, setting up hardware, configuring system resources, optimizing system performance, configuring server storage, configuring network connectivity, and implementing server security. This course may be taken more than once provided the server operating system being offered has changed. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: NET:114.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

NET:487 Network+ Test Preparation 1 cr.

The Network+ Test Preparation course will prepare the student to take the Network+ Certification Examination. Through hands-on training, students learn the vendor-independent network skills and concepts that affect all aspects of networking, such as installing and configuring the TCP/IP client. The course also helps prepare students for two popular certification examinations: ComptTIA Network+ and Microsoft Networking Essentials. (9.9 Lec. Hrs./19.8 Lab Hrs.)

Prerequisite: NET:107, NET:114 and NET:303.

NET:489 A+ Test Preparation 1 cr.

The A+ Test Preparation course prepares the student to take the A+ Certification Examination. Topics include: computer architecture, microprocessors, memory, storage, video, modems, printers, LANs (Local Area Networks), device drivers, batch files, hard drives, MS-DOS and Windows Family Operating Systems. (9.9 Lec. Hrs./19.8 Operating Lab Hrs.)

Prerequisite: NET:114, NET:303, NET:107 and NET:105.

NET:679 TCP/IP and Subnetting 1cr.

This course is intended to provide the necessary information to understand the TCP/IP protocol Suite as well as IP Addressing and Subnetting. This course includes a discussion on the structure and purpose of an IP Address and the purpose for Subnetting. A thorough discussion on Subnetting Class A, B, & C networks, as well as, Variable Length Subnet Mask (VLSM), and Supernetting (Classless Internet Domain Routing) of multiple Class C Addresses is provided. Finally, an introduction to Internet Protocol Version 6 is provided. (9.9 Lec. Hrs./19.8 Lab Hrs.)

Prerequisite: None.

NET:785 Fundamentals of Desktop Support 3cr.

This course will introduce the student to the service concepts, skill sets, career paths, and operations of the help desk industry. Students will master the role of a help desk analysis, navigate the help desk environment, and learn crucial problem solving skills. Through this course students will develop the "soft skills" and the "self-management skills" needed to deliver excellent customer support at the help desk. This course provides an overview of the help desk for individuals interested in pursuing a career in technical support. The course will integrate strong real-world computer support examples, case studies, and group/team exercises to emphasize the concepts of the course. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: None.

NET:851 Innovations in Technology 3 cr.

The Information Technology profession demands constant professional updates. This course allows students to explore current trends in the information technology area and participate in other career-path professional development activities. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: Advanced Standing (students have completed 50% of their course work toward their degree).

NET:910 Co-op Work Experience 2-3 cr

Cooperative Education Experience will integrate classroom theory with on-the-job training. The college will assist a student in securing employment which will be related to the student's major field of study and/or career interests. Under the supervision of the college and the employer, the student participates in job training experiences. In addition to employment, attendance at scheduled on-campus seminars is required. Seminars may include job searching skills as well as professional development. Students may take Cooperative Work Experience for two semesters, or up to a maximum of eight credit hours. (158.4-237.6 Coop Hrs.)

COMPUTER PROGRAMMING

CIS:121 Introduction to Programming Logic 3 cr.

Introduction to structured programming logic using a variety of methods to solve programming problems. Topics covered include flowcharting, pseudocode, hierarchy charts, truth tables, control breaks, arrays, logic constructs, object-oriented programming. (39.6 Lec. Hrs./39.6 Lab Hrs.)

CIS:161 C++ 3 cr.

This course is designed to give students a basic understanding of the C++ language. Topics covered include the Visual C++.NET environment, variables, calculations, loop structures, decision structures, pointers, arrays, functions and function templates. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: MAT:110 and at least one semester of a programming language.

CIS:164 C++ Advanced 3 cr.

This course is a continuation of C++. Topics covered include: the Visual C++.NET environment, classes, Inheritance, Windows Programming, Foundation Classes, File and Database access. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CIS:161.

CIS:171 Java 3 cr.

This course provides an introduction to object-oriented programming using the Java programming language. The course covers methods, objects, and classes with the emphasis on modularity and reusable code. Students design programs demonstrating conditionals, iteration, array handling and event processing. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: CIS:210.

CIS:210 Web Development I 3 cr.

Students will learn how to evaluate, design, construct and maintain Internet web pages and web sites. Topics include HTML, DTML, graphics, animation and FTP. (39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: NET:114 and at least one semester of a programming language.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CIS:211 Web Development II 3cr.

Students will learn how to evaluate, design, construct and maintain interactive Internet Web pages and Web sites using Dynamic Hyper Text Markup Language (DHTML). Topics include: JavaScript, server-side and client-side programs, variables, arrays, control structures, form validation, object properties, methods and event handlers, multimedia via Java applets and ColdFusion.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: CIS:210.

CIS:251 Fundamentals of Web Design I 3 cr.

This course will focus on the overall production processes surrounding web site design with particular emphasis on design elements involving layout, navigation and interactivity.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CIS:210.

CIS:274 Introduction to e-Commerce 3cr.

This course explores how the landscape of online commerce is changing and evolving. With balanced coverage of both the technological and the strategic aspects of successful e-commerce, students are able to tackle the real-world business cases included in each chapter. Reflecting changes in the economy and how businesses are responding, this course emphasizes revenue and transaction cost reduction models as an alternative to the older ideas of business models. Topics covered include Technology Infrastructure: The Internet and the World Wide Web; Selling on the Web: Revenue Models and Building a Web Presence; Marketing on the Web; Business-to-Business Strategies: From Electronic Data Interchange to Electronic Commerce; and The Environment of Electronic Commerce: Legal, Ethical, and Tax Issues.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

CIS:307 Introduction to Databases 3 cr.

This course provides the student with an overview of database management systems. The student will learn about database fundamentals, database modeling, Structured Query Language (SQL), database administration and current issues. Through hands-on exercises, students will develop databases on different platforms.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: At least one semester of a programming language.

CIS:338 SQL/Oracle 3 cr.

This course is designed to enable students to learn the fundamental aspects of Structured Query Language (SQL) in order to create and maintain Oracle database objects, as well as store, manipulate, and retrieve data from an Oracle database. Also, students will learn fundamental aspects of Oracle's Programming Language/Structure Query Language (PL/SQL) in order to create PL/SQL application code blocks that can be shared by Oracle forms, reports and data management applications.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: NET:114, NET:303 and at least one semester of a programming language.

CIS:402 COBOL 3 cr.

Introductory concepts of COBOL, the Common Business Oriented Language, will be presented in this course. Business problems will be solved using the structured approach to COBOL. Good style and design characteristics will be emphasized. This course will cover the basics of logic design, basic COBOL syntax, common COBOL verbs, arithmetic operations, report editing, techniques for comparing, and programming multiple levels of control for report formats.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite/Co-requisite: NET:114. CIS:121 is strongly recommended.

CIS:504 Systems Structural Analysis 3 cr.

This course provides a broad yet specific treatment of the makeup, analysis, design and implementation of systems projects with emphasis on learning how to analyze existing systems applications and design better ones for computer processing. Object-oriented design techniques are discussed and good communication skills will be emphasized.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: At least two semesters of a programming language.

CIS:606 Visual Basic NET I 3 cr.

This hands-on course covers essential aspects of Visual Basic for Windows. Students will design applications; understand controls and properties; use variables, functions, and expressions; use statements and methods; use arrays; design menus; and access files.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: NET:303 is strongly recommended.

CIS:607 Visual Basic NET II 3 cr.

This course is a continuation of Visual Basic NET I. Topics covered in this course include using masks and data validation, advanced controls, error handling, reporting, advanced file handling and packaging and distribution of completed applications.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisite: CIS:606.

CIS:608 Visual Basic III 3 cr.

Students continue to study advanced Visual Basic topics including class modules, multi-tier database applications, web forms and web services..
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: CIS:607.

CIS:704 UNIX / Linux 3 cr.

This course is designed to give students a basic understanding of the UNIX operating system, commands, the word systems duties and system administrative duties required when using a UNIX-based system.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

Prerequisites: NET:114, NET:303 and MAT:767.

CAREER TECHNOLOGY - COURSE DESCRIPTIONS

CIS:929 IT Special Projects 1 cr.

Courses of instruction involving material of timely, special or unusual interest not contained in the regular course offerings. These courses may be offered by faculty members with the approval of their department chair and the dean of the college. These may be courses exploring areas of special interest to the proposing faculty member, department or to the students.
(19.8 Lec. Hrs.)

COMPUTER SCIENCE

CSC:110 Introduction to Computers 3 cr.

An introduction to computers including database, word processing and spreadsheet applications. This is a beginning course designed primarily to develop computer skills and will include student computer projects.
(39.6 Lec. Hrs./39.6 Lab Hrs.)

CSC:112 and CSC:113 Computer Fundamentals for Technicians 2 cr. each

This course will cover microcomputer operating systems, hardware and application software. Spreadsheets, database management, word processing, graphs and operating Windows environment, Internet searches and power point presentations. Lab exercises will follow lecture and class discussion.
(19.8 Lec. Hrs./39.6 Lab Hrs.)
Prerequisites: CSC:112 - None.
CSC:113 - CSC:112.

CONSTRUCTION

CON:175 Residential Construction Applications 6 cr.

Students will apply advanced construction procedures on decks, walls, roofs, stairwells, and related structures. Durable design and application of proven methods will be emphasized, with the goal of building a house. The course relates to sustainable building practices.
(39.6 Lec. Hrs./79.2 Lab Hrs.)

DENTAL ASSISTING

DEA:201 Head & Neck Anatomy 1 cr.

This course will include the basic study of structure and functions of the human body. Emphasis will be placed on head and neck anatomy.
(19.8 Lec. Hrs.)
Co-requisite: DEA:257.

DEA:211 Nutrition for Dental Assisting 1 cr.

This course is designed to give the student an overview of basic nutrition and its role in dentistry.
(19.8 Lec. Hrs.)

DEA:257 Dental Anatomy 3 cr.

This course introduces histology, embryology and gross anatomy of the deciduous and permanent teeth. This also includes the structure, function, and form of individual teeth and supportive tissue.
(59.4 Lec. Hrs.)

DEA:268 Pharmacy and Emergency Procedures for Dental Assisting 2 cr.

This course is a study of the nature, action and uses of drugs seen in a dental setting. The student also will learn how to respond to the various emergencies that may occur in a dental office.
(39.6 Lec. Hrs.)

DEA:293 Microbiology and Infection Control 2 cr.

This course will acquaint the dental assisting student with a general knowledge of microbiology. Students will be presented the infection control procedures and protection protocols based on OSHA standards and CDC guidelines.
(39.6 Lec. Hrs.)

DEA:311 Dental Radiography I 2 cr.

This course covers the history and theory of dental radiology. It includes radiation productions, equipment, exposure techniques, processing, mounting films and radiation safety for the patient and the dental assistant. The student receives practical experience working with dental mannequins.
(19.8 Lec. Hrs./39.6 Lab Hrs.)
Co-requisites: DEA:201, DEA:293, DEA:406 and DEA:504.

DEA:321 Dental Radiography II 2 cr.

This course will build on the foundation acquired in Radiology I for Dental Assistants. It will include practical experience in exposing, processing and evaluating dental films on mannequins and patients.
(19.8 Lec. Hrs./39.6 Lab Hrs.)
Prerequisites: All first semester Dental Assisting courses.
Co-requisites: All second semester Dental Assisting courses.

DEA:406 Dental Materials 5 cr.

This course provides the student with the basic understanding of dental materials and the practical application of laboratory skills used in dentistry.
(79.2 Lec. Hrs./39.6 Lab Hrs.)

DEA:504 Principles of Dental Assisting 5 cr.

This course provides the fundamentals and skills of four-handed dentistry; chairside assisting procedures, instrumentation and patient care by lecture and laboratory experiences.
(59.4 Lec. Hrs./79.2 Lab Hrs.)

DEA:570 Dental Assisting Clinic 5 cr.

This course provides the dental assisting student with experiences in chairside assisting, laboratory procedures and reception duties in various general and specialty dental offices.
(297.0 Clinical Hrs.)
Prerequisites: All first semester Dental Assisting courses.
Co-requisite: All second semester courses.

DEA:592 Seminar for Dental Assisting 1 cr.

This course will include lectures, conferences, reports and discussion of procedures and experiences encountered during dental practicum. It will also acquaint the student with the history and structure of dental auxiliary organizations.
(19.8 Lec. Hrs.)
Co-requisites: All second semester Dental Assisting courses.
Prerequisites: All first semester Dental Assisting courses.